

**Enhancing Infant and Young Child Feeding Practices in Somalia:
Effect of Peer Counselling through Mother-to-Mother and Father-to-Father Support
Groups ***

Leila Hussein Abdullahi
Ali Sheikh Mohamed
Elijah Kipkech Kipchumba

February 2019

Save the Children Somalia

* We acknowledge the support from everyone involved in conceptualization, data collection, analysis and review of the draft report. For further information, please contact AliMohamed.Omar@savethechildren.org

Abstract

Introduction: Lasting for over two decades, Somalia is one of the world's longest running humanitarian crises. In 2019 it is estimated that close to 900,000 children will be at risk of malnutrition. Proper Infant and Young Feeding Practices (IYCF) contributes significantly in reducing childhood malnutrition and improving child survival. Save the Children International (SCI) commissioned a study, under the CHASP project, aimed at assessing the effects of peer counselling by Mother to Mother (M2M) and Father to Father (F2F) Support Group on IYCF practices in three districts Adaado, Kismayo and Armo.

Methodology: The study followed a quasi-experimental approach. Kismayo was selected to receive both M2M and F2F support groups, Adaado received M2M support group while Armo received F2F groups. To improve validity control groups were selected in Adaado and Armo districts. The pilot had nine M2M and nine F2F support groups and seven control segments. To initialize the support groups, Community Health Workers (CHW) and IYCF counsellors of SCI worked together with village leaders to select suitable lead mothers and fathers who facilitated the IYCF sessions. Each lead mother and father provided a list of 10 mothers and 10 fathers respectively from their communities who had never received IYCF training. Lead mothers and fathers were trained using existing IYCF training modules for five days. Each lead mother and lead father trained the 10 mothers and 10 fathers s/he provided for 3 months to complete the standard 12 IYCF sessions. Two-wave panel data was collected among intervention and control groups including 250 caregivers. The study utilizes difference in difference odds ratio to assess effects.

Results: There was IYCF knowledge growth among both intervention and treatment groups attributable to the M2M and F2F sessions among the intervention. The IYCF practice including continued breastfeeding and diet diversity improved after the intervention. There was hardly any change in nutritional status of children attributed to M2M and F2F sessions due to short duration of follow up.

Recommendations: There is a need to scale up the M2M and F2F session across Somali regions to improve IYCF practices. SCI and other stakeholders should incentivize both facilitators and participants of M2M and F2F sessions to relieve pressure associated with competing household priorities.

Table of Contents

Abstract	ii
Table of Contents.....	iii
List of Tables.....	iv
List of Figures	iv
Abbreviations.....	v
1. Introduction.....	1
2. Methodology	2
2.1 Study Design	2
2.2 Study Sites	2
2.3 Study Participants.....	2
2.4 Training of Lead Mothers and Fathers	3
2.5 Baseline and end line assessment survey.....	3
2.6 Outcome Measures	4
2.7 Data Analysis.....	5
2.8 Ethical considerations	6
3. Results.....	7
3.1 Background information of the participants.....	7
3.2 Effect of M2M and F2F Sessions on IYCF Knowledge.....	8
3.3 Effect of M2M and F2F Sessions on IYCF Practices.....	11
3.4 Effect of M2M and F2F Sessions on Nutritional Status of Children and Caregivers.....	13
4 Discussion	15
Limitation of the Study	15
3 Conclusions	16
4 Challenges.....	16
5 Recommendation	16
Reference	16
Annex.....	19

List of Tables

Table 1: Sample Distribution and Attrition	4
Table 2: Baseline Balance in Background Characteristics at Baseline	7
Table 3: IYCF Knowledge among Control and Intervention Groups.....	9
Table 4: IYCF Practice among Control and Intervention Group	11
Table 5: M2M and F2F Sessions on IYCF Practices	13
Table 6: Changes in Caregiver's and Children's Nutritional Status	13
Table 7: M2M and F2F on child dietary feeding with SES	14

List of Figures

Figure 1: Distribution of Study Arms	2
Figure 2: Social Economic Status.....	8
Figure 3: IYCF knowledge.....	9
Figure 4: Percentage points(Pp) change on IYCF knowledge	10
Figure 5: M2M & F2F Sessions on IYCF Knowledge.....	10
Figure 6: Dietary diversity score.....	11
Figure 7 : IYCF Practice	12

Abbreviations

BMI	Body Mass Index
CHANGE	Community Health and Nutrition through Local Governance and Empowerment
DDS	Dietary Diversity Score
DiD	Difference-in-Difference
EPHS	Essential Package of Health Services
F2F	Father to Father
FSNAU	Food Security and Nutrition Analysis Unit
GAM	Global Acute Malnutrition
IYCF	Infant and Young Feeding
M2M	Mother to Mother
pp	percentage points
SAM	Severe Acute Malnutrition
SCI	Save the Children International
SES	Socio-Economic Status
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization
WHZ	Weight for Height Z-score

I. Introduction

Lasting for over two decades, Somalia is one of the world's longest running humanitarian crises. The combination of conflict, insecurity, mass displacement, recurrent droughts, flooding and extreme poverty, coupled with very low basic social services coverage, has seriously affected food security and significantly increased the population's vulnerability to diseases like pneumonia and malnutrition. Undernutrition is the underlying cause in over a third of under-five child deaths. Food Security and Nutrition Analysis Unit - Somalia (FSNAU) forecasts 903 100 children under the age of five are likely to be acutely malnourished in 2019.

Recommended IYCF practices could contribute significantly in reducing childhood malnutrition and improving child survival [6]. Yet only 3 in 10 mothers are exclusively breastfeeding their babies in the first six months while only 1 in 10 Somali children are appropriately fed with the WHO/UNICEF recommended combination of breast milk and complementary solid foods at the age of one [3,4]. Consumption of micronutrient-rich foods is generally poor in Somalia, reflecting the inadequacy of food access and availability. This is partly due to non-availability and general lack of awareness and misconceptions [2,5]. To challenge the misconceptions and create general awareness on IYCF practices, professional support is needed, however limited portion of the country's population access professional health services. Evidence elsewhere suggests social/lay support like peer group supports can effectively reach out to the entire community [8-13]. Evidence demonstrate influential community members could effectively enlist the participation of people by using influence, trust, and skills to bring people together to empower and illicit action around common problems. In pursuit of health promotion, their influence can help overcome deep-rooted beliefs and practices. Peer mother to mother (M2M) and father to father (F2F) support groups are widely used to improve maternal and child health and nutrition.

Save the Children International (SCI) is one of the biggest health actors in Somalia, working in the country for over 60 years. SCI has been implementing a range of health interventions in Somalia, often in an insecure or unpredictable operating environment. In 2016, SCI supported over 155 health facilities in 20 districts directly reaching one million people. SCI is a key implementing partner of the CHANGE (Community Health and Nutrition through Local Governance and Empowerment) consortium in Somalia. CHASP project funded by SIDA builds upon SCI's decentralized approach used in the Karkaar Region of Puntland as part of the DFID-funded CHANGE programme. The decentralized system for the delivery of health care services empowers district authorities, and communities, while maintaining the support, supervision and accountability role of the regional and national authorities; as well as ensuring the provision of the Essential

Package of Health Services (EPHS) across all four tiers of services delivery, complemented by a strong community level engagement component, and flexibility for humanitarian response. As part of this project, SCI piloted a community-based F2F and M2M support groups in three districts, that is, Adaado, Kismayo and Armo. The objective of the study was to assess the effects of participating in M2M and F2FSG on Infant and Young Child Feeding (IYCF) practices of the three districts.

2. Methodology

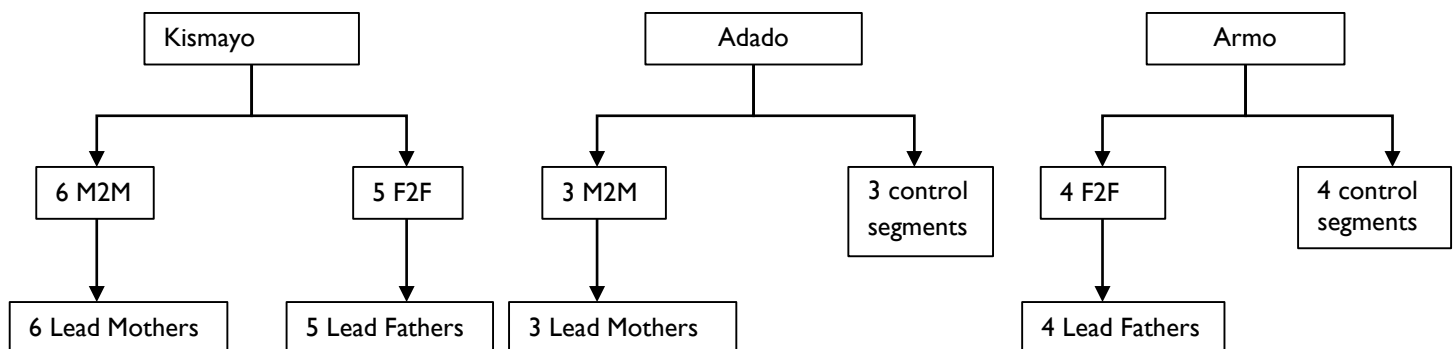
2.1 Study Design

The study followed quasi-experimental approach to assess effects of M2M and F2F session groups. It was used a panel study with a comparison of two groups. i.e. intervention/treatment group who had M2M and F2F sessions and control groups who did not have any intervention.

2.2 Study Sites

The study sites included in this study were Kismayo, Adado and Carmo districts in Lower juba, Galgadud and Bari regions respectively. Allocation of study arms varied from site to site. Armo and Adado had four and three pure control segments respectively while Kismayo had two treatment groups and no control group. Specifically, Kismayo was allocated six M2M and five F2F support groups. Other groups were distributed as shown in the diagram below.

Figure 1: Distribution of Study Arms



2.3 Study Participants

This study relied on lead mothers and lead fathers for program implementation. Community Health Workers and IYCF counsellors of SCI worked together with village leaders to select suitable lead mothers and fathers who facilitated the IYCF sessions. Each of them were asked to indicate influential fathers and mothers in their areas, the most cited were approached to participate in the program implementation. Besides being influential father and mother, the selection team focused in fathers and mothers who had any experience in facilitating

community level discussions on IYCF among other issues, familiarity with local language, had some basic literacy and availability to attend training, conduct sessions as well as prepare simple reports and updates. Lead mothers and fathers who consented to participate in the study recorded and contacted shortly after. This recruitment strategy ensured that lead mothers and fathers recruited were able and amenable toward conducting session on IYCF framework. During the recruitment, each lead mothers and fathers provided a list of 10 new mothers and fathers from their respective communities who had never received IYCF training at community or facility level. These 10 fathers and mothers per lead father and lead mother respectively were father or mother of at least three under five children including two under two children or were themselves (or wife) malnourished but pregnant.

2.4 Training of Lead Mothers and Fathers

Lead mothers and fathers in the IYCF intervention group separately underwent five days' workshops related to child nutrition and other disease-specific issues. Existing training module by UNICEF 2012 for M2M and USAID 2017 (See Annex 1) were used in training lead mothers and fathers. Lead mothers and fathers trained through various learning styles. Although the training was done separately for lead mothers and lead fathers, the same training module was used in both cases. Group interactions and dialogue helped facilitate participative learning and leadership. In order to ensure participation, participants had to formally commit themselves in the form of a pre-service pledge. This pledge was public ceremony for individuals within the community to support their village leaders. SCI staff in respective districts in Adaado, Kismayo and Armo monitored the training workshop. The village leaders were instrumental in monitoring group sessions in their communities

Each lead mothers and fathers trained the 10 mothers selected as per the selection criteria. The lead mothers and fathers arranged meetings with the mothers and fathers once in a week at some nominated place in the community for a period of three months until they finished 12 successive sessions on IYCF. During these meetings, they provided education on infant and young child feeding and help and support mothers with feeding difficulties until they graduate after three months. The lead mothers and fathers used the same training modules. In cases of referrals needs, the mothers were referred to health center/ nutrition department of SCI, where IYCF counsellors were available for counselling and support.

2.5 Baseline and end line assessment survey

Before the intervention begin, baseline survey was conducted among control and intervention groups. To select control group participants, the enumerators during baseline survey performed random walk in the same location where the intervention groups were selected from. In total a baseline sample of 278

participants was achieved. The baseline survey was conducted in August 2018, immediately thereafter the intervention begun. After 12 weeks of training, the new mothers and fathers graduated and then end line evaluation were conducted to determine the impact of IYCF training in improving the knowledge obtained on IYCF practices. This end line survey was conducted in December 2018, and it involved re-interviewing of the same participants surveyed at baseline. The study managed to trace and re-interview 90% of the baseline sample. The 10% attrition rate was considered low, though it disproportionately affected Armo arm of the study, the attrition was statistically similar between districts. Attrition was 9-percentage points less likely among M2M groups compared to control and F2F groups.

Table 1: Sample Distribution and Attrition

District	Control			F2F			M2M			Total		
	B	E	A (%)	B	E	A (%)	B	E	A (%)	B	E	A (%)
Adado	25	23	8.0	0	0	-	27	26	3.7	52	49	5.8
Kismayo	0	0	-	31	27	12.9	46	45	2.2	77	72	6.5
Armo	76	66	13.2	73	63	13.7	0	0	-	149	129	13.4
Total	101	89	11.9	104	90	13.5	73	71	2.7	278	250	10.1
B – Baseline; E – Endline; A – Attrition												

2.6 Outcome Measures

This study assessed the participants' knowledge, attitude and practice on infant and young child feeding and dietary diversity score, food consumption score, hygiene and sanitation practices

2.6.1 IYCF Knowledge, Attitude and Practice

World Health Organization (WHO) 's structured questionnaire module on infant and young child feeding program (IYCFP) was used to collect information about knowledge, attitude and practices with slightly modifications. Care giver's knowledge on IYCF recommendation was assessed by ten item questions. A score of one was given for each correct response and zero for wrong response . A care giver who had above five (those who score above average) were levelled as had "sufficient knowledge", whereas, caregivers who had five and below were levelled as had "insufficient knowledge"

2.6.2 Anthropometric Measurement

Anthropometric measurements (weight and heights) of eligible children were taken. Weight was measured and recorded in kilograms (kg) to the nearest 0.1 kg. Children were weighed using electronic weighing scales and those who were not able to stand, had their weights obtained from the difference between weights of mother/caretaker as she/he holds the child and the weight of the mother/caretaker alone. Heights/lengths

measurements were carried out using measuring boards (stadiometers) and were recorded in centimeters (cm) to the nearest 0.1 cm. Children aged more than 24 months were measured while standing, while those less than equal to 24 months had their lengths measured while lying down on the stadiometer.

Bilateral oedema on the lower limbs of the feet was determined by checking if a depression is left after a gentle press for three seconds. All children found with edema during the data collection process were referred to nearest health facilities

The WHO weight for age reference standards were used to interpret anthropometric measurements of the respondents such as the weight for height (wasting), height for age (stunting) and weight for age (underweight). WHO z-score of < -3 SD and/or existing bilateral edema was used as a cut-off for severe malnutrition while < -2 SD and ≥ -3 SD and the absence of edema was used as the cut off for moderate malnutrition.

2.6.3 Body Mass index (BMI)

The BMI of the care givers was calculated person's weight in kilograms divided by the square of height in meters. It is categorized as following underweight: BMI is less than 18.5, normal weight: BMI is 18.5 to 24.9, overweight: BMI is 25 to 29.9 and obese: BMI is 30 or more.

2.6.4 Socio-Economic Status (SES)

In this study, we used the information regarding the possession of household durable goods which include table, chair, watch, radio, television, freeze, motorcycle, car/truck, construction materials such as main roof material, main wall material, flooring material. All these variables were recoded into dichotomous variables (owning the particular asset or not) and take only a value of zero or one. The binary scales were then combined through principal component analysis, the score was then recoded to three categories, that is, low, middle and high SES.

2.6.5 Dietary diversity score

FAO food diversity questionnaire was used for dietary diversity issues and these were investigated through the 24-hour recall. A child/Adult who consumed less than three food groups were considered to have low dietary diversity scores, those consumed four to five as middle and those above five were considered to have high dietary.

2.7 Data Analysis

We examine baseline descriptive analysis to show level of homogeneity among the study arms. To estimate effects of M2M and F2F, the study utilizes difference-in-difference (DiD) approach (net difference). This

approach considers the difference between baseline and endline in the comparison group versus the difference between baseline and end line in the intervention groups. In cases where the outcome binary outcome, odds ratio estimates were derived while continuous interval data such as WHZ scores, ordinary linear squares estimates were derived. In both models we show baseline averages, difference between intervention and control groups, control group growth between baseline and endline as well as endline counterfactual attributable to the intervention. To correct for individual variation including baseline values, individual level fixed effects were obtained. The primary significance levels were set at $P > 0.05$, though we consider other levels, that is 10% and 1%.

2.8 Ethical considerations

The research proposal was submitted to the Ministry of Health of Somalia for review and approval. Ethical approval and cooperation letters were obtained from the Ministry of Health at the Federal Government and Regional Government of Somalia as required. Informed consent was obtained from all participants. The interviewers were protected the confidentiality of the respondents by avoiding the use of personally identifying information in reports and other documents accessible to those outside the research team.

3. Results

3.1 Background information of the participants

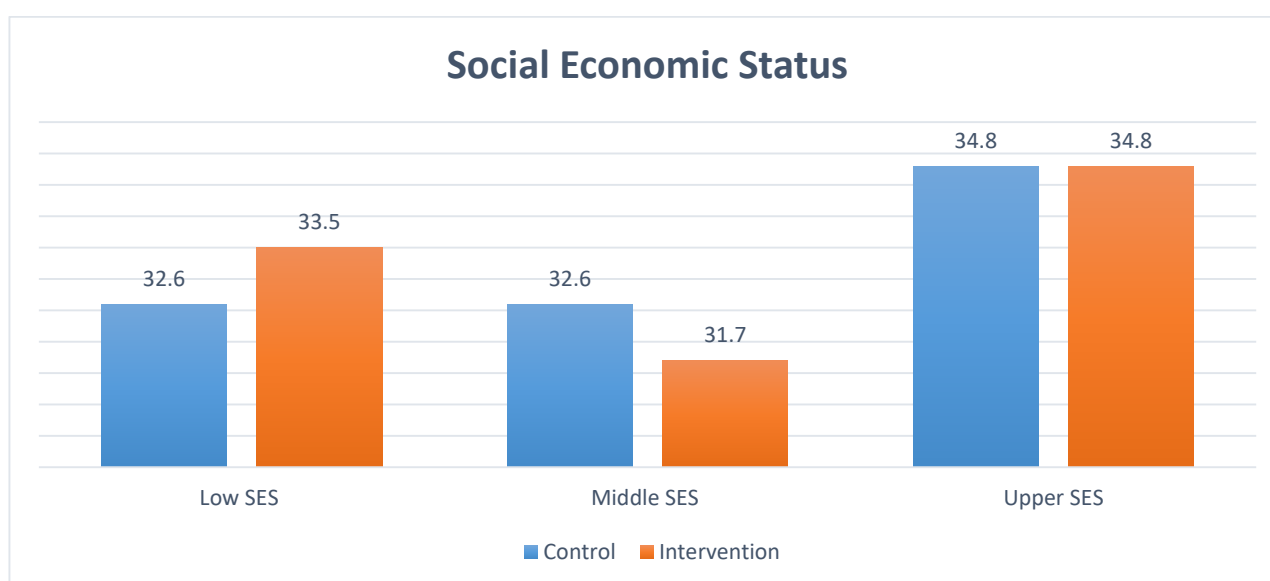
In the three target districts, more than two third of the controls (74%) and intervention groups (56%) were males. While the study targeted equal number of M2M and F2F groups at baseline, there were fewer control mothers surveyed in Adado than control fathers in Armo district. As a result, the study disproportionally realized fewer female-headed households. On average respondents in intervention groups were slightly older than their peers in control groups. However, ages of household heads were similar among study arms averaging at around 37 years. Education levels of both respondents and their household heads were similar between study arms where two in every ten caregivers had attained some primary school education. Households in the treatment arm were slightly larger by one-person relative to control households, despite this difference they had equal number of children averaging at two under five years' children per household. There was high number of households with toilets in this study, irrespective of arms, control households however, drew water from protected water sources compared to intervention households. Although the background characteristics show some heterogeneity between intervention and control groups, characteristics that directly influence IYCF knowledge, attitude and practice were fairly balanced except use of protected water sources. We therefore consider estimates using fixed effects to weed out the individual difference among arms.

Table 2: Baseline Balance in Background Characteristics at Baseline

	Control	Intervention	F-statistic
Respondent is female (%)	25.8	44.0	8.35**
Female-headed household (%)	4.5	19.0	10.37**
Respondents average age	36.7	34.3	3.00*
Household head's average age	37.7	36.4	0.93
Respondent has some primary school education (%)	20.2	18.0	0.18
Household head has some primary school education (%)	22.5	20.5	0.13
Average of household size	7.8	6.4	17.76***
Average number of children below 5years	1.9	1.8	1.56
Household has at least one income earner (%)	32.5	52.1	9.13**
Household has a toilet (%)	93.2	90.0	0.73
Household uses water from protected sources (%)	98.9	72.7	29.61***
*** p<0.01, ** p<0.05, * p<0.1			

Through principal component analysis, the score of assets owned was recoded to three categories, that is, low, middle and high SES. Although intervention groups had higher proportion of households with at least one income earner, examination of general Social Economic Status (SES) shows equal distribution among study arms between SES classes.

Figure 2: Social Economic Status



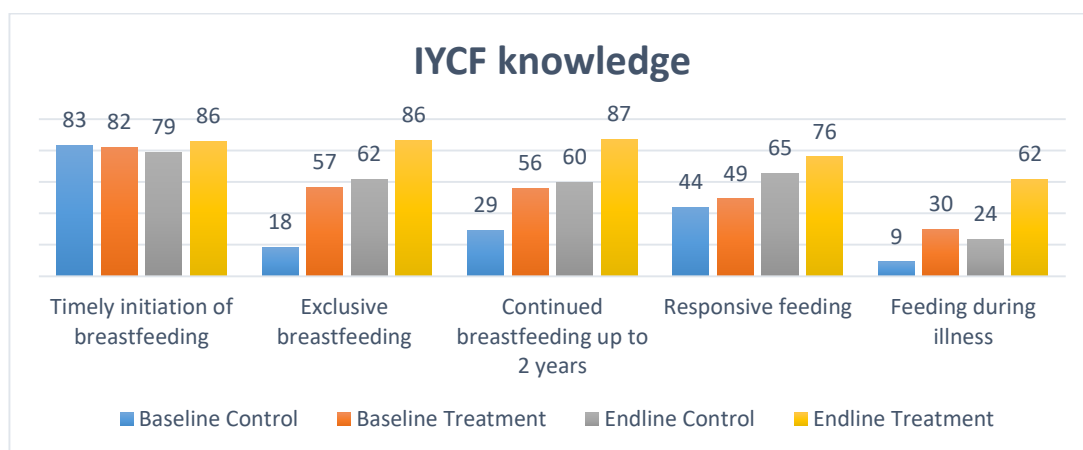
3.2 Effect of M2M and F2F Sessions on IYCF Knowledge

3.2.1 IYCF Knowledge

For timely initiation of breastfeeding, the scores seemed to range almost at par for baseline and endline. At baseline, 83% and 82% of the respondents in the control and treatment group respectively, understood the concept of timely introduction of breastmilk to the baby. At baseline, intervention groups were more likely to know of continued breastfeeding up to two years relative to their peers in control (29% vs 56%) respectively which was the same at end line (60% vs 87%) respectively. Another knowledge component that the study explored is responsive feeding (how a caregiver responds to child who refuses to eat). Results show at baseline less than half of the caregivers knew how to be a responsive feeder, this knowledge increased significantly among both treatment and control groups after 3 months at end line survey. There was a clear trend in change for respondent's knowledge on responsive feeding. At baseline, households in treatment group were more likely to be knowledgeable on feeding children during illness, both control and

treatment group more than doubled (24% and 62% respectively) their knowledge levels with regard to feeding during illness at the end line survey. Generally, the intervention group were however still more knowledgeable compared to the control group.

Figure 3: IYCF knowledge

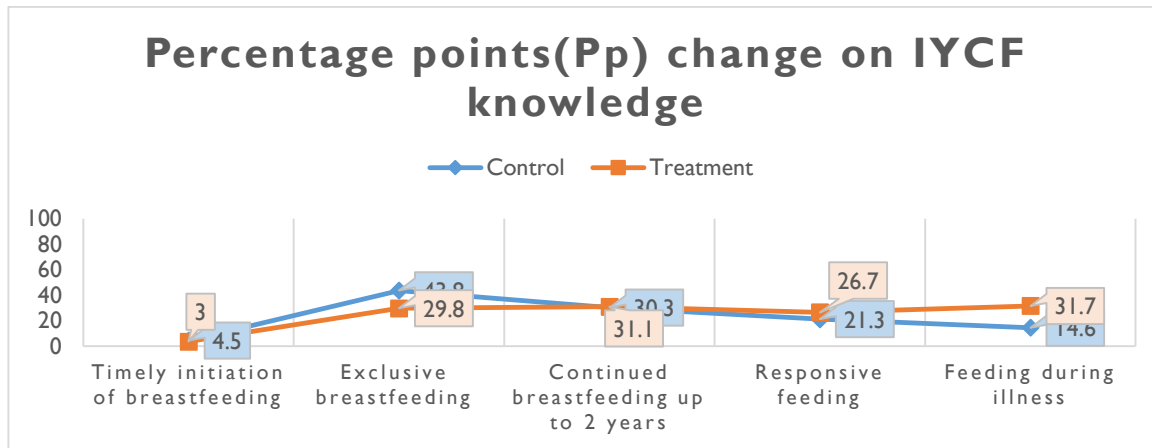


3.2.2 Percentage points(Pp) change on IYCF knowledge

Table 3 and figure 4 shows PP change on knowledge of participants on IYCF among control and intervention groups during base line and end line assessments. At the start of the intervention, participants equally knew breastfeeding should be initiated within the first hour after birth. This knowledge on breastfeeding initiation declined among the control group by 5-percentage points (pp) while those of the intervention groups had improved their knowledge of initiation of breast within first birth by 3-pp. While at baseline, intervention group were three times knowledgeable about breastfeeding, the gap among study groups declined from a difference of 44-pp to 30-pp. However, both control and intervention groups had improved their knowledge of continue breastfeeding by a similar margin (30-pp vs 31-pp) after 12 sessions on interventions groups on IYCF for three months. (increased by 21-pp among controls and increased by 27-pp among treatment group).

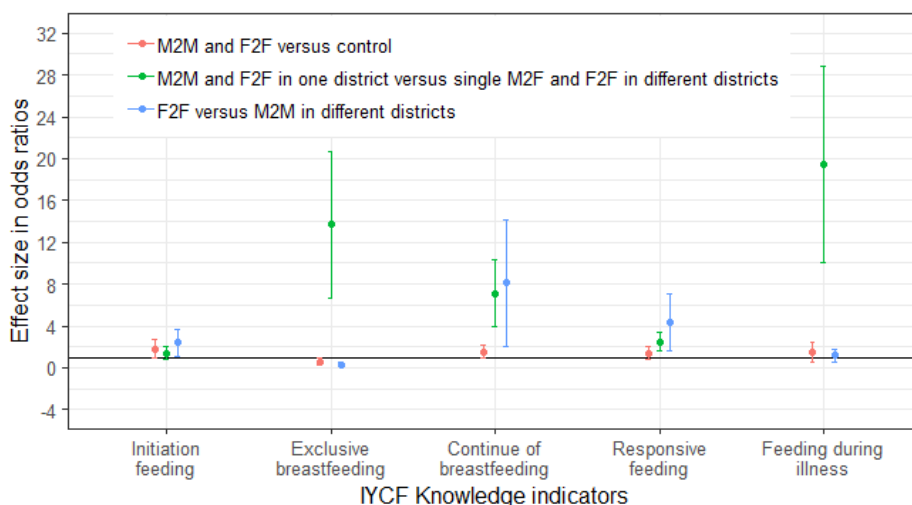
Table 3: IYCF Knowledge among Control and Intervention Groups

%	Baseline		Endline		Changes in pp	
	C (%)	T (%)	C (%)	T (%)	C	T
Timely initiation of breastfeeding	83.2	82.0	78.7	85.7	4.5(5.9)	3.7(4.1)
Exclusive breastfeeding	18.0	56.5	61.8	86.3	43.8(6.6)***	29.8(4.8)***
Continued breastfeeding up to 2 years	29.2	55.9	59.6	87.0	30.3(7.1)***	31.1(4.7)***
Responsive feeding	43.8	49.1	65.2	75.8	21.3(7.3)***	26.7(5.2)***
Feeding during illness	9.0	29.8	23.6	61.5	14.6(5.5)***	31.7(5.3)***
C – Control; T – Treatment; Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1						

Figure 4: Percentage points(Pp) change on IYCF knowledge

3.2.3 Effect of support group on IYCF Knowledge

In Kismayo, where both M2M and F2F were conducted in one village/refugee camp the combined interventions led to improved knowledge in four of the five messages in child nutrition i.e. exclusive breast feeding, continuous breastfeeding, responsive feeding and feeding during illnesses. However separate intervention i.e. M2M or F2F in separate villages did well in remembering the initial breastfeeding knowledge though it was not statistically significant. When we compared the effect of M2M vs F2F in Cadaado and Carmo only (to eliminate contamination) the fathers had better understanding on continuous breast feeding and responsive feeding after 3-months session on IYCF training.

Figure 5: M2M & F2F Sessions on IYCF Knowledge

3.3 Effect of M2M and F2F Sessions on IYCF Practices

Examining food taken by under five children shows nearly similar level of diversity among both control and interventions groups at the base line assessment. Like household diversity, children in treatment group ate an additional one-food group at end line while those children from control households their food diversity slightly declined. While general cleanliness improved among both study arms, those in treatment group improved by nearly 10-pp compared to 5-pp increase in the control group. At baseline, over half of households sought medical attention for their sick children, this however declined by 15-pp among control group while those in intervention group were 10-pp more likely to seek medical attention for their sick children.

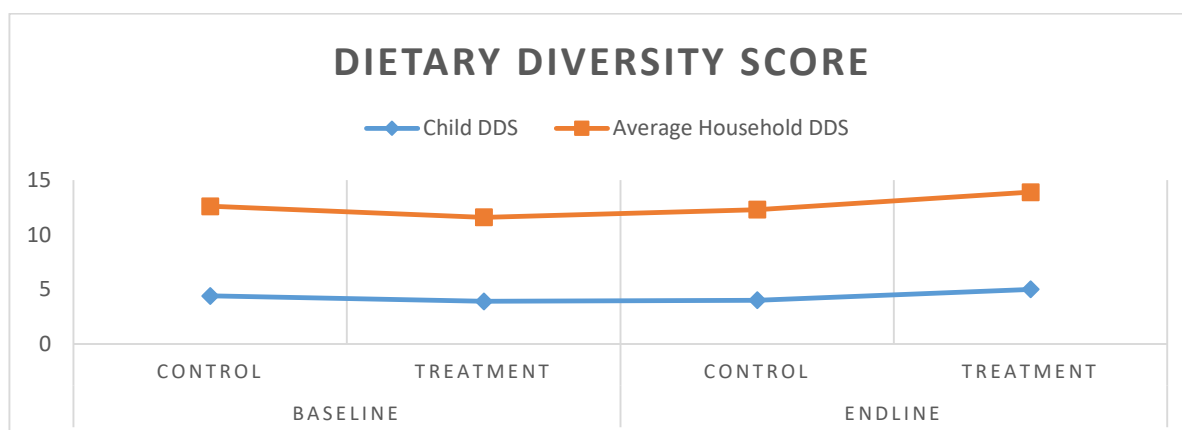
Table 4: IYCF Practice among Control and Intervention Group

Variables %	Baseline		Endline		Changes	
	C	T	C	T	C	T
Average household food consumption score	66.5	56.6	61.9	63.7	-4.5(2.3)*	7.1(2.0)***
Average Household DDS	8.2	7.7	8.3	8.9	0.1(0.3)	1.2(0.2)***
Child DDS	4.4	3.9	4.0	5.0	-0.3(0.3)	1.2(0.2)***
Continued breastfeeding (%)	66.2	57.1	44.2	54.3	-22.0(8.9)**	-2.9(6.7)
Child is clean (%)	70.5	64.4	75.0	74.1	4.5(4.8)	9.8(3.8)**
Sought medical attention for a sick child (%)	54.8	56.1	40.0	66.1	-14.8(12.4)	10.0(9.1)
C – Control; T – Treatment; Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1						

3.3.1 Dietary diversity score

At baseline, households in intervention group ate less diverse food groups relative to their counterparts in the control groups at end line however, control group ate the same number of food groups while those in the intervention group increased their diversity.

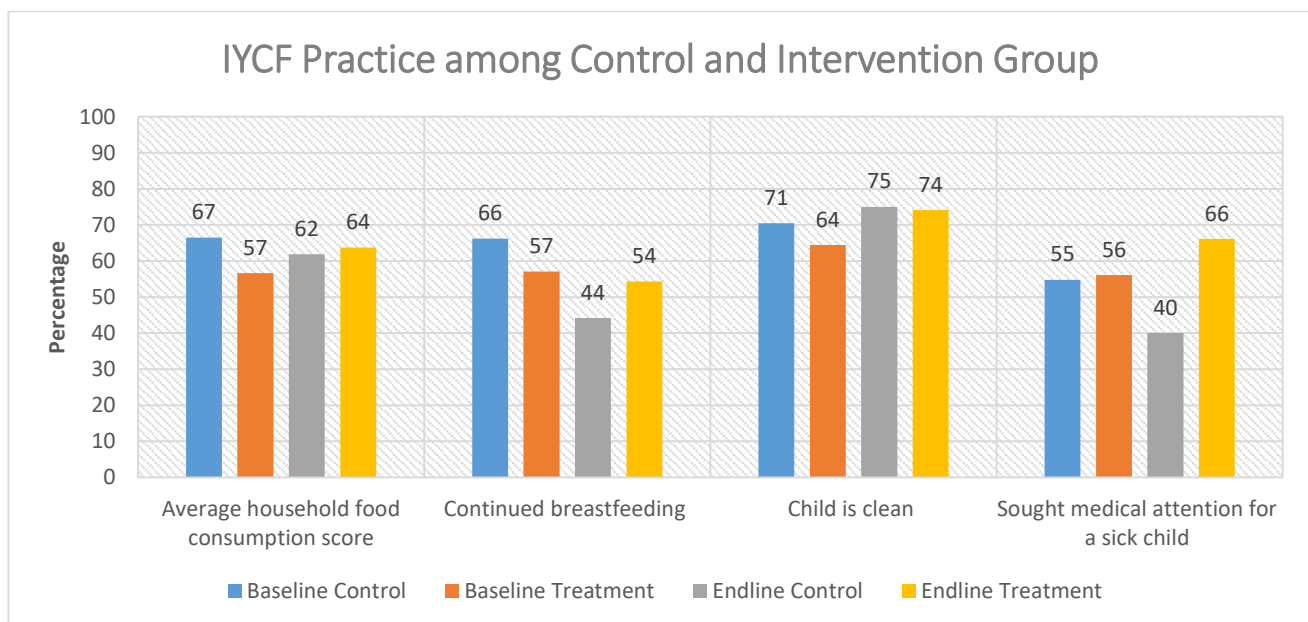
Figure 6: Dietary diversity score



3.3.2 IYCF Practice

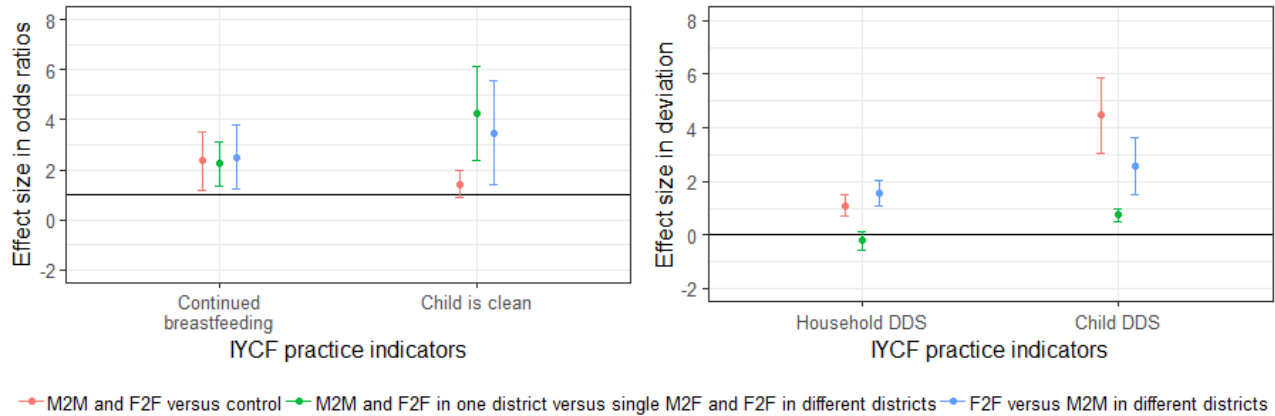
There was a negative trend among control group while intervention group depicts a positive trend in terms of IYCF practices. Physical examination of child level cleanliness such as trimmed fingernails, cleaned face and clothes among others showed children in control households rated cleaner relative to their peers in the treatment group at baseline. Food consumption score dropped at baseline but the score improved at endline after treatment. Results also show households in this study were adequately food secure, although the treatment were less food secure, they gained on food consumption score to surpass the control group at end line. At baseline, over half of households sought medical attention for their sick children, this however lower among control group (40%) while those in intervention group were more likely (66%) to seek medical attention for their sick children.

Figure 7 : IYCF Practice



3.3.3 Effect M2M and F2F and in IYCF practice

We assessed the effect on intervention on practices on dietary feeding among household members and hygiene as well. It was demonstrated that on the combined intervention area, mothers and fathers were practicing on continuous breastfeeding and child cleanliness practices. In the districts where we had M2M or F2F the fathers did well in household and child diverse dietary feeding, continuous breast feeding and child cleanliness. Overall the intervention had no effects recorded on likelihood of seeking treatment among the M2M & or F2F group.

Table 5: M2M and F2F Sessions on IYCF Practices

3.4 Effect of M2M and F2F Sessions on Nutritional Status of Children and Caregivers

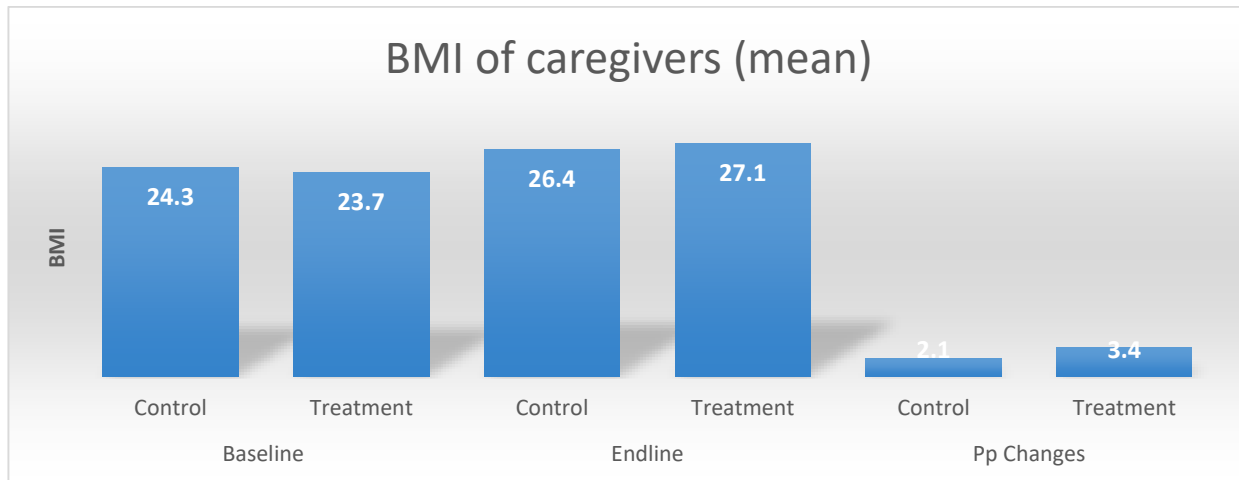
Results in table 6 below indicates the nutritional status of children among control and intervention groups at the baseline and endline assessment. On average one in every ten children under five were malnourished at baseline (GAM: 13.9% in control and 11.3% in treatment groups) including some severely malnourished (SAM: 2.9% in control and 4.5% in treatment groups). While rates of global acute malnutrition declined within the three months among control group, those in intervention group witnessed increase by nearly one-percentage points. Severe malnutrition in the control group doubled. The nutritional status of the caregivers increased over the three months' period, average BMI increased by 2 deviation units in control and 3 deviation units in intervention group.

Table 6: Changes in Caregiver's and Children's Nutritional Status

	Baseline		Endline		Changes	
	C	T	C	T	C	T
BMI of caregivers (mean)	24.3	23.7	26.4	27.1	2.119(0.853)**	3.361(0.879)***
Nutritional status of children (mean WHZ)	-0.7	-0.1	-0.4	-0.6	0.361(0.158)**	0.696(0.665)
GAM (%)	13.9	11.3	10.5	12.4	-3.4(3.5)	1.1(2.7)
SAM (%)	2.9	4.5	5.8	5.5	2.9(2.2)	1.1(1.8)
C – Control; T – Treatment; Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1						

3.4.1 Body Mass Index (BMI)

Person's weight in kilograms dividing it by the square of height in meters gave us the Body Mass Index and the results are as displayed in the figure below. At baseline the BMI was lower but at endline we see increase BMI unit

Figure 6: Effect of support group on BMI

3.4.2 Effect of M2M and F2F Sessions on Nutritional Status

At the onset of the study, children in treatment and control groups depicted similar nutritional status. While the nutritional status slightly improved after caregivers' participation in M2M and F2F sessions, the improvements were not significant. The study was conducted over 3 months, therefore due to short duration of time the nutritional status of the caregiver and children could not be deduced.

However, we analyzed further to see the effect of combined intervention in Kismayo at baseline and end line on dietary diversity feeding practices among children. Based on different level of social economic status the mothers and fathers in Kismayo improved in child dietary diversity even though they were in the category of low social economic status and the improvement in dietary diversity doubled in upper social economic status. The quantitative result was at per with qualitative interview where the participants gave finances as one of constrains to practice dietary diversity among the Somali population.

Table 7: M2M and F2F on child dietary feeding with SES

SES_cat	Combined intervention vs single			
	Other districts		Kismayo	
	Baseline	End line	Baseline	End line
Low SES	3.81	3.83	4.05	5.67
Middle SES	4.91	5.33	4.55	5.65
Upper SES	3.65	5.83	2.88	5.23

4 Discussion

This study shows that, at the onset of the study, care givers especially those in the control group had poor knowledge. Although the intervention group gained knowledge, the gains were not any different from the gains made by the control. Plausible explanation for the gains made by the control group were related to spillover effects. Some of the members in the intervention groups were discussing with other members from control group, about what they had on IYCF session whenever they meet in social gathering like weddings, the markets or family meetings. This study implemented practical learning lessons during M2M and F2F group sessions such as cooking food demonstration. The demonstration might have spiralled knowledge sharing among intervention and control groups given that they were from the same community. This was in line with similar study that has been in Bangladesh in 2018, stated that, more than a third of their participants received IYCF information from their neighbour [14].

Unlike knowledge, the study shows participation M2M and F2F group sessions improves dietary diversity in households especially in food given to young children. Children were given one additional food group. Again this is linked to the practical food preparation demonstration in addition to normal dissemination of information in standard IYCF packages. We also find children of caregivers participating in M2M and F2F were twice as likely to continue to breastfeed their children up to two years. This is in line with a cluster randomized trial conducted in rural China and West Kenya, which were found that, following a community nutrition education program can improve dietary diversity and feed frequency in the intervention groups.

Overall both the M2M and/or F2F interventions showed improvement on IYCF knowledge and practices. In Kismayo where we had both interventions i.e M2M and F2F introduced, the IYCF knowledge and practices improved more than when only one intervention i.e. F2F or M2M was introduced. This is attributable due to different role that mother and father play in the household i.e. decision maker and caregiver respectively. The fathers were very excited to be involved in the IYCF training which was contrary to the routine which mothers only received the training occasionally.

Limitation of the Study

The study relies on self-report measures, as opposed to observation. That is why there is uncharacteristically high dietary diversity and food consumption scores. It is likely that these measures are affected by recall biases. Another major limitation in this study regards to imbalance at baseline between intervention and treatment groups, it is likely that some of the effects observed in the endline are function of baseline

difference among the study arms. For instance in the knowledge indicators, the gain in the control group could be due to the fact that they had more room for improvement thus highly responsive to spillover effects.

3 Conclusions

- There was some positive knowledge growth among M2M and F2F participants; it is likely that they shared messages with their peers in control group.
- IYCF practices improved attributable to M2M and F2F, similar to the whole household.
- M2M and F2F session had no effect on nutritional status of children and caregivers.

4 Challenges

- Irregular participant attendance: The participants selected to participate in the study were at times absent common reasons for absence included pressure to work to feed their families, sickness among other issues. Competing priorities forced attendees to leave midway through a day's session to attend to daily chores.
- Incentives: It is the norm of participants in study area to be incentivized. At the beginning of the intervention lead fathers and lead mothers expected to get incentives and it was difficult to be convince them initially but finally agreed to facilitate without incentives.
- Under-staffing: with eleven sessions in a week it was very difficult for the Save the Children Kismayo staff to coordinate and provide adequate support and cover all the groups.

5 Recommendation

- SCl and other stakeholders should consider scaling up M2M and F2F intervention as a platform to improve infant and young child feeding practices. This can be considered as a task-shifting approach to reduce malnutrition cases burdening health facilities.
- Allocate budget (incentives) to Community based IYCF activities such as M2M and F2F support groups, to encourage the community to participate these activities. This will buffer against competing priorities among facilitators and participants.

Reference

- I. Food security and nutrition analysis unit [FSNAU]. Somalia Estimated Nutrition Situation Projection: 2017.
<http://www.fsnau.org/products/maps/nutrition-situation-maps> (accessed Sept 2017).

2. UNICEF. Situation analysis of children in Somalia 2016: Available from: https://www.unicef.org/somalia/SOM_resources_situationalanalysis.pdf. (accessed Sept 2017)
3. Caitlin Mazzilli and Austen Davis. Health Care Seeking Behaviour in Somalia; A Literature Review.UNICEF.2014
https://www.unicef.org/somalia/SOM_HealthcareseekingbehaviourReport_10-WEB.pdf.
4. UNICEF. Three in ten mothers in Somalia exclusively breastfeed for the first six months. <https://reliefweb.int/report/somalia/three-ten-mothers-somalia-exclusively-breastfeed-first-six-months> . Aug 2017
5. Nkunuzimana T, Custodio E, Thomas A.C, Tefera N, Perez Hoyos A, Kayitakire F. (2016). Global analysis of food and nutrition security situation in food crisis hotspots; EUR 27879.
6. UNICEF (2003) Global strategy for infant and young child feeding. Switzerland: WHO. Retrieved from <http://www.who.int/nutrition/publications/infantfeeding/9241562218/en/index.html> Dsdsda.
7. Peer support Groups for parents: A literature review. Available at [http://www. first5la.org/files/08226_2.3PSG%20Exploratory%20Study%20%20Lit%20Review%20FINAL_08312012.pdf](http://www.first5la.org/files/08226_2.3PSG%20Exploratory%20Study%20%20Lit%20Review%20FINAL_08312012.pdf) accessed on 24th Jan, 2014
8. Stephanie L.Martina, Teresia Muhomah, Faith Thuita, Allison Bingham, Altrena G.Mukuriae. What motivates maternal and child nutrition peer educators? Experiences of fathers and grandmothers in western Kenya. *Social Science & Medicine*. Volume 143, October 2015, Pages 45-53
9. Phillips R, Copeland L, Grant A, Sanders J, Gobat N, Tedstone S, Stanton H, Merrett L, Rollnick S, Robling M, Brown A, Hunter B, Fitzsimmons D, Regan S, Trickey H, Paranjothy S. Development of a novel motivational interviewing (MI) informed peer-support intervention to support mothers to breastfeed for longer. *BMC Pregnancy Childbirth*. 2018 Apr 11;18(1):90. doi: 10.1186/s12884-018-1725-1.
10. Nash M. Addressing the needs of first-time fathers in Tasmania: A qualitative study of father-only antenatal groups. *Aust J Rural Health*. 2018 Apr;26(2):106-111. doi: 10.1111/ajr.12371. Epub 2017 Dec 8.
11. Paranjothy S, Copeland L, Merrett L, Grant A, Phillips R, Gobat N, Sanders J, Fitzsimmons D, Hunter B, Regan S, Playle R, Brown A, Tedstone S, Trickey H, Robling M. A novel peer-support intervention using motivational interviewing for breastfeeding maintenance: a UK feasibility study. *Health Technol Assess*. 2017 Dec;21(77):1-138. doi: 10.3310/hta21770.

12. Mary Lung'aho, Maryanne Stone-Jiménez. Mother-to-Mother Support Groups in the Dadaab Refugee Camps. 2009 http://www.waba.org.my/pdf/mstfml_V7N2_MtMSG_Dadaab.pdf (Accessed May 2018)
13. Lewycka S, Mwansambo C, Rosato M, Kazembe P, Phiri T, Mganga A, Chapota H, Malamba F, Kainja E, Newell ML, Greco G, Pulkki-Brännström AM, Skordis-Worrall J, Vergnano S, Osrin D, Costello A. Effect of women's groups and volunteer peer counselling on rates of mortality, morbidity, and health behaviours in mothers and children in rural Malawi (MaiMwana): a factorial, cluster-randomised controlled trial *Lancet* 2013; 381: 1721–35.
14. Hoddinott, J., et al. (2017). "Behavior change communication activities improve infant and young child nutrition knowledge and practice of neighboring non-participants in a cluster-randomized trial in rural Bangladesh." *PloS one* 12(6): e0179866

Annex



Key_Message_Bookle
t_2012_small.pdf



spring_ghana_ftfsg_1
1-3-17.pdf



Questionnaire