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Does Monetary Incentive Work to Improve IYCF Knowledge and Practices Among Mothers

A Qualitative Exploration in Two Alive and Thrive Upazilas in Noakhali

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ACRONYMS

AED	Academy for Educational Development
AM	Area Manager
A & T	Alive & Thrive
BF	Breast Feeding
BFHI	Baby friendly hospital initiatives
BHP	BRAC Health Programme
BM	Breast Milk
BM	*Branch Manager*
BMI	Breast Milk Initiation
BRAC	Bangladesh Rural Advancement Committee
CF	Complementary Feeding
CHW	Community Health worker
CPPBF	Campaign for protection & prevention of breast feeding
DM	District Manager
DR	Doctor
EBF	Exclusive Breast Feeding
EHC	Essential Health Care
FGD	Focus Group Discussion
GO	Government
HH	Household
HDI	Human Development Index
HPI	Human Poverty Index
IYCF	Infant and Young Child Feeding practices
NNP	National Nutrition Program
NGO	Non Governmental Organization
PO	*Program Organizer*
PK	*Pusti Kormi*
RED	Research and Evaluation Division
RF	Responsive Feeding
SS	*Shasthya Shebika*
SK	*Shasthya Kormi*
TV	Television
UM	*Upazila* Manager
UZ	*Upazila*
US ($)	United States (dollar)
vCHW	Voluntary Community Health worker
WHO	World Health Organization

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ABSTRACT

Poor infant feeding practices is one of the major causes of undernutrition and stunting in <5 children in Bangladesh. BRAC, in partnership with AED, is implementing Alive and Thrive (A & T) programme to promote optimum infant and young child feeding (IYCF) practices in rural Bangladesh to address this issue. The frontline health worker for this project is the community health worker of BRAC *Shasthya Shebika* (*SS*) who works on a voluntary basis, but gets some monetary return from the delivery of health services including sales of health products to the community. The A & T programme designed an additional incentive package for staff motivation (especially the SS) based on some performance indicators. Besides a quantitative survey, a qualitative study was also done to supplement and complement it. This study used qualitative methods such as in-depth interviews, informal discussion, and focus group discussions to collect relevant data the pre-incentive baseline data is compared with the post-incentive data to find out how the incentive worked in improving the situation, if any. From the study results, we found that due to heavy work load, the *SSs* were demoralized, and also price hike in recent times made their day-to-day life difficult. This lessened their interest to spare extra time for the Alive and Thrive project. But, with the offer of monetary incentive, situation changed. Positive changes were observed in colostrums feeding, initiation of breast-feeding within first hour, responsive feeding and hygiene practices, but not exclusive breast feeding, the knowledge and practice of age-specific complementary feeding, both composition and consistency. The underlying reasons following incentives were improved awareness, better support from family, job satisfaction, improved frequency and quality of household visits. The study concludes that the performance-based incentive scheme was instrumental in effectively sustaining the work for this very intensive and time consuming behaviour change programme.

INTRODUCTION

Improved infant and young child feeding (IYCF) practices have the potential to improve child health and development outcomes especially in poorly resourced countries. More than 70 million out of 146 million under-five underweight children belonged to South Asia (UNICEF 2006). In the South Asia region, Bangladesh has the highest rate of malnutrition (Faruque *et al.* 2008). Studies indicate that certain infant and young child feeding (IYCF) practices, such as the early cessation of breastfeeding, non-exclusive breastfeeding, and inappropriate complementary feeding contribute significantly to child malnutrition and death in poor countries (Hop *et al.* 2000; Edmond *et al.* 2006; *Black et al.* 2008).

In Bangladesh, high rates of stunting, underweight and wasting been identified due to inappropriate infant and young child-feeding practices (breastfeeding and complementary feeding) for first 2 years of a child (BDHS 2007). So Promotion of appropriate feeding practices through counseling and demonstration is important in reducing child malnutrition and mortality (WHO 2002) and thus, for achieving Millennium Development Goals 1 and 4. Counseling has been shown to increase knowledge of caregivers and to improve breastfeeding, complementary feeding, and growth in young children (Haider *et al.* 2000; Pelto *et al.* 2004; Freed *et al.* 1995; Penny *et al.* 2005).

Adequate nutrition through appropriate infant and young child feeding during formative years and early childhood is fundamental to the development of each child's full human potential. It is recognized that the period from birth to two years of age is a "peak age for growth faltering" for the promotion of optimal growth, health and cognitive development. While the child has reached the age of two years, this under nutrition is very difficult to reverse (Martorell *et al.* 1994). Inappropriate infant and young child feeding (IYCF) practices lead to high rates of contagious diseases and determinates of starvation in the first two years of life (Shubhada *et al.* 2005).

To improve the child health and ensure a healthy childhood, Alive & Thrive (A & T- a project implemented in Bangladesh, Ethiopia, and Viet Nam) project aimed to reduce child mortality and morbidity through better IYCF practices and ensure the growth and development of children under two years of age. In Bangladesh, the programme aims to promote early (Colostrum) and exclusive breast-feeding[1], quality complementary feeding including age-appropriate feeding practices, and hand washing through household visits and counseling of beneficiaries. To reduce stunting, services were provided during antenatal and postnatal checkup, in health forums and through social mobilization (AED 2005). The programme is implemented through front-line voluntary workers of BRAC Health Programme such as *Shasthya Shebika (SS),* and also by another cadre of dedicated community nutrition workers known as *Pusti Kormi (PK)* to deliver more customized services. They are supervised by *Shasthya Kormi (SK)* and *Programme Organizers (PO)* as in other BRAC health programs.

[1]*Exclusive breastfeeding* means that an infant receives only breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids, not even water with the exception of oral rehydration solution, drops or syrups consisting of vitamins, mineral supplements or medicines (WHO 2009).

Preliminary findings show that the *SSs* lagged behind the *PKs* in programme activities. The *SSs* are not the paid workers of BRAC. Though they are supposed to offer voluntary services to their community, it has been found that due to poverty, they may not be interested in activities that do not contribute to their livelihood strategies. Evidence exists that economic incentive is the prime motivator for becoming a *SS* as well as the main reason for drop-outs (Khan *et al.* 1998; Rahman *et al.* 2007; Ahmed 2008).

Evidence showed that performance-based incentive may work as a motivational factor to boost performances-related activities (Rahman *et al.* 2007). BRAC's Alive and Thrive programme is going to introduce performance-based incentive to motivate the *SSs* in programme activities.

This qualitative study was conducted to investigate how the monetary performance incentives worked to improve the IYCF related knowledge and practices among the community health workers and mothers.

Objective

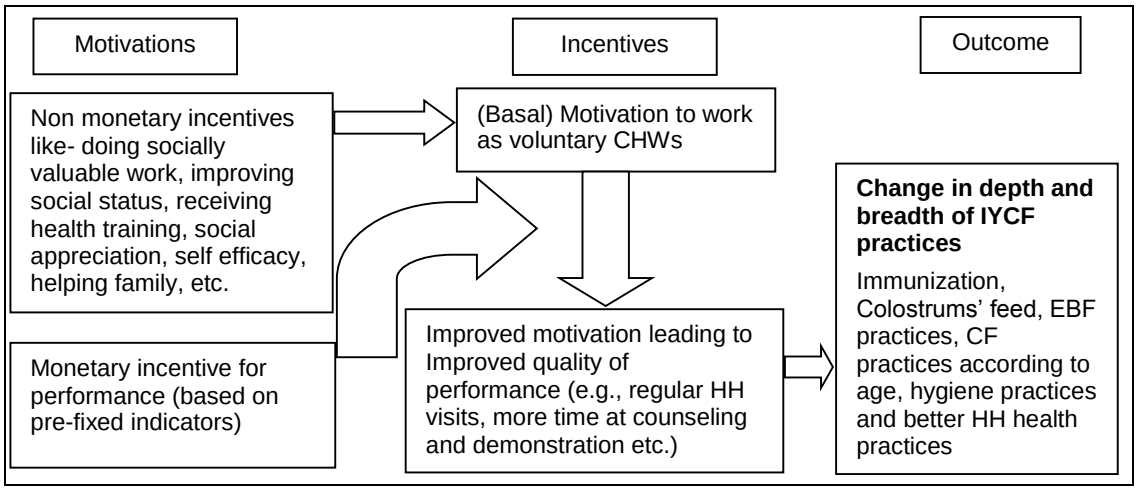
The objective of this qualitative exploration was,

i) To study the changes occurring in the six specific indicators with respect to the IYCF practice of mothers
ii) To explore the underlying processes (pathways of change) which resulted in changes, if any

Conceptual framework

A conceptual framework is presented below to show how monetary incentive works to improve *SS* performance with respect to improving the level of IYCF practices among mothers. Over and above the basal motivation (at the time of routine *SS* work), the monetary incentive works to enhance the depth of intervention such as increase frequency and quality of home visits, more efforts at counselling and trouble-shooting etc. which is translated into change in IYCF practices of mothers towards better child rearing. However, this is not a linear process and may be hampered by many factors in its path.

Figure. Conceptual framework



RESEARCH METHODS

The first phase of the programme started in mid 2010 and included 22 *upazilas* (UZs) in 9 districts. These *upazilas* had high prevalence of malnutrition. In 2 of the UZs, the model was tested and refined during late 2009 using BRAC's Essential Health Care (EHC) infrastructure. The study was conducted in these two *upazila* (Chatkhil as intervention area and Senbag as Comparison area, both of Noakhali district) during May (baseline) to November (post-incentive), 2011.

Study design and method

A pre-test post-test control group design was adopted, and qualitative methods (e.g., FGDs, in-depth interviews, informal discussion) were used for collection of relevant data.

Respondents for the study

For conducting the study, we first selected the *SSs* who got incentives from the A & T program. We also selected the supervisors of the SSs, namely the *PKs* (specially recruited by the A & T program to act as trouble shooter for the *SSs), Program organizer (PO), Branch Manager (BM)*, and *Upazila Manager (UM)* to explore their perspectives about the incentive package, and also for triangulation. Beneficiaries of the A & T program included women who have less than 2 years old child, and/or caregivers in the catchment area of the selected SSs and constituted our second group of respondents for eliciting IYCF related knowledge and practices. We recruited all the participants through the A & T program's enrollment records, using a purposive, stratified sampling protocol (Huberman & Miles, 2002).

Data collection techniques and tools

Records kept at local offices were checked to find out the number of Programme organizer, total number of post and existing number of *SS, PK* and *SK,* and the catchment areas of each *SS* with associated population and number of households.

Data were collected through the following three methods:

1. In-depth interview
2. Focus group discussion
3. Informal interview

In-depth interview

In the in-depth interview we covered (but not restricted to) the socio-economic status of the respondents, the services delivered by the *SSs* and *PKs* in their catchment areas, perception on remuneration based on their performances, barriers faced in providing services and coping mechanisms, and perceived alternatives for motivation to work.

A checklist for in-depth interview was developed and finalized after pre test. Trained anthropologists' carried out interview with randomly selected respondents.

Focus group discussion

Using a pre-tested checklist , in the focus group discussion (FGD) we covered the socio-economic status of the *SSs* and *PKs*, perceived quality of performances for remuneration, perceived alternatives for motivation, existing barriers and coping mechanism and unmet need for remunerations (if any). FGDs were conducted by trained Anthropologist.

Informal interview

Informal Discussion conducted with the beneficiaries including mother having less than 2 years old child or care giver to know their perception on the functioning and services by the A & T service provider. Here we also covered their perception on getting different types of services and its effectiveness, activities by the service providers to solve their difficulties on IYCF, and felt needs from the programme. For details, Pl see table 1 below.

Table 1. Study plan according to respondents', areas and tools.

	Pre incentive package		Post incentive package	
	Chatkhil	Senbag	Chatkhil	Senbag
In depth Interview with *SS*	6	6	12	12
In depth Interview with *SK, PO, BM, AM*	3	3	6	6
Focus Group Discussion with *SS*	0	0	4	4
Focus Group Discussion with *PK*	1	1	2	2
Informal Discussion with mothers	6	6	12	12

Data collection process

All subjects involved in this research were informed of the study rationale, procedures, potential risks and benefits and their right to withdraw from the study at any time. It was be made very clear that participation is completely voluntary and that subjects had the right to refused to answered questions if they wish. All participants were encouraged to ask questions at any time during the research *(please see Appendix A for informed consent document).*

We did an exploratory approach, utilizing focus group discussions, informal interview and in depth interview for methodological triangulation. This procedure allows for union among multiple sources of information (Creswell & Miller, 2000). Reason behind focus groups discussion was to get a richness of information at a reasonable cost and allow researchers to recognize composite issues by observe participant's debate and respond to one another (Krueger, 1988, Krueger & Casey, 2009). Here the present study followed the focus group discussion methodology according to Huberman and Miles (2002) guided. Because focus group discussion allows expanding more in-depth thoughtful of what participants have to say (Morgan *et al.* 1998). To ensured adequate chance for each participant to elaborate personal accounts the participants limit for the FGD was 6-8.

We also conducted in-depth interviews with participant in each *upazilas*. Interviews ensured coverage of relevant topics that may not have surface in focus group discussions. To achieve investigator triangulation, the lead author ensured her presence during data Initial questions were generated based on dominant IYCF themes in the literature and covered two broad topics: breastfeeding (initiation, duration, exclusivity),

and complementary feeding (timing of introduction of complementary foods, food types, food hygiene, responsive feeding, and psychosocial aspects of feeding). Preliminary versions of interview and focus group instruments were pre-tested. Questions were then modified to reflect local cultural meanings and interpretations.

Data management and analysis

A team of 7 research assistants transcribed all digital recordings of interviews in Bangla. As a quality control measure the transcripts was compared with field notes. Information was analysis according to Huberman and Miles (2002) like; data reduction, data display and conclusion verification. During the initial data reduction phase, we identified broad themes using thematic content analysis. We further reduced the data by coding transcripts into sub-themes. During this phase we coded up, categories to emerge from the data, or forcing pre-determined sub-themes onto the data (Forrest Keenan *et al.* 2005). We compared coding for each transcript and discussed any discrepancies until agreement on appropriate codes was reached. This process not only ensured reliable coding but also works for any translation errors and different cultural interpretation. All data were coded manually, then summarized and displayed in spreadsheets organized by themes and sub-themes. We interpreted and drew conclusions based on a combination of coding summaries, field notes and direct quotes from participants. Pl see table 2 for analysis plan for the study.

Table 2. Tentative thematic analysis plan

Theme	General child care knowledge, attitudes, perceptions	IYCF knowledge, attitudes, practises	Motivational factors	Programme effectiveness
Sub-theme A	Common local care practices	Breastfeeding	motivational factor	Perceived benefits from the programme
Code				
Sub-theme B	Mothers perceptions about child care	Exclusive breast feeding	perception on remuneration	Perceived perception on the programme
Code				
Sub-theme C	Child health problem in community	Complementary Feeding	Component which attract more	Changes by programme positive/negative
Code				
Sub-theme D	Solution of child health problem	Hygiene practises	Why attract those component	Current practises in the community
Code				
Sub-theme E	Child care Practises for the first baby	Communication	Movement to HH and delivered messages	Requirement from the programme
Code				

Ethical issues

A written consent was taken from each respondent informing them of the confidentiality of their responses (*See Appendix A for informed consent form collected from the respondents*). No external ethical review committee was consulted.

RESULTS

The results were at first presented here in a tabulated form to quick have a look and then a comprehensive description was given briefly**.**

Effective changes due to the incentive packages on IYCF practices

Due to the whole performances and practices for services the infant and young child feeding practices were improved as well. By a simple monetary incentive packages the overall outcome of the programme were much better than earlier, that also clear and sound found by the study. The present study also found that due to incentive the *SSs* were too motivated to work and a positive breeze flowing. Here the outcome finding showed at first at a tabulated form and then discussed briefly from the present study.

Table3. Changes on performing IYCF services

Category	Change(s)		Quote(s)
	Intervention Area (Chatkhil)	Comparison Area (Senbag)	
1.Practices on colostrums feeding	Practices well than previous	Not well performances	In Chatkhil *PK* told, *"now a day mothers were more aware to feed colostrums by SSs counseling"* *SS* told in Senbag area, *"Mothers were less likely to hear us and practices pre and/or post lacteals. We failed to convinced them to fed colostrums"*
2.Breast milk initiation (BMI)	Perceive and practices well	Perceive but not practices well	*"Yes we all know that within first hour of birth a baby need to fed breast milk immediately for immunizes the toddler"* In Senbag a *SS* reported, "*still some mothers especially their older relatives or house hold members practices pre lacteals like honey as traditional beliefs that the baby speak sweetly in future, and post lacteals like cow's/tinned milk for make the baby healthy. They don't want to follow us."*
3.Practices on exclusive breast feeding (EBF)	Clear perception and practices among respondents	Clear perception and practices among respondents but due to few PKs confusion on the matter some mother had mal practices.	*"We know that within first six month of a child need to fed only breast milk nothing else nor a single drop of water, because ALLAH give food for the first six months for a baby with his mother-and we counsel mother thereby"*- told *SS* from Chatkhil "*Mother has to practices only breast fed for the first six months period of time but probably water will be ok at that time. Because water is life and to reduce thirstiness baby need some water"*- told a *PK* from Senbag.

(Table 3 continued…)

(… continued Table 3)

Category	Change(s)		Quote(s)
	Intervention Area (Chatkhil)	ComparisonArea (Senbag)	
4.Practices on Complementary Feeding (CF)	Still confuse some *SS*s & mothers on CF starting time. SSs mismatch with 7-11 months age specific food consistency and frequency. Mothers only could mention quantity.	*Few SSs and mothers only could mention age specific food quality, quantity properly.*	*"Now a day's by the help of the SSs apa we ensure animal protein and nutrition food (food from all groups) for our child accordingly in quantity and quality as told by the SSs"*- responses by mothers from both areas. *"Sometime I couldn't make up my mind on CF starting time, whether its end of the six months or beginning of six months and also some mothers faced the problem. But we tried to solve it."* Told a *SS* from Chatkhil. *SS* from Senbag told*, "I couldn't memorize the age specific consistency and frequency properly as I know the accurate quality and quantity".* *"I know well on 12-24 months age specific feeding method but still mismatch with 7-11 months, but hope I can overcome it very soon as I did for 12-24 months",* told by *SS* from Chatkhil. *"We know the age specific food consistency, frequency, quality and quality but still sometime mismatch with each other",* responses by *PK* from both area.
5. Hygiene practices including handwashing	Given more importance's	Given more importance's	*"It's our duty to keep clear and practices clean not only the home but also the society, and for that we are now aware on hygiene practices specially hand wash with soap, drink safe water."*- Responses found from all the participants.
6.Other relevant information on IYCF (e.g., responsive feeding, feeding during illness etc.)	Practices well	Practices well	*"Now we feed our child more responsively and breast fed the child according to his demand and continue for at least 1.5 years but you know there are some restriction for breast feeding for male child, which we need to follow"*-told by a mother (which also responses by all other mothers). *During illness mothers fed BF either suckling or express the milk. But in case of insufficient BM, c-section, adolescent's mother-doctors suggest for formula feeding that is really a problem for us to convince mother not to fed formula*", told by a *SS* (as mentioned by others *SS* from both areas)

Changing performance on IYCF services

Performances on delivered various infant and young child feeding practices and changes were differ in both areas due to monetary incentive packages.

Colostrums feeding practices

Before incentive vast majority of the respondents from both areas couldn't reply on meaning, timing and benefit of colostrums feeding. But few mothers from Chatkhil and majority from Senbag mentioned that they practices colostrums feeding by *SS* and *PK's* counseling. But the situation changed dramatically in Chatkhil area after incentive packages which were positive increase. And for that *SSs* start counseled mothers from their early stage of pregnancy and their family members also. *SS* from Chatkhil mentioned that…

> *"Colostrums are the first food for baby rather than any other drink. Colostrums is the first food for baby rather than any other drink, honey, mustered oil etc"*

Also the mothers from Chatkhil highly appreciated the *SSs* for helping them to fed colostrums and make them understood on the benefits of it. Where a mother from Senbag mentioned that till now in their locality mother's practices post and pre lacteals, because they didn't know the disadvantages of pre or post lacteals.

Breast milk initiation practices

Most of the mothers' from Chatkhil and few from Senbag mentioned while a baby birth then it need to be fed breast milk as early as possible but there is no fixed time limit. Same responses found from the vast majority of the SSs from both areas they could mention the time limit within one hour and rest of them couldn't answer. *SSs* told…

> *"First initiation of breast milk should fed as soon as possible after delivery"*

Now a day's almost all the *SSs* from both areas performed well on breast milk initiation within one hour after delivery. Mothers from both areas also highly reported on it, though very few mothers still practices pre and post lacteals (especially honey, cow's milk) in Senbag areas. But *SSs* in Senbag worked hard on it (they work hard for incentives in near future like Chatkhil).

EBF practices and perception

The present study found very few *SSs* in both areas could define the meaning of EBF (breast fed till six month but water can be fed) and if baby had any gastrointestinal problem then after doctor's suggestion gripe water can be fed. *SSs* told…

> *"Exclusive Breast feeding means till six month fed breast milk but other liquid like water will be OK"***.**

Only few *SSs* from Senbag area could mention the actual meaning of EBF. Among the mothers vast majority from Chatkhil area mentioned that they practices on EBF but not properly. For an example a mother from Chatkhil said…

> *"During 6 months only need to feed breast milk and no complementary fed but can feed water to survive. No creature can live without water".*

Mothers from Senbag didn't know the meaning and importance of EBF. Some of them mentioned that they even didn't try for EBF and started CF after 4/5 months and still the situation remain same. According to AM…

> *"We asked mothers for EBF properly and continue till six months because it's secured for the baby--tried family food after six month and no shop food which causes diseases. In our country in every year thousand of child died for lack practices on child food and nutrition and we tried to reduce the child mortality and keep baby healthy"*

Perception and practices among the *SS*s were changed than previous. Vast majority from Senbag and Chatkhil mentioned that till six months only feed BF not a single drop of water. And they tried to make understood the mothers and her family members. *SKs* also agreed that the ratio of practicing of EBF increased than earlier by the help of *SSs* mostly. According to a *SK*...

> *"Incentive like salary for SS, Whatever she gets, she will be happy and will do her job more passionately".*

Now a day's mothers also tried to practices more comprehensively on exclusive breastfeeding in Chatkhil area, though their older family members and neighbors still encourages for post lacteals. A mother from Chatkhil said that…

> *"My mother in law and husband asked me to feed the baby horlicks and fruits juice for baby's healthiness. When I told about SS's advice they laughed at me. They asked me that on TV a doctor also suggested for horlicks to made the baby stronger, taller, sharpener—are they fool! Or the SSs became more intelligent than them? "*

Complementary feeding practices

Starting time of complementary food. Minority from both area mentioned for start CF after 6 month where rest reply after 8-12 months. Among the mothers vast majority told complementary feeding should be started after six months, where rest replied for after five month. And the reasons were- baby needs sufficient nutrition by some food group in addition to BM. One mother from Chatkhil told…

> *"After six months baby grows as well as his stomach also and for that he need complementary food. That's the reason for giving complementary food earlier".*

Still few mothers and *SS*s in Chatkhil area had confusion on CF start time (whether from the beginning of six or sharp after six), which was highly reported in Senbag area by the *SSs* and mothers. SS said…

> *"After six month complementary feeding makes the baby healthy, stronger and it's easy to digest."*

Complementary food type. From the very beginning *SSs* and *PKs* suggested food from all group like- nutrient energy, protein (animal, plant), fat (animal, plant), calcium, carbohydrate, iron, retinol, beta carotene and vitamin C, where priorities animal protein and vegetables. All of them also encourages for fed from family pot and discourage food from shop. One *PK* from Senbag told…

> *"some mother told that their child feel in less of appetite and don't want to feed except shop food like chips, chocolate, juice etc then we discourage them not to feed that food to the baby because that are harmful which reduce test for CF."*

Age specific complementary food. In case of age specific food here found a complete mismatch among all the participants from both areas. None of them could mention the accurate measure according to age specific food as they taught from A & T training. It seemed that regarding this point they had a lot of confusion like if they could say the age specific food type couldn't say the frequency and consistency. For example few of them told during 7-9 months ½ cup meal with 1 tea spoon oil but not the consistency and frequency. One *SS* from Chatkhil mentioned…

> *"From 7-8 months fed liquid/semisolid food to the baby for 2 times per day with one time snack and have to feed from the family pot. While feeding the baby one tea spoon Sorisha oil (mustard oil) needs to add if it's not available then add soya bin oil."*

PK from both areas could mention appropriately only for the age of 12-24 months. Very little number of mothers could mention the age appropriate frequency, quality or consistency of food.

After the incentive packages the situation in Chatkhil was pretty changes. Few *SSs* from Chatkhil could mention the age specific food (especially 7-8, 9-11 months) except consistency, and very few from Senbag could mention age specific food properly (with very tiny mistake). But the rest from both areas had a quite mismatch among the age specific food frequency, consistency, quality and quantity. Mothers from both areas could mention the age (7-8 months only) specific frequency, quality and quantity but not consistency. Rest of them had a great mismatch among all age groups. All of them could mention the adding 1 tea spoon oil while feeding the baby. According to *SK*…

> *"Program is running smoothly by giving incentive which will be more effective in future. If incentive increased, SS will motivate more to conduct more positive changes"*

Hygiene practices

Mothers' in Chatkhil practiced hygiene during food preparation, cooking, handling, and feeding by hand washing with soap. A *SS* from Chatkhil told…

> *"Previously, mothers usually didn't try to keep the baby clean. Even they don't wash their hands properly but now a day's things have changed after our counseling. Now mother's practices hand washes with soap"*.

Other relevant changes in IYCF practices found from the study

Breastfeeding while the child is ill. Mothers complained that during illness of the child or mother, baby don't get and/or couldn't suckle to have breast milk. However, through A & T, the *SSs* in Chatkhil, after introduction of incentives, now advise mothers on alternative sources of breast milk such as foster mothers (e.g., sister, sister-in-law, cousin) or advice to express breast milk to feed the baby. One mother from Chatkhil said,

> *"During illness, the baby need to feed more frequently and that should be continuing till 6 months. Because, at that tim,e baby feel more thirsty and his throat becomes dry. I fed more during baby's illness then as usual feeding practices. "*

Breast feeding frequency. Almost all respondents knew the advantages of BF and therefore mentioned the need for breastfeeding on demand. Regarding the duration of breastfeeding, majority from Senbag mentioned it to be 15-20 minutes while the majority

from Chatkhil told that there is no fixed duration for breast feeding, and it should continue until the baby is satisfied. According to a *PK….*

> *"Breast milk prevents disease so need to frequent latching from 15-20 minutes at least. Andif baby get sufficient breast milk then doesn't need to feed anything".*

According to the mothers, they knew breastfeeding techniques like frequent latching, and feeding by rotation until baby's satisfaction.

Breast feeding problems. Many mothers complained about insufficient breast milk during first six month due to breast sores, or sores in baby's mouth, flat and swollen nipple, c-secession etc. One mother from Chatkhil told…

> *"Due to taking medicine for c-session breast milk became dry which can't fulfill baby's satisfaction. So I tried bottle milk but baby refused to fed. That's a problem".*

Following introduction of incentives, the *SSs* were motivated to pursue the matter, with extra energy and time. One *SS* from Chatkhil said that,

> *"Some literature mother doesn't want to understand. They think that BM not sufficient for the baby because after breast fed they again cried, so they start to feed complementary food. But we tried to make them understood not to do so".*

Reasons underlying changes in IYCF related knowledge and practices

The present study revealed some changes on IYCF practices which were discussed above. We tried to further investigate the underlying factors which led to such changes. These are summarized in Table 4 below, followed by short description on the respective themes.

Table4. Reasons for changes in performance following the introduction of monetary incentives in the A & T programme

Category	Current Status		Quote
	Intervention area (Chatkhil)	Comparison area (Senbag)	
1.Development of awareness by A & T programme	Now gives more emphasis on training/refreshers	Emphasis on refresher and other sources for information	*"From the A & T training and regular refresher meeting we learn everything, and also the experience we gathered from the field- that we didn't know earlier while we take care of our children"-SS* from Chatkhil *"We mostly learn all the infant feeding things from our own experience, TV and from the refresher meeting" –SS* from Senbag
2.Family support	Now get family support	Get no support from family	*"Now a day's my husband help me to work in the programme"- SS* from Chatkhil *"My husband asked me to drop the useless job"-SS* from Senbag
3.Work load	Now positive perception about working hard	Complaints of too much workload	*"We need to work hard for the betterment of the programme"- SS* from Chatkhil *"Too much work load considering the support we get from the programme"-SS* from Senbag
4.Household visit frequency	Frequently of household visit s increased than before	Less interested to visit household daily	*SS* from Chatkhi- *"Now a day's I visited the HH more frequently and whenever I Have time and felt for need to visited the HH, I go"* *SS* from Senbag- *" I am not visiting the HH too frequently but I tried hard while I heard about the incentive that given in Chatkhil"*
5.Services delivery	Tries to deliver services as per programme training	Services not delivered appropriately	*PK* from Chatkhil-*"Now the SS tried to follow the counseling mechanism, and showed practical demonstration when needed."* *PK* from Senbag- *"Hoping for future remuneration SSs tried to follow the services delivery accordingly but not appropriately. Delivered 3-4 messages at a time."*

(Table 4 continued…)

(…continued Table 4)

Category	Current Status		Quote
	Intervention area (Chatkhil)	Comparison area (Senbag)	
6. Satisfaction with services	Satisfied with their work and incentive	Satisfied but has unmet need for some remuneration	*SS* from Chatkhil-*""We highly satisfied with our own work but want to learn more about the services we provide"* *SS* from Senbag-*"if you give us a small amount we will work more energy."*
7. Contentment with the incentive and associated honour from society	Content with incentive and improved status in society and family	Future remuneration, social status, selling medicine	*SS* from Chatkhil- *"We like the incentives most and also the honor get from society and family, people called doctor apa- really loved it"* *SS* from Senbag- *"we like to work for people and the respect from community, but attract most for remuneration"*
8.Barriers faced and trouble shooting	Find some problem and tries to solve	Find no obstacle but in-laws make it difficult to deliver services	*"We find some inappropriate IYCF practices among mothers, and tried to solve otherwise informed PK apa or SK apa."-SS* from Chatkhil *"There was no problem in my catchment area but only the in laws make some trouble to followed the Infant feeding to her daughter in law"- SS* from Senbag

Development of awareness

Whatever IYCF information the SSs disseminated to the mothers, they learned these mainly from the training sessions and refreshers, reinforced by their own experiences and ads from television. This was more pronounced in Chatkhil where introduction of incentives motivated the SS to more active participation in the training sessions, compared to Senbagh where they relied on TV ads more with the greater probability of misinformation more. The AM from Senbag mentioned that the community people, especially the young females, were more influenced by the media and for that they were less likely to feed the children breast milk for longer period of time (2 years). When asked, they reasoned that long time breast-feeding hampered their body shape which they didn't prefer because they also want to be pretty and smart like the models on TV. On the other hand media advertising on infant formula make the child healthy, so they were influenced by it. In Chatkhil area, great majority of the mothers informed their sources information to be the *SSs*, PKs and then media, and thus receiving the right information.

Support from the family

Before incentive*, SSs* from Chatkhil were reportedly discouraged by their families and received no support. Husbands, who initially encouraged their wives to work, became disappointed when they found that routine *SS* work was not bringing any income to the household, and asked them to drop out as they couldn't do the household chores properly for want of time. However, things changed when incentive package was

introduced. According to the *SSs* of Chatkhil, during the last 2/3 months their husband and other family members encourage them to work devotedly. One *SS* said that,

> *"Now my husband also helps me to do my household chores. Due to the price hike it's too difficult for one person to beare the whole family expenses. If I could contribute a little that helps a lot. "*

They were happy to do the job with the help of their family. On the other hand the situation remained unchanged in the Senbag area.

SS's movement frequency for delivery of services

According to the *Branch Manager, Area Manager, SKs, PKs* in both areas, the frequency of household visits was low before the introduction of incentive package, especially in Chatkhil area. This changed substantially following the introduction of incentives. According to a mother,

> *"Now a day's Shebika apa came frequently to our house and asked whether we had any problem. She suggested us a lot and practically showed what to do."*

In the post-incentive phase, majority of the *SSs* reported that they visited houses at least two days in a week and most of the time, there was no fixed time for visit. Whenever they felt there was a need, they went to the mother's house.

Improved perception of work load

In the A & T programme, the *SSs* have to perform a number of tasks related to breast-feeding, complementary feeding and hygiene practices. Before incentive, this workload was perceived to be heavy which was also corroborated by the *PKs* and the SKs. However, the perception about the same volume of workload changed among the *SSs* in Chatkhil area after the incentive package was introduced. The post-incentive data revealed that the *SSs* perceived positively their workload; rather they were morally boosted to work hard and sincerely. One of the *SSs* said:

> *"We are also a mother so child's health comes first, then the other works. If child feel good then the mother will be happy and concentrate on her daily works….."*

Vast majority of the *SSs* informed that- now a days, they intensively counseled on colostrums feeding within the first hour of birth, exclusive breast-feeding for first six months, and the modalities of introducing complementary feeding after six months. They emphasised the timing of introducing CF, giving age-appropriate food from the family pot, and made some practical demonstration on proper positioning and attachment while breast-feeding. They also highly encouraged mother for hygiene practices during food preparation, handling and feeding to the child. All this required quite a bit of time, and they were happy to use it for a perceived noble cause.

A BM also mentioned about the situation that after incentives were given to the *SSs,* the results were positive. He told that,

> ***"****It is a good attempt. It will enhance SS working speed and has motivated them. After giving incentive, they are more interested to work than before. This is why it is a good attempt and SS are continuing work with us. Incentive is gives to the SS under six categories:*

i. 20 taka for colostrums feeding. *ii. 5 taka for continuing BM till 6 month.*
iii. 5 taka for CF after 6 month. *iv. 5 taka for quality of CF.*
v. 5 taka for hand washing. *vi. 5 taka for age specific food"*

Level of satisfaction with services

The satisfaction level was found to be high in Chatkhil area following the introduction of the incentive package. In case of perceptions on performing for the A & T programme vast majority of the *SS* were satisfied on their works. According to one *SS,*

"*We feel satisfied highly on our own knowledge of quality. By the knowledge we gathered from experience, training, TV and other we feel confident to serve the community."*

But some of them still want to learn more to enrich their quality of work. When inquired about the quality of their performance, they thought that their counseling was more than enough for the effectiveness of the program. A *SS* from Chatkhil said,

"I want to learn more because then I can provided services more and also be aware on it there is no shy to learn, now I am a wife one day I will be a mother in law then I will teach my daughter in law or daughter. Again some of my relative who doesn't know much on it I can teach them."

While we asked the same question to the *PK*s, they were unanimous in expressing their satisfaction about the services delivered by the *SSs* following incentives. According to them, this happened because frequency of household visits increased, resulting in better understanding of relevant IYCF issues by mothers. The *SSs* said that they started counseling the pregnant women from the very beginning and they conducted practical demonstration when necessary. Previously they were supposedly motivated by urge for social works, people's cordial acceptances' learn privileged health information etc. but now they were more active in their work. One *SS* said,

"PKs are paid workers but they did almost the same job as us, but if you give us a small amount from it we will work with more energy and force."

Change in practice modalities

According to the *SSs* from Chatkhil area, when they visited the households, they mainly focused on conducting health forum i.e., bringing together mothers from neighboring households and talk on health issues. Very few mentioned of practicing counseling. After introducing the incentive packages, the *SSs* in Chatkhil area being more motivated, were found to practicing counseling more. They also participated in discussion session on IYCF issues with mothers, and sometimes with their family members. In Senbag area the *SSs* were found to be less likely to counsel the mothers.

The most attractive component of the A & T project

The *SSs* of Chatkhil area mentioned the monetary incentive component of the programme to be most attractive for them beside others. This was followed by the refresher training because, they said, by attending the meeting they used to get money (50 taka for lunch and travel grant). However, for *SSs* from Senbag, the first choice was the refresher as it provided them with some money and food.

Perceived barriers and coping mechanism

The *SSs* faced some barriers while disseminating IYCF messages to the households such as indifferent attitude of the in-laws or their refusal to abide by the counseling provided. In Chatkhil area, the *SSs* were motivated to perform their responsibilities and were quick to seek help from the *PK* and *SK* as the case may be and troubleshoot the problem(s). This was not found in the Senbag area.

DISCUSSION

This study was done to explore whether monetary incentive given to the *SSs* over and above the routine A & T intervention resulted in improved IYCF related practices among index mothers, besides improved IYCF knowledge among *SSs*. Qualitative methods such as in-depth interview, focus group discussion and informal discussion were done to collect relevant data. Findings reveal positive improvement in the six specified indicators of IYCF related knowledge and practices among the *SS* and the mothers, there being greater improvement in breast-feeding knowledge and practices than complementary feeding knowledge and practices. The pathways of this change are explored further to understand how monetary incentive works, and its programmatic implications discussed.

Monetary incentive is the prime mover behind enhanced efforts

Incentive measures, such as salaries, secondary benefits, and intangible rewards, recognition or sanctions have traditionally been used to motivate employees to increase performance. Frederick Herzberg classified money as a "hygiene" or "maintenance" factor associated with elements of one's working environment such as working conditions, policies, administrative facilities and level of payment by which absence workers tend to be dissatisfied (Herzberg *et al.* 1959, Herzberg 1966).Also a good incentive system encourages employees to be productive and creative, fosters loyalty among those who are most productive, and stimulates innovation. Incentive systems could be reside within organizations, their structure, rules, human resource management, opportunities, internal benefits, rewards and sanctions, etc. Whether based on perception or reality base on experience from field it could concluded that, organizational incentive systems do have a significant influence on the performance of individuals and thus the organization overall. A study from Ghana's public sector showed the significance of internal factors in creating positive culture changes (including monetary) which is needed to transform public organizations, without substantial external support (Adam & Hicks, 2000).

The present study also revealed that in the beginning, all the *SSs* were demoralized about their voluntary meager income-earning services in their previous SS works. They used to feel proud of community acceptance as basic healthcare provider; when it came to bear family during current price hike environment, they felt demoralized and many dropped out. But when the incentive packages based on performances was introduced, they were motivated to work hard, and with enthusiasm. This is not surprising as it has been observed in other studies on *SSs* as well (Khan *et al.* 1998, Rahman and Tasneem 2008). With the change of time, the opportunity cost for *SS* work has increased substantially for the rural women. It is very unlikely for these poor women to get involved in anything that do not contribute to their household income. Also, if there is no tangible economic benefit, support from family and husband necessary for sustaining SS work becomes difficult. This is not to say that other factors such as willingness to help others and access to privileged knowledge and materials do not play a part. These factors act as a booster to the cardinal economic motivation.

According to the *Upazila Manager*, given the current price hike in Bangladesh, leading simple life was difficult, especially in Noakhali because of its vast number of immigrant

workers and associated circulation of raw money. One of the prime reason of drop out originated from dissatisfaction with inadequate monetary return. Factors like time constraints for own household chores, disapproval from husband and other family members due to non income-earning work including criticism from the neighbors' etc. de-motivated them to work as *SS*. It was interesting to observe that by the introduction of a single incentives package, these de-motivators were swiped away and ensured their continuing work.

Pathways of enhanced performance following monetary incentives

The performance incentive acted in several ways to enhance *SS's* efforts to implement IYCF-related activities. When the family began to see the increased economic contribution to the household coffer, they enthusiastically supported the *SSs* in her work through help with household chores, child care and so on. The *SSs* were morally boosted to work sincerely and hard, and deliver their services as per programme demand such as regular and frequent visits to households, increased duration and quality of interaction with mothers, practical demonstration on breast-feeding, informed counseling on content and consistency of complementary feeding etc. (more positive change for breast-feeding practices than complementary feeding practices). When they faced problems in implementing IYCF norms, they actively sought the help of the *PKs* and solved the problems. Their improved motivation led them to perceive their enhanced work as necessary for children's well-being and success of the A & T programme. They were satisfied with their work, they enjoyed their work and they wanted to continue their work for days to come. Thus, the incentive package removed many of the de-motivators and satisfied the prime economic need, and was successful in improving the quality of A & T's IYCF-related works.

CONCLUSION

The incentive package offered by the A & T programme in Chatkhil *Upazila* was found to be effective in changing specific IYCF knowledge and practices among *SSs* and mothers compared to the Senbag *Upazila* which received no incentive package, within duration of six months.

RECOMMENDATIONS

Based upon the above discussion, the following recommendations are made:

- Continuation and scaling up of the incentive package throughout the A & T programme area
- In-laws, other family members, healthcare providers at the grassroots, and community and religious leaders should be included in the IYCF campaign
- Innovative methods such as folk songs, popular theatre etc. may be used for reinforcing IYCF messages among the community people

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APPENDIX

Appendix A. Informed consent

Research and Evaluation Division, BRAC

Assallamo Alikum/Adab,

My name is _____, a staff of BRAC. At the present moment, BRAC is conducting an exploratory study in your locality to gather information on effectiveness of renumeration on IYCF. It is known that the number of malnourished infants is very high in Bangladesh when compared to other countries. Under nutrition can lead to morbidity, mortality, and developmental delays in children. One way to improve child nutrition is to practice safe infant feeding early in life. BRAC has taken the initiative to help improve infant nutrition through A & T program. And to asses the effectiveness of the remuneration RED will conduct a study. You are being invited to participate to share your experiences.

There is no personal benefit for participation in this research. However, your answers may provide us with information that will generate important knowledge and help to develop better programs to improve child health in the future.

You will have a discussion in a group setting or in a semi-structured interview. In the group discussion or semi-structured interview you will be asked questions by a researcher. You can choose to answer the questions or not. The research will be done in the privacy and will take no longer than 2 hours. You may withdraw from the study at any time.

This study is entirely voluntary and there is no expectation to participate. Your participation will not affect any current or future participation in BRAC programs and/or your current or future employment at BRAC.

All information collected during the discussion will be kept confidential by the researcher, however, other group members although encouraged to maintain confidentiality are not required to keep your responses confidential. Your participation means that you agree to allow the information to be used for research purposes, but your name will not be identified in any way in reports or publications. Any publication of the data will not identify you.

If you have any questions about this study call ……..

Can we tape record the interview?
For researcher: **Circle: Yes/No**
Do you have any question/enquiry about our study? May I start interviewing?
Participant's Name (Printed): _____
Has agreed ☐ Has not agreed ☐
Signature or Thumb Print of Participant: _____