DOES MONETARY INCENTIVE WORKS EFFECTIVELY TO ADVANCE INFANT AND YOUNG CHILD FEEDING PRACTICES: A QUALITATIVE EXPLORATION IN TWO ALIVE AND THRIVE UPAZILAS IN RURAL BANGLADESH

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Abstract: Poor infant and young child feeding (IYCF) practices is one of the major causes of under nutrition and stunting in <5 children in Bangladesh. BRAC in partnership with AED is implementing Alive and Thrive (A&T) program to promoter optimum infant and young child feeding (IYCF) practices in rural Bangladesh to address this. BRAC's community health workers *(Shasthya Shebika, SS*) are the frontline health workers for this programme. Through works as volunteer they get some monetary return from the sales of health services and products to the community. The A & T programme designed an additional incentive package for staff motivation based on activities related to six specific indicators. Objective: The Study aimed to find the changes occurring in the specified indicators with respect to the IYCF practice resulting from the introduction of incentive packages. Methods: Qualitative methods such as in-depth interviews, informal discussions, and focus group discussions were used to collect relevant data. Pre-incentive data were compared with post-incentive data to compare changes. Results: The study observed some positive changes in colostrums feeding, initiation of breast-feeding within first hour, responsive feeding and, feeding during illness, hygiene practices, etc. But no changes were observed in case of exclusive breast feeding and age-specific complementary feeding practices. At pre-intervention the *SSs* were demoralized due to heavy work load, and also price hike in recent times. This lessened their interest to spare extra time for the services. But, with the offer of monetary incentive, situation changed for better. Conclusion: Performance-based incentive scheme successfully motivated the frontline health workers to change the behaviuors of the target women.

Keywords: Incentive, Effect, changes, Bangladesh, Alive and Thrive

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 [(1)]. In the South Asia region, Bangladesh has the highest rate of malnutrition and also highest rate of stunting (41%), underweight (36%) and wasting (16%) [(2,3)]. 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 [4,5,6].

So, Promotion of appropriate feeding practices through counseling and demonstration is important in reducing child malnutrition and mortality [7] 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 [8,9,10,11].

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 [12]. Poor infant and young child feeding (IYCF) practices lead to high rates of infectious diseases which is the principal proximate determinates of malnutrition during the first two years of life [13].

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 (Colostrums) 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 [14]. The programme is implemented through front-line voluntary workers of BRAC Health Programme such as *Shasthya Sebika(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

Evidence showed that performance-based incentive may work as a motivational factor to boost performances-related activities [15]. To encourage the frontline health workers for effective outcome additional monetary incentive was offered in the programme areas. This qualitative study was conducted to investigate whether the 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, to study the changes occurring in the six specific indicators with respect to the IYCF practice of mothers following introduction of incentive.

METHODS

The first phase of the programme started in mid 2010 and included 22 upazillas (UZs) in 9 districts. These UZs had high prevalence of malnutrition. In these UZs, the incentive packages was introduced and refined during late 2009 using BRAC's Essential Health Care (EHC) infrastructure. The study was conducted in these two UZs (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, first the *SSs were selected* who got incentives from the A&T program. Also, 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) were included to explore their perspectives about the incentive package, and also for triangulation. Beneficiaries of the A&T program included women who have less than two years old child, and/or caregivers in the catchment area of the selected SSs. All the participants were selected through the A&T program's enrollment records, using a purposive sampling procedure [17].

Data collection techniques and tools

Records kept at local offices were checked to find out the number of Program organizer, total number of required *SS* 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: (a) In-depth interview (b) Focus group discussion (c) Informal interview

[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 [16].

(a) 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 anthropologist's carried out interview with randomly selected respondents.

(b) 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 and unmet need for remunerations (if any). FGDs were conducted by trained Anthropologist.

(c) 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 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.

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.

We adopted an exploratory approach, utilizing focus group discussions (FGDs) as a means of methodological triangulation. For FGD a guide was and the FGD participants limited to groups of 6-8 persons to gain a more in-depth understanding for each participant to elaborate on personal accounts when necessary[17].

We also conducted in depth and informal interviews with participant in each UZ. Interviews ensured coverage of relevant topics that may not have surfaced in focus group discussions. Investigator triangulation is considered good practice as it typically increases both the validity and reliability of a study [18]. 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

Total seven research assistants transcribed all digital recordings of interviews in Bangla compared with the field note to quality control measure. Data were analyzed in three stages simultaneous all occurring; data reduction, display and conclusion drawing [17]. During the initial data reduction phase, we identified broad themes, sub-themes using thematic content analysis. All manually coded data were compared with each transcript and discussed for reduce any discrepancies. We interpreted data and drew conclusions based on a combination of coding summaries, contextual field notes, and descriptive data provided by direct quotes from participants.

RESULTS

The results were at first presented here in a tabulated form to have a quick look, followed by a comprehensive description**.**

Effective changes in IYCF practices due to the incentive packages

We found substantial changes in IYCF knowledge and practices as a result of the introduction og incentives. These are summarized in Table 2.

Changing performance in IYCF services

Following monetary incentive packages, the performances of the SSs with respect to deliver of various IYCF messages changed, in both areas.

Colostrums feeding practices

Before incentive vast majority of the respondents from both areas couldn't reply about the timing and benefit of colostrums feeding. But few mothers from Chatkhil and majority from Senbag mentioned that they practiced colostrums feeding from *SS* and *PK's* counseling. But the situation changed dramatically in Chatkhil area after incentive packages which were positive increase. And for that *SSs* began counseling mothers from their early stage of pregnancy and their family members also. *SS* from Chatkhil said…" *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 motivating them to feed colostrums and make them understand its benefit. On the other hand, a mother from Senbag said up until then, in their locality mother's used to practice post and pre lacteals, because they didn't know the disadvantages of pre or post lacteals.

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, 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

Table 2: Changes on performing IYCF services

Category	Change(s)		Quote(s)
	Intervention Area (Chatkhil)	Comparison Area (Senbag)	
1.Colostrums feeding	Practices better now	Still not in satisfactory level	In Chatkhil PK told, "now a day mothers were more aware to feed colostrums by SSs counseling". SS (Senbag), "Mothers were less likely to hear us and practices pre and/or post lacteals"
2.Initiation of breast milk	Both perception and practices well	Well perception but not in practices	"We all know that within first hour of birth a baby need to fed breast milk immediately for immunization" mother (Chatkhil) SS (Senbag), "some mothers & their older relatives or house hold members practices pre-post lacteals like cow's/tinned milk, honey as traditional beliefs that baby will healthy & speak sweetly"
3.Exclusive breast feeding (EBF)	Clear perception and practices among all	Clear perception and practices among respondents	"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
4.Complementary Feeding (CF)	Still some SSs & mothers confused on CF starting time. Mothers only mention quantity. But some SSs mismatch with 7-11 months age specific food consistency and frequency.	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)"- 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" Said a SS from Chatkhil. Another SS from Senbag said that, "I forgot the age specific consistency and frequency but I know the accurate quality and quantity".
5. Hygiene practices (hand wash)	Given more importance's	Given more importance's	"We are now aware on hygiene practices specially hand wash with soap, drink safe water, because our duty to keep clear and practices for that."- Participants.
6. Other information on IYCF (e.g., responsive feeding, feeding during illness etc.)	Practices well	Practices well	"Now we feed our child more responsively and continue breast fed for at least 1.5 years according to baby's demand"- responses by all other mothers. "During illness mothers fed BF either suckling or express BM. In case of insufficient BM, c-section, adolescent's mother-doctors suggest for formula feeding that's a problem", told SS.

Breast milk initiation practices

Most of the mothers' from Chatkhil and few from Senbag mentioned while a baby is born it need to be fed breast milk as early as possible, as long as the baby wants. SSs said…*"First initiation of breast milk should be done as soon as possible after delivery"*. Now a day's almost all the SSs of both areas performed well on breast milk initiation within one hour after delivery though a few mothers still practiced pre and post lacteals (especially honey, cow's milk) in Senbag areas.

EBF practices and perception

The present study found that a few *SSs* in both areas could define the meaning of EBF (as breast feeding 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. A *SS* said …*"Exclusive Breast feeding means up until six months breast milk feeding, 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 practiced EBF but not properly. For an example, a mother from Chatkhil said…*"Up until 6 months one only needs to feed breast milk and no complementary feed, 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 safe for the baby—and triy family food after six month and no shop food which causes diseases. In our country, in every year, thousand of child died for lack of 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 changed than what was before.. Vast majority from Senbag and Chatkhil mentioned that till six months, child need to be fed only breast milk, not a single drop of water. And they counseled to make the mothers and her family members understand. *SKs* also agreed that the ratio of practice 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 … *"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, sharper—are they fool! Or the SS has become more intelligent than them? "*

Complementary feeding practices

The programme participants performed poorly in remembering and practicing complementary feeding practices compared to breast-feeding practices. There was confusion about timing of initiation of CF (whether from the beginning of six months or sharp after six months) among both the SSs and the mothers in both areas, the proportion being less among those from Chatkhil. Confusion was also observed regarding type of complementary food, and age appropriate food quantity and consistency. After the incentive packages, the situation in Chatkhil was changing. According to the *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 time baby feel thirstier 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. And if baby get sufficient breast milk then don't need to feed anything"*. According to the mothers, they knew breastfeeding techniques like frequent latching, and feeding by rotation (one breast followed by the other breast) 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 literate 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"*.

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.

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, in the absence of which workers tend to be dissatisfied [19,20].Also a good incentive system encourages employees to be productive and creative, fosters loyalty among those who are most productive, and stimulates innovation. 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 [21].

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 ([22,23]).

This is for sure that the SSs come to the programme by their own willingness to help others but the additional remuneration acted as a booster to the cardinal economic motivation.

CONCLUSION

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

RECOMMENDATIONS

Based upon the above discussion, the recommendation made for the programme for further promotion is to continuation and scaling up of the incentive package throughout the A & T programme area

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