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Making Effective Use of Cell Phone for Infant and Young Child Feeding Promotion

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Abstract

Introduction: The use of cell phone has been increasing rapidly in Bangladesh. Each two people having at least one cell phone. A&T project delivered about 1.9 million stickers including the PKs' contact cell phone number to the eligible participants of the catchment area. Thus, the programme expected to achieve more responses from the beneficiaries on IYCF-related problems and to deliver services as and when necessary to improve the practices. However, the response from the target people, especially from mothers or care givers was still to be at satisfactory level. **Objective:** To identify the factors and barriers associated to this low response rate and provide feedback to the programme. **Methods:** The study was conducted in five *upazilas* of Manikganj and Meherpur districts. The PKs and mothers/caregivers enrolled in the A&T intervention and had received the incentives on cell phone or involved in the communication process through cell phone were selected for interview. **Findings:** The study revealed that the common barrier of cell phone use was the load-shading of electricity that restricted charging the phone. Some mothers informed that they could not operate the cell phone properly to communicate with PKs. All the mothers told that though their husbands got it recharged but they thought it was unnecessary to call the PKs and discuss child feeding issues. They used their husband's or other family member's cell phone although they had limited access to such cell phones. Unless the mothers called, they rather felt to solve the problem by face to face counseling. Family members especially the elderly and husbands did not take it easily. They thought that they gossiped over cell phone. Lack of awareness was another issue, for instance, even if mothers were not practicing IYCF properly, interns of children's age, they perceive that they were right.

Conclusion: Cell phone remuneration may be increased for the PKs. The awareness of mothers and their family members need to be strengthened.

Keywords: IYCF, m-health, cell phone, feeding promotion, Bangladesh

Background

Recently use of cellular or cell phone expanded rapidly in both developed and developing countries as the new frontier for bridging health services. According to International Telecommunications Union (2009), about 5.3 billion mobile subscriber exist globally, where the mobile network accessibility around the world was 90%, among those 80% were from rural areas. Recently the number of cell phone users have increased tremendously in Bangladesh. According to a cell phone company, in Bangladesh the total number of cell phone subscribers reached 82.44 million at the end of November 2011, meaning that there is one cell phone for every two people in the country (ITU.bd).

Beyond its superior capabilities the use of cell phone facilities for health-related applications are promising. M-health or mobile health services play a vital role on different aspects of health services. M-health is a part of e-health services, which uses for practices any medical, public health, etc. by the help of cellular phone {either short message services (SMS) or conversation}. Many countries started using m-health technology for awareness building by providing messages. For instance, in South Africa SMS are sent to reduce the pandemic HIV/AIDS (Mukund 2010). A study in Kenya and Zimbabwe shows that cell phone use in the management of HIV/AIDS was effective in building awareness among the population (Jones 2005) and reduced some obstacles on pregnancy and motherhood (Check 2010, WHO 2010). Even the issue of country-based leadership can scale up through cell phone (Bobock 2010).

Finland took the initiative for “one phone one person” (FICORA 2007). Cell phone uses can reduce the cost of health services by creating awareness. The United States and the Latin America are using cell phone to monitor chronic diseases and provide health-related services to the users which reduce their health service cost of $4 trillion/year, or 20% of the gross domestic

product (Borger *et al*. 2006; Seto *et al* 2010). Among several techniques for behaviour change communication (BCC) m-health services worked effectively in providing IYCF services.

Academy for Educational Development (AED) and BRAC Alive and Thrive project (A&T) aim to improve IYCF practices and reduce stunting in Bangladesh during 2009-2013 (AED 2005). The programme already implemented their treatment on 50 *upazilas* covering 1,36,61,435 people by 583 PKs, 6,993 SSs and other staff (BRAC BHP 2011).

In this intervention the programme provided 1.9 million stickers containing the PKs' cell phone number to the eligible participants of the catchment areas. Thus, the programme aims to achieve more responses from the beneficiaries on IYCF-related problems and to deliver services to them as and when necessary to improve the practices. However, the responses from the target people (especially from the mothers or caregivers) are still to be at satisfactory level. The programme had queries from the 5% and 7% mothers on breast feeding and complementary feeding, respectively. BRAC-RED was proposed to conduct a study to find out the factors and barriers behind this low response rate.

Objective

To identify the factors influencing the mothers' behavioural communication with the health volunteers of BRAC on IYCF issues through cell phone and provide recommendations to the programme for making the interventions effective.

Specific objectives

1. To assess the use of cell phone for dissemination of IYCF information both by the PKs and mothers.
2. To explore the communication barriers in two ways on IYCF-related messages.
3. To sort out the factors need to be considered to make the cell phone more effective and user friendly for IYCF promotion.
4. To provide feedback to the programme based on the findings.

Methods

Study design

This is an explorative study methods was designed to conduct the study.

Study population

The PKs and the mothers/caregivers who received incentives on cell phone or involved in the communication process through cell phone were selected for the study.

Participant eligibility

Inclusion criteria

- Mothers having under-two children and enrolled in the A&T project
- PK and other staff of A&T project

Exclusion criteria

- Visibly ill and/or uncomfortable to participate in the interview
- Not enrolled in the A&T project

Sampling procedure

We followed a purposive sampling method.

- Five *upazilas* from two districts were randomly selected.
- Fifteen in-depth interviews were conducted with the mothers (3 from each *upazila*) and 15 (3 from each *upazila*) with the PKs.
- Ten focus group discussions (FGD) (two from each *upazila* with mothers and PKs) were conducted comprising a group of 6-8 participants.
- In addition, in-depth interviews were conducted with five SKs (one from each *upazila*) and five other programme staff such as, *upazila manager (UM), branch manager (BM), and programme organizer (PO).*

Data collection tools

A semi-structured questionnaire was used to conduct in-depth interview and FGDs to explore the barriers and perceptions of participants on the use of cell phone for IYCF promotion. Data were collected during May – September 2012.

The following issues were covered to conduct the in-depth interviews:

- Socioeconomic status of key informants,
- Service delivery by PKs in their catchment households (HHs) over cell phone,
- Reasons for communication over phone and frequency,

- Perception on its (cell phone) effectiveness,
- Perceived barriers on communication and coping mechanisms, and
- Unmet need for better services over phone, if any.

Guidelines for in-depth interview were developed and finalized after pre-test. Trained anthropologists carried out the interviews with pre-selected PKs and key informants.

The following issues were covered to conduct FGDs:

- Socioeconomic status of the respondents,
- The main reasons for communication over phone, and
- Existing barriers to perform and practice and probable coping mechanism.

FGDs were conducted by trained anthropologists following a checklist and considering the rules and regulations. FGDs played a triangulation role of information in addition to in-depth interview. This helped elicit the respondents' perceptions including knowledge and practices and identify their felt need to overcome the existing barriers, etc.

Data analysis

Thematic analysis method was used for qualitative data analysis.

Ethical issues

The interview was conducted after having a written consent from each of the respondents informing them about the confidentiality of their responses (Annex A).

Findings

Socio-demographic status of the respondents

The average age of PKs was 30 years while for mothers/caregivers it was 24 years. Average household income range of the PKs was Tk. 14,000 - 15, 000. Enrollment with the A&T project for the PKs was at least one year and most of them were involved with the programme from the

very beginning. Almost all the participants belonged to a family of 4-6 members with only one earning person.

Most of the PKs passed Higher Secondary Certificate (HSC) examination and the others passed Secondary School Certificate (SSC) examination. On the other hand, mothers' educational qualification was, on average, primary level passed. Their husbands were mostly primary passed and majority of them were found to be involved in business like, small business, tea stall, handicraft business, selling cloths, selling stationary, selling bamboo, etc. The mother's household average income was Tk. 17,000 and average family consisted of five members. Each of the PKs had at least one child and the mothers had at least one child under the age group of less than two years. Most of the participants were Muslim and very few were from other religions.

Knowledge exchange over cell phone

The respondents exchanged their knowledge among themselves over cell phone in addition to counseling and face to face contact. But from both the beneficiaries' and facilitators' side, it was found that they used cell phone for breastfeeding and complementary feeding-related messages.

Breastfeeding-related messages- Majority of the mothers found that they did not communicate with the PKs unless they faced a severe problem with their child. Very few mothers communicated to the PKs over cell phone regarding problems with their breast health like, swollen, hardness, cracking of nipples (*Bota fata or gha*), etc. Few mothers communicated to know what they should feed the baby, if breast milk not produced in the first three days.

On the other hand, though vast majority of the PKs at first told that they communicated with mothers via cell phone to suggest breastfeed-related messages. But after probing almost all agreed that they mostly called the mother to fed colostrum within one hour after birth if they could not reach by that time. They also gave emphasis on the low birth weight child. In such cases they tried to communicate with the mothers more frequently either face to face or over cell phone.

Complementary feeding-related messages- Most of the mothers stated that they communicated with the PKs over cell phone to know the exact time of starting complementary food. They also contacted the PKs when the child did not want to eat or became sick. Few others also responded that they called the PK to know whether the child could digest egg in summer.

Most of the PKs agreed that they contacted the mothers when they felt that the mothers needed their support. On the other hand, mothers mostly called them to know the starting time of providing complementary foods, what should to be done if the child became sick or unwilling to eat, child's vaccination schedule, mother's health problem, etc. Few PKs also mentioned that sometimes mothers could not remember age specific foods; then they called the PKs for clarification. Besides, sometimes the mothers called PKs to their houses for counseling to their in-laws to avoid discrimination in feeding between boys and girls. On the other hand, mothers called for mostly for their own health problems or discussed other topics rather than infant feeding issues.

Communication barriers

Some barriers were identified which hindered effective communication over cell phone, overcoming which it will possible to make effective use of cell phone.

Barriers for cell phone use- According to the participants, the most common barrier for using cell phone was load shading of electricity that restricted recharging the phone properly. Some mothers informed that they could not communicate with PKs while needed due to inability in operating the cell phone. Sometimes mothers were influenced by the neighbours especially who had experience in child care due to having more children.

A mother from Manikganj informed that the adolescent mothers faced problem in practicing infant feeding properly. Because the adolescents did not take care of themselves, so how did they take care of child? On the other hand, she needed to depend on someone for her child's care. In this case, older women in the family, relatives, and neighbours based on their experiences generally helped rather influenced her. A mother stated that,

> *"After delivery, I did not feed colostrum to my child because some of my neighbours told that it would spoil milk. I got too many advices so that I did not even feel to call and discuss the matter with Pusti Apa."*

The elderly family members were another type of barriers. They influenced mothers to follow them considering their experiences. On the other hand, they discouraged mothers to be involved in m-health technology. One of the PKs told that one day while she was counseling and teaching the mothers about cell phone operation, an older person came in and discouraged the mothers to use that. Finally, the elderly person's comment was,

> *"Kale kale koto ki dekhbo, amader somoe aita chilo na, tai bole ki amar chele meye manush hoi ni? Agulan holo khoroch baranor dhanda.* (With new era new things will need to observed. In our time such technologies existed, so what. Did not we take care of our child? This technology is nothing but increased expenditures.*"*

Cost for communication- All in the entire major problem for using cell phone is the cost for calling. All the mothers told that their husbands recharged their phones, but they thought it unnecessary to call the PKs to discuss about child feeding issues. Rather to wait for PKs, SSs visits to ask and get solved. Also the vast majority of the PKs informed that Tk. 100 (One hundred) was not enough to communicate over cell phone with mothers. In addition, they need to talk to other programme staff as well for other purposes. Each of them had at least 150 under-two children in one's catchment area, lump sum amount of Tk. 100 per month. According to them, this amount of money was insufficient to communicate with the mothers over cell phone in each month. Unless it was necessary they did not call. Rather they felt to solve the problem through face to face counseling. According to SKs, POs, BMs and UMs, mothers preferred to face to face counseling and discussion and thought it was a cost saving also.. Mothers stated that they required money to contact with PKs over cell phone. On the other hand, the PKs called back on request, but they generally reminded to make the conversations short.

Accessibility of cell phone- Most of the beneficiaries and facilitators had their own cell phones. But some mothers including few PKs did not have cell phone of their own. They used their husbands' or other family member's cell phone. Therefore, they had limited access to cell phone.

Some mothers had access to cell phone after evening while their husbands returned home. On the other hand, mothers who had access to cell phone they could only receive but not to dial. Their husbands recharged the cell phones for themselves and imposed restrictions on dialing to minimize cost.

Some difficulties with cell phone numbers- Some mothers were found who even did not know whose numbers hanged over their doors. As they explained that, while the numbers were fixed over their doors, they were out of home. When they came back after few days they saw the numbers. They did not ask anybody about the number.

A mother said,

> "I did not know whose number was hanged over my door. Some mothers did not know whose number was hanging over their doors and what did they do with those numbers. Because when PKs hanged the stickers the mothers were not present at home."

A SK told that sometimes the mothers requested them to ask the PKs, because they failed to contact them. The numbers hanged over their doors were hazy, so they couldn't contact the PKs. On the other hand, sometimes they found the PKs' numbers switch off, so they lose their interest to call them again. Again some mothers told that the numbers hanged over their doors were not clear enough to read. Due to rain the handwritten number on the sticker was undetectable. Sometimes they felt to call but failed to detect the number. They also asked others for the number.

Barriers from family to communicate over cell phone- Some PKs informed that they faced problem to communicate over cell phone with the mothers. Their family members especially the elderly and husbands thought that they gossiped over cell phone. Time beyond office work was allocated for the family. If they call mother at that time, the family members took itotherwise.

One PK informed that since her husband disliked it, she called mothers while her husband was sleeping. Sometimes mothers made missed calls to the PKs that were not warmly accepted by their husbands. A PK told,

> "My husband creates problem when call/missed call comes to my cell phone. He said 'Why so many missed calls come to your cell phone?' Then I tried to console him that it's a part of my duty because, I have 350 children in my catchment area

Few mothers also faced problem. The in-laws forbade them to contact to PKs, because they were still alive and experienced enough to guide mothers. Sometimes the husband also not took it easy into quarrel. To avoid clash, they let alone to communicate over cell phone. A mother told,

> "Sometimes when we tried to communicate to Pusti Apa to ask some infant feeding matters then even some people in our society did not take it normally."

On that issue one SK told,

> "PKs tried to communicate to mothers over cell phone and similarly mothers to them, the family members did not like it and thought it was a useless expense. So, I think the family members' awareness on the matter need to be considered for the betterment of the programme."

Less aware of the effect of IYCF mal-practices- Still, there was scope to strengthen awareness among the mothers/caregivers, especially for improvement of IYCF practices. Sometimes mothers called the PK for their own health problem rather than the baby's. A PK told,

> "Mothers are very much likely to call PKs for their personal food intake. They want to know whether they can eat raw eggs because they heard raw egg has more food value that helps keep healthy during their pregnancy or other health problem rather than any infant feeding-related issues."

As such they could not understand the effect of IYCF mal-practices. Most of the mothers responded that they had no problem on IYCF practices, but in reality they did wrong IYCF practices. They took the mal-practices as normal and natural ones. The mothers did not practice exclusive breastfeeding properly, rather started complementary feeding after 3–4

months and thought it to be normal. They thought that their babies did not get sufficient breast milk, so they should be provided complementary foods and with full stomach. So that the b med that until n feel to call t

> "I did not face any problem on my child's health. My child did not want to eat, my husband also did not want to eat, and it is their inherent problem. Therefore, I did not feel to call Pusti Apa."

Some shilly-shally circumstances- Sometimes the PKs faced some uncomfortable situation over cell phone. Since their contact numbers were readily available in the community, somebody sometimes abused it and bothering them by making frequent missed calls, prank call, telling uncomfortable things, etc. A PK told,

> "Our phone numbers are tagged to our respondents' houses, but it is available to almost all. Sometimes we get few unknown calls from males who tried to bother us by some unusual talk. As such sometimes we are worried to receive unknown calls. Even such calls sometimes make problem to our personal life."

Discussion

The findings reveal that despite some limitations positive progress was achieved in specific IYCF indicators due to effective use of cell phone and face to face counseling. Thus, the pathways helped explore support to understand how the m-health services works. In another study of BRAC A&T programme, it was found that monetary incentives worked as a prime mover for improved services (Mukta andHaque 2011). This study also found that the monetary incentive for using cell phone for IYCF services worked as an economic motivation for effective health services. It was found from the official record that the achievement on issues related to breastfeeding- and complementary feedingwere in satisfactory level (>70%). Likewise, colostrum feeding within one hour after delivery was >90% and exclusive breastfeeding was 70% in most of the areas, while at national level exclusive breastfeeding was 64% (BDHS 2011).

Appropriate age-specific complementary feeding practices were >65%, whereas it was 21% at the national level (BDHS 2011). Hand-washing rate was >60%.

This study found that the incentive motivated the PKs to practice appropriate IYCF services to the mothers of under-two children in their catchment areas. Any incentive for motivation acted in numerous ways to improve one's performance, where money provided that might worked as 'hygiene' factors for working environment by removing the dissatisfaction to work (Herzbarg *et al.* 1959, Herzbarg 1966). According to A&T programme staff like *upazila* manager, branch manager, and programme organizer (PO) financial incentives to the PKs for cell phone services was effective, though there was scope to improve. For the sake of the services it was motivational to them for useful in enhancing IYCF practices in addition to field visit for face to face counseling. Nevertheless some obstacles rose for both way communications over cell phone but the PKs tried their best to overcome.

Overall the achievement on appropriate IYCF practices was satisfactory, but to provide services over cell phone some barriers arose for both way communications. According to the PKs, the main problem was financial. The amount provided by the programme seemed to be insufficient. It hampered necessary communication with the mothers either by minimizing conversation time or number of calls. As reported by the PKs, the second barrier was prank calls. Since the PKs cell phone numbers are readily available to the community, this embarrassed their family life which bothered their husbands and other family members. As such without knowing the callers they did not receive any call, so the mothers who called misunderstood them. This was also reported by mothers that they failed to contact the PKs over cell phone. So, the mothers lost their interest to contact them for any IYCF-related information.

Some other barriers were unavailable and inaccessible mobile recharge shop, load shading problem, non-ownership of cell phone, cell phone screen saver did not work, family disliked to see more conversation over cell phone, etc. Besides, some mothers were unable to operate cell phone properly. Both the facilitators and service providers reported that the family members especially the husbands and mothers-in-law disliked to communicate over cell phone for that *'useless'* (IYCF) matter. Few PKs also reported that sometimes their husbands became

suspicious if they chatted with mothers after office hour or at night**.** This provides indications that decision-makers in the households, husbands and mothers-in-law were yet to be motivated in creating demand for using cell phone for IYCF practices in order to improve the nutritional status of their children.

The PKs tried to overcome those barriers to implement IYCF services. They managed their families and made them understood that all the conversation after usual office hour was part of their duties. If they failed to convince their family they communicated with mothers while the family members slept. Overall, the cell phone incentive increased their motivation to work enthusiastically. They enjoyed their work and satisfied with the cell phone services due to its easy access to mothers in need. For example, if they failed to visit a mother on committed date, they could make-up that by communicating over cell phone. Thus, the cell phone wrap up condensed many barriers and breach for appropriate IYCF services.

Conclusion and recommendations

The cell phone packages implemented by the A&T project in intervention areas were found to be more effective and well-organized to convey the appropriate IYCF services. If these barriers could be overcome, the cell phone-based IYCF services could be rather inexpensive and a convenient tool to achieve the MDG 4 and 5. There is need for more social mobilization to widen the effect of the cell phone services. The emerging use of cell phones and the services by the A&T health care providers both reached the IYCF health services to all.

Recommendations

1. Family members like husband and mother-in-law should be sensitized about the necessity and advantages of practicing IYCF activities through social mobilization to facilitate the use of cell phone. This may also be useful in protecting prank cell phone.
2. In most cases, cell phone numbers on the stickers were undetectable. These should be permanent and visible.
3. The financial incentive need to be increased to make it more effective.

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