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Performance of Female Volunteer Community Health Workers in Dhaka's Urban Slums

A Case-Control Study

Khurshid Alam
Sakiba Tasneem
Elizabeth Oliveras

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icddr,b
KNOWLEDGE FOR
GLOBAL LIFESAVING SOLUTIONS

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EXECUTIVE SUMMARY

Volunteer community health workers (CHWs) are one approach to addressing the health workforce crisis in developing countries. BRAC, a large Bangladeshi NGO, and pioneer in this area, uses female volunteer CHWs as core workers in its health programmes. After 25 years of implementing the CHW model in rural areas, BRAC has begun using female CHWs in urban slums through its *MANOSHI* project, which is a community-based mother, newborn and child health care intervention. However, in the programme, the CHWs performed sub-optimally, so much so that a high percentage of them remain in their positions, but have become "inactive", and do not truly participate in daily community health activities. Such diminished activities of volunteer CHWs suggests a need to better understand the factors associated with their performance. Past cross-sectional studies provide some indication, but they do not provide an assessment of the relative importance of different factors. The objectives of this study were to understand the relative importance of factors affecting "performance of CHWs" in Dhaka urban slums, and to recommend strategies for improving it.

This mixed-method study included a case-control design to assess factors affecting performance of CHWs, and focus group discussions (FGDs) to explore solutions to the problems. The outcome of interest is "*understanding the barriers and challenges to optimal performance, and thinking of strategies to enhance integral factors to induce optimal performances"*. CHWs were classified into three groups: active, moderately active and inactive. A sample of 760 current female CHWs from project areas participated in the survey. Next, with a view to selecting cases (active CHWs) and controls (inactive CHWs) classification of performance was done using a composite score based on four core activities of these female volunteer CHWs working for *MANOSHI*. The scores are summarized and the first quartile is considered to be "active", the middle 50% to be "moderately active" and the last quartile to be "inactive". For the performance analysis in a case-control design, 'moderately active' CHWs were excluded. Odds of being active were calculated, controlling for the confounders, to assess the effects of different factors on performance. In addition, six FGDs were held with them, and both content and thematic analyses were performed.

Financial incentives were the main factors linked to volunteer CHW performance. CHWs who thought that running their families would be difficult without CHW income were almost three times as likely to be active. This was voiced in the FGDs when CHWs noted that they were poor and it was difficult to run their families in the midst of price hikes of daily necessities. They also mentioned that a fixed income was critical to improving their performances. Additionally, social prestige and positive family attitude towards CHWs role were important non-financial factors associated with better performance, which were also highlighted by the interviewees.

In order to improve volunteer CHWs' performance, a combination of financial and non-financial incentives and rewards can be used, though the financial incentives and rewards were mostly voiced and discussed. However, the socioeconomic condition of volunteer CHWs, i.e. better acceptance, increased social respect from the community and greater support from family members may also affect their motivation to perform better.

INTRODUCTION

Globally, health workforce performance is critical because of its immediate effect on the outcome of health service delivery, and its eventual influence on population health (WHO, 2006). Furthermore, health workforce performance is crucial to successfully functioning health systems, and it influences quality of care (Bradley & McAuliffe, 2009). Health sector reforms need to address health workforce performance because of its labour intensive nature (Franco, Bennett, & Kanfer, 2002). The ultimate implications of health workforce in functioning health systems and achieving improved health outcomes are universal irrespective of the factors affecting health workforce performance.

In addition to a shortage of at least four million health workers worldwide (Joint Learning Initiative, 2004), poor performances of the existing health workforces is substantially responsible for weaker health systems leading to inaccessibility of care and inappropriate care which also contributes to reduced health outcomes (Dieleman & Harnmeijer, 2006). It is not simply possible to attain health-related Millennium Development Goals (MDGs) if the health human resources crisis and level of health worker performance is not more effectively addressed (Awases, 2006; Dieleman & Harnmeijer, 2006).

In Bangladesh, as in many other low income countries, performance of health workforce is a pressing issue, in addition to scarcity of health human resources, given the poor provider-population ratio of 146 healthcare providers per 10,000 population (Bangladesh Health Watch, 2008). So, effective strategies for improving health workforce performance are essential to addressing shortages of the existing health workforce (Dieleman & Harnmeijer, 2006). Understanding the determinants of Community Health Worker (CHW) performance in a better way would assist in addressing deficiencies in CHW skills (Kelly, Osamba, Garg, Hamel, Lewis, Rowe et al., 2001).

In response to health workforce crisis, the Bangladesh Rural Advancement Committee (BRAC) has engaged a large number of female volunteer CHWs called *Shasthya Shebika*. Currently, about 80,000 volunteer CHWs work throughout the country, in both rural and urban settings. These volunteer CHWs are at the core of BRAC's community-based health interventions, serving as the primary point of contact between community members and BRAC health

services. The Oxford Advanced Learner's English Dictionary defines volunteer as a person who does a job without being paid and without being forced to do it. Alternatively, the United Nations Volunteers defines volunteering as: 1) not being undertaken primarily for financial gain, 2) undertaking of one's own free will, and 3) bringing benefits to a third party, as well as to the people who volunteer (Dingle, Sokolowski, Saxon-Harrold, Smith, & Leigh, 2001). In fact, neither definition exactly matches BRAC CHWs who see their role as profit making because they receive modest financial incentives for their work (Khan, Chowdhury, Karim, & Barua, 1998). In particular, CHWs are able to make some money from providing health services, and selling health-related commodities and drugs in their communities. They also receive an allowance for attending refresher training courses each month.

Volunteer CHWs have been used in Bangladesh's rural areas since 1977 and were recently introduced into urban settings in a maternal, newborn and child health (MNCH) project called *MANOSHI.* The *MANOSHI* project is currently being implemented in most of the urban slums of Dhaka, where each CHW is responsible for overseeing an average of 200 households and visiting 8-10 of these per day. CHWs visit homes, disseminate health messages, identify pregnancies, accompany mothers in labour to delivery centres, attend to mothers and newborns at the time of delivery, and provide essential newborn care.

Previously, a number of studies and reviews have revealed poor performance of health workers and its implication on existing service provisions (Garcia-Prado & Chawla, 2006; Joint Learning Initiative, 2004; Rowe, de Savigny, Lanata, & Victora, 2005; Van Lerberghe, Conceicaõ, Van Damme, & Ferrinho, 2002; WHO, 2006). Analysis showed that individual, organizational, social and cultural factors affect health worker performances (Bennett & Franco, 1999; Nickols, 2003; Sharpley, 2002). The availability of health workers, their competences, productivity and responsiveness are the elements needed to assess their performances (Dieleman & Harnmeijer, 2006). Number of health workers along with their quality and type of professionalism are determining factors for their output and productivity (Joint Learning Initiative, 2004). Too few workers, and workers who are not responsive to the needs of the community and patients lead to poor performances (Dieleman & Harnmeijer, 2006). So, encouraging recruitment and retention of health workers are vital steps to boosting their performance in low-income countries (WHO, 2006).

Globally, the reported attrition rates of CHWs are between 3.2% and 77%, and these high rates are associated generally with volunteer CHWs (Bhattacharyya, LeBan, Winch, & Tien, 2001). The success of such volunteer-based programmes is often hampered because of high dropout rates (Kabwa, Isoke, & Nyakahuma, 1996). Those volunteers dropping out of such programmes reduce the stability of the programme and increase training costs, since it needs continuous replacement which makes the programme difficult to manage (Haines, Sanders, Lehmann, Rowe, Lawn, Jan et al., 2007). In particular, dropout increases human and financial resource demand for recruitment and training (Bhattacharyya et al., 2001; Yiu, Au, & Tang, 2001). Wider environment and the community characteristics which influence health workforce performances are also important to explore. In addition, unclear expectations, deficit of skills, resource or equipment or a lack of motivation are responsible for the most performance related problems (Hughes, Ginnett, & Curphy, 2002). Performance of health workers and the clarity of their job descriptions are positively associated (Henderson & Tulloch, 2008).

Recognition, working conditions, and feedback on performance outcomes are strongly associated with the level of performance of health personnel (Awases, 2006; Fort & Voltero, 2004). Three levers to influence workforce performance were identified, such as job-related interventions that focus on individual occupations, support-system related interventions and interventions that create an enabling environment, and focus on managerial culture and organizational arrangements (WHO, 2006). Feedback and supervision are effective, and rewards from the community greatly influence CHW performance (Bhattacharyya et al., 2001; Gazi, Mercer, Khatun, & Islam, 2005; Henderson & Tulloch, 2008; Rowe et al., 2005). Motivation at work is a key factor in individual performance of health workers (Zurn, Dolea, & Stilwell, 2005). Performance depends on staff internal motivation, as well as, intellectual capacity, necessary skills and physical resources to do the job (Franco et al., 2002). Low motivation negatively influences the performance of individual health workers, which also impacts health facilities and the health system (Mathauer & Imhoff, 2006). Irregular and unreliable supply of medicines, and selecting and training of the wrong people, along with inadequate community support and inadequate supervision were responsible for poor performance of CHWs in Kalabo district of Zambia (Stekelenburg, Kyanamina, & Wolffers, 2003).

Since the inception of BRAC's CHW model, it has faced high dropout rates in both urban and rural areas with estimates ranging from 20% to 32% depending on the location and the programme (Khan et al., 1998; "Personal Communication," 2008). In addition to dropouts, those of whom officially resigned from their posts, a high percentage of CHWs remained in their positions but became "inactive", not participating in daily community health activities. For example, a previous study in a single Dhaka slum found that 40 CHWs were active, out of the 65 initially recruited; among 32 of those 40 who were interviewed, only 6 were fully active, while 18 were moderately active, and 6 inactive (Shin, 2007).

BRAC has conducted a number of studies to identify incentives and disincentives, thereby, tried approaches to minimize dropout rates and increase performances. They have highlighted that economic incentives, primarily supplementary income from the sale of medicines and other health-related products, are the prime incentives for becoming a CHW, and that the perception that earnings are insufficient is a main reason for dropping out and poor performances (Ahmed, 2008; Khan et al., 1998; Mahbub, 2000; Rahman & Tasneem, 2008). Other causes include time constraints and disapproval from husbands, family members, and neighbours (Ahmed, 2008; Mahbub, 2000; Shin, 2007). Nevertheless, social prestige associated with the work has been shown to be an incentive to continue the role of CHWs (Ahmed, 2008).

Individual interest and commitment of volunteers who worked for family planning programme in Philippines was found to be associated with good performance (David & Chin, 1993). However, it is still not clear the impact nonfinancial incentives have on performance in resource-poor settings, and requires more research (Dieleman & Harnmeijer, 2006). In addition, few or insufficient evidence of the effects of incentives or incentive related payments on performance of health workers has been found (Hicks & Adams, 2001; Rigoli & Dussault, 2003).

The majority of the previous studies on volunteer CHWs in Bangladesh have either been limited to being cross sectional in design, or case studies; therefore, they do not provide a rigorous analysis regarding the extent to which different factors affect performance of CHWs. However, their findings mirror those from health volunteer studies in other settings. Studies in Vietnam, South Africa,

Jordan, and Georgia showed both financial and non-financial incentives influenced health workers' job motivation and performances (Dieleman, Cuong, Anh, & Martineau, 2003; Franco, Bennett, Kanfer, & Stubblebine, 2004; Kironde & Klaasen, 2002). One positive example is a study carried out in Cambodia, which showed that low dropout rates among female volunteers in a community-based reproductive health project was attributed to supportive supervision and achievement of personal growth through training and practice (Suehiro & Altman, 2003). Another contract management scheme in Cambodia illustrated that performance-based incentives for health workers led to the improved quality of health services and greater productivity of health workers (Soeters & Griffiths, 2003).

To date, the majority of CHW studies in Bangladesh have been conducted in rural areas. The only study focusing on urban CHWs was a small study in one urban slum, which showed that burden of household work, family conflict due to volunteer CHW role, and CHW's physical difficulties to complete work were the main barriers to performance (Shin, 2007). When compared, local labour markets appear to be different in urban areas than in rural areas, and may affect performance of CHWs because they provide opportunities not available in rural areas. In addition, the fact that rural CHWs treat more patients and sell more health commodities because rural people have less access to public health services also suggests that the way in which CHWs work may differ in urban settings (Tasneem, 2006). Such differences may affect performance of CHWs, thus warrant further exploration, particularly if the CHW approach is to be adopted more widely in urban health programmes.

OBJECTIVES

The present study focuses on performance of CHWs in urban slums in Dhaka where BRAC has implemented the *MANOSHI* project.

METHODOLOGY

This is a mixed-method study that included both a quantitative survey and qualitative focus group discussions (FGDs). In the quantitative part, an exploratory case-control design was used to assess factors affecting performance of CHWs. FGDs were used to obtain more detailed information on CHWs' performance and to explore key findings from the case-control study in greater detail. FGDS were also used to identify recommendations for changes to the programme that might help to improve CHW performance.

Sample

The study population was female volunteer CHWs recruited by *MANOSHI* MNCH project during January 2007 and July 2007. Only current and presently working CHWs were included in the quantitative sample. To estimate the required sample size for the study, an online calculator was used (http://stat.ubc.ca/~rollin/stats/ssize/caco.html). Exposure in the controls was assumed to be 25% based on results from a recent study (Shin, 2007), relative risk (RR) of activity associated with exposure was assumed to be 2, *alpha* was set at 0.05 and power at 0.80. The required sample size was 152 per arm.

However, given that a representative sample of current CHWs was needed for an additionally planned cross sectional analysis, and CHWs were classified into three groups: active, moderately active and inactive, the full sample of current CHWs was estimated using the proportion in each group found in the same study. These results suggested that 20% of CHWs were active while 55% were moderately active and 25% inactive; applying these proportions showed that 760 CHWs would need to be selected to result in a sample with at least 152 CHWs in each arm.

Eligibility criteria

This research was conducted in 12 *MANOSHI* programme sites where the programme had been in operation for at least 1 year at the time of data collection, to allow sufficient time for CHWs to perform in the community. CHWs who had completed the three-week basic training and were on the register of current CHWs in the branch offices during the study period were considered for the quantitative analysis. CHWs who were recruited and attended but did not complete the basic training were excluded. The programme does not consider

someone to be a CHW if she has not completed the basic training. For the FGDs, both current and dropout CHWs were included.

To select cases (active CHWs) and controls (inactive CHWs), classification of performance was done using a composite score for each current CHW. This was developed from programme records using four core activities of *MANOSHI* CHW: 1) conducting home visits 2) identifying pregnancies, 3) accompanying mothers during labour to the birthing hut, 4) attending delivery at the birthing hut and providing essential newborn care. Scoring was done based on when each activity was last performed:

- Done within the past week = 4 points
- Done within the past two weeks = 3 points
- Done in the past three weeks = 2 points
- Done in the past four weeks = 1 point
- Done more than four weeks ago = 0 points

The composite score, ranging from 0 to 16 points, is the sum of the scores for all four activities. The scores are summarized across all current CHWs and the first quartile is considered to be "active", the middle 50% to be "moderately active" and the last quartile to be "inactive." This approach was based on an earlier assessment conducted in one urban slum (Shin et al. 2007). For the performance analysis in case-control design 'moderately active' CHWs were excluded.

Protocol and measures

The final survey questionnaire was developed based on a tool used in a study of incentives for current CHWs in a rural BRAC site and adapted using information gained from fifteen initial in-depth interviews with CHWs and programme staff working for *MANOSHI*. The initial interviews with CHWs included a pile sorting exercise to rank incentives and disincentives and identified the importance of financial incentives to the CHWs. The final questionnaire included questions on socio-demographic characteristics and incentives and disincentives received or experienced. The primary factors of interest were CHWs income; social prestige; attitude of family members of CHWs and the community; and competition with alternative employment, other providers and other CHWs. Here, community attitude means how the community treated the CHW role. Social prestige was measured in terms of whether the CHWs

received social invitations, *salaam* (greetings), informal credit and invitations to resolve disputes.

Three FGDs with current CHWs were conducted after completing the survey and conducting preliminary analysis. Participants were selected purposively based on their socio-demographic characteristics and previous performances. Another three FGDs with dropout CHWs were also conducted to explore their recommendations on performance of the current CHWs. FGDs took place in locations other than BRAC branch offices to maintain spontaneous and unbiased discussion. The Senior Field Research Officer and the Principal Investigator moderated the FGDs. Each FGD had 6-8 participants and lasted about an hour. Each FGD was tape recorded with prior consent from the group and immediately transcribed. The study was approved by the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B) Institutional Review Board.

Data analysis

Analysis was done using SPSS 11.5 and STATA 9.0. Descriptive and univariate analyses were done to identify the differences of all the potential socioeconomic and demographic variables between the active and inactive CHWs. The variables found significant at the level of $p \leq 0.15$ in the univariate analysis were entered into the multivariate logistic regression model with stepwise selection in order to identify the independent risk factors associated with CHW performance. A model that best explains the association between performance and other independent variables was identified for performance analysis after controlling for confounders. This analytical strategy identifies independent risk factors; odds ratios (ORs) were calculated in order to look at the factors affecting performance. Transcripts of all FGDs were coded and organized according to key themes that were determined in relation to the study objectives, starting with the guidelines but adding additional themes raised by the participants. Both content and thematic analyses were performed.

RESULTS

Active and inactive CHWs differed significantly in age (p = 0.001), marital status (p = 0.02), educational attainment (p = 0.03), monthly income (p < 0.001) and their involvement with other NGOs (p = 0.004) (Table 1). Among active CHWs, 80% were currently married whereas it was 90% for the inactive CHWs. In educational attainment, 31% active CHWs completed primary (V Grade) or higher level of education and it was 44% among the inactive CHWs. The average monthly income for active CHWs was US$ 9.98 whereas it was US$ 6.07 for the control group. Of the active CHWs, 10% worked for other NGOs apart from their regular role with BRAC but it was only 2% for the inactive CHWs.

Table 1. Socio-demographic characteristics of active / inactive CHWs, Dhaka urban slums, 2008

Characteristics	Active CHWs (n = 148)	Inactive CHWs (n = 124)	*p -value*
Age (mean years)	34.38	30.75	0.001
Currently married	118 (79.73)	112 (90.32)	0.02
Family size (mean)	4.9	4.5	0.05
Primary education complete or higher	46 (31.08)	54 (43.55)	0.03
Duration of stay in slum (mean years)	16.83	15.57	ns
Monthly average family income (US$)	128.86	129.86	ns
Monthly average CHW income (US$)	9.98	6.07	<0.001
Homestead land	73 (49.32)	73 (58.87)	ns
Working for other NGOs	15 (10.14)	2 (1.61)	0.004
VO membership	49 (33.11)	51 (41.13)	ns
Household loan	68 (45.95)	56 (45.16)	ns
Disable and old family members	18 (12.16)	12 (9.68)	ns
Children of 5 years and < 5 years	43 (29.05)	46 (37.10)	ns
Difficult to run family without CHW income	102 (68.92)	55 (44.35)	<0.001
Change in social prestige			<0.001
Less than before	18 (12.2)	56 (45.2)	
No change	45 (30.4)	49 (39.5)	
More than before	85 (57.4)	19 (15.3)	
Positive family attitude	127 (85.81)	89 (71.77)	0.004

*ns = not significant **1 BDT. = 0.01481 US$ (www.oanda.com, 1st July 2008)

Factors like CHW income and social prestige were the significant predictors for performance of CHWs (Table 2). CHWs who considered running family without income from CHW role would be difficult for them were almost three times as likely to perform higher as a CHW (OR=2.91, 95%CI=1.65 – 5.15). This was

given voice in the FGDs when CHWs noted that they were poor and it was difficult to run their family and educate their children in the midst of high price of daily necessities. They also mentioned that a fixed income was critical to improve their performance. An illustration from a dropout CHW:

"I badly needed this money. If I had a regular salary I would survive well. If I could earn some money from CHW work my family would be benefitted. "

The expectation of regular salary was prominent among the CHWs participating in the FGDs and it was noticed that most of them were not clearly aware of their "volunteer" role. When they realized that regular salary was not possible for a volunteer role they suggested increasing and reorganizing existing performance-improving financial incentives, as illustrated by a current CHW group:

"We wouldn't mind to work hard if you increased our incentives. It would help us a lot if you increased the amount of money for pregnancy identification, bringing pregnant mother to birthing centre."

Secondly, CHWs who enjoyed more social prestige than before were 15 times as likely to perform higher as a CHW (OR=15.03, 95%CI=6.73 – 33.53). Again, the FGD findings support this in that the many CHWs recognized that their work for *MANOSHI* increased their social prestige. They felt that as a result the community members knew them, honoured them and looked after their health needs. This was illustrated by a current CHW:

"We feel delighted working for BRAC. Everyone honours us. Now many people know us and look for us. Community people want us to stay with MANOSHI."

While they discussed their improved social status, many CHWs noted that they also preferred money because they have to buy everything for their living in a fast paced urban life. But some of them mentioned that this might be different than rural CHWs and they noted that rural CHWs enjoy more social prestige because they work in stable and known communities while the urban CHWs work with comparatively unstable urban slum dwellers.

Table 2. Multivariate logistic regression of independent factors associated with performance of CHWs, Dhaka urban slums, 2008

Risk factor	Odds Ratio	95% CI	*P-Value*
Difficult to run family without CHW income	2.91	1.65 – 5.15	<0.001
Change in social prestige			<0.001
Less than before	1.00	ref.	ref.
No change	3.09	1.51– 6.29	0.002
More than before	15.03	6.73 – 33.53	<0.001
Positive family attitude	1.13	0.55 - 2.33	0.74

Positive family attitude towards CHW role was important to improve performance of CHWs. In the FGDs, most CHWs mentioned that they received support and cooperation from their family members. An illustration from a current CHW:

"My husband understands when I am busy with any delivery patient and I even go out of my home at night. He cooks while I am away."

But some CHWs mentioned that sometimes the attitude of the family members towards CHW role negatively influenced their performance. An illustration from a dropout CHW:

"My husband did not approve my CHW role. He asked why I was working without money. I gave him what little income I earned. But he was never satisfied with that. He used to quarrel with me."

Given the importance of financial incentives on performance of CHWs, it is not surprising that CHWs' recommendations for how to encourage themselves to perform actively centred on the same. The most common suggestion was an increase in the existing financial incentives (e.g., an increased allowance for attending refresher training, a one-time incentive package for pregnancy identification, bringing mothers to delivery centres and attending newborn after delivery, supply of drugs and commodities at lower cost), but alternatives like the supply of saris or shoes for their use and treatment for their family members when sick were also suggested. Still others suggested bonuses or tips before major festivals. Less commonly mentioned were incentives related to social prestige. A few CHWs suggested networking them with key social institutions to increase their standing in the community. An additional suggestion was the

provision of ID cards to make them more recognizable to the community. Finally, the CHWs suggested improvements to the programme as a whole to attract more clients, to help increase their earnings. Specific suggestions included staffing delivery centres with doctors, providing ambulances, and offering free emergency life saving medicines to pregnant mothers.

DISCUSSION

It was evident from the results of the case-control analysis and the subsequent FGDs that financial incentives were the most commonly discussed factor associated with performance of CHWs. CHWs who thought that running their family without income from CHW work would be difficult for them were more active. The FGD findings reinforced the issue of financial incentives for becoming an active CHW, as all the CHWs participated in all six FGDs clearly expressed their concerns over the importance of financial incentives. The importance of financial incentives for performing as an active CHW also confirms the earlier findings from the earlier studies on CHWs carried out by BRAC researchers in which economic incentives were found to be the prime incentive for becoming a CHW, as well as, the main reason behind continuing as a CHW (Ahmed, 2008; Khan et al., 1998; Mahbub, 2000; Rahman & Tasneem, 2008).

However, since the urban CHWs are drawn from amongst the economically disadvantaged slum communities, the minimum income provided was extremely important to addressing their daily needs. Although CHWs serve in *MANOSHI* programme as volunteers, they expected a fixed salary as a means of regular income for their services for the community. The fact that CHWs are paid financial incentives for some services may have led to the expectation that it is a "paid position", rather than a "volunteer position".

Moreover, existing data shows that calling these CHWs 'volunteers' is conflicting to some extent, since they are given financial incentives. So, it may not be entirely unreasonable to expect that they will serve for a longer period than the usual volunteers. However, when CHWs understood the limitations of the project in providing a regular salary, they suggested increasing the current

financial incentives for certain activities like pregnancy identification and attending refresher training. The increased financial incentives would make them more active and minimize their frustrations for missing incentives for delivery if the mother delivers at home or a place other than a delivery centre.

Secondly, active performance of CHWs depends on how the community accepts and recognizes their services in the community. A conducive and enabling environment is a pre-requisite to work at large in the community. In general, the role of CHWs helped them to be exposed to society beyond their family and socialize with other members of the community. CHWs also felt that they were more acceptable for serving the community's mothers and newborns, in meeting their emergency health needs. Their contributions to the community placed them in a high social position. Most of them mentioned that they were honoured by the community people more than before they had engaged in BRAC CHW activities; they received more greetings; more often, they were invited to solve social disputes including the internal conflicts of other families; all these indicated increased social acceptance, which they enjoyed. Thus, positive changes in social prestige were a nonfinancial incentive/outcome/reward that helped CHWs to perform well in the community, which was also confirmed by the earlier findings (Ahmed, 2008).

While CHWs experienced mostly positive reactions from the community members for their voluntary role, sometimes they also experienced negative reactions like non-cooperation, teasing and negative comments that also discouraged them from continuing their role in the community. Such reactions have been noted in other studies, particularly when a programme is new (Chowdhury, Chowdhury, Islam, Islam, & Vaughan, 1997). Given that the *MANOSHI* project had been operating for less than 2 years at the time of this study, it is thought that the negative reactions will reduce over time, with greater acceptance of their roles and activities.

Though not significant for performance of CHWs, positive family attitude was one of the predictors of CHW performance. Family members, especially husbands and mother-in-laws played a critical role for CHW performance in the community. Their cooperation and approval was an important encouraging factor. Again, lack of cooperation, and negative attitude hindered performance of CHWs despite the personal interest to serve the community.

Consistent with past studies of rural CHWs, income and social prestige were common positive factors associated with performance among these urban CHWs. However, perceived access to skills and knowledge, which is important to performance in rural areas, is not a driving factor among urban CHWs. This difference might be due to better access to learning from multiple sources in urban areas, or lack of flexible time for gaining less priority skills, and depth of knowledge in a fast paced urban life. Some direct programme factors that were identified in rural areas, including lack of income from selling medicine and commodities, and CHW workload, were not important to the urban CHWs. At the community level, there appears to be less resistance to the role of CHWs, with few CHWs noting disapproval from family or community members, unlike their rural counterparts. Together, these differences suggest that expectations on the part of both individuals and communities differ in urban areas from rural areas, and income and prestige does influence the performance of the CHW.

A number of recommendations about how to ensure CHW performance arise from this study. First, more consideration is needed on how to address CHWs' expectation of income. This could be done by restructuring the existing financial incentives, expanding them to better compensate CHWs and improve their current performance. Second, frustrations on the part of CHWs could be minimized by making their income stream steadier and less dependent on the singular event of delivery. CHWs could be compensated for pregnancies rather than deliveries, with the caveat that they meet certain standards, such as a set number of interactions with women, which is dependent on the duration of pregnancy at enrolment. Finally, the programme should communicate clearly that the CHW role is voluntary and should develop guidelines in terms of the expected duration of participation for CHWs so that the programme and the CHWs have similar expectations.

This study had limitations. *MANOSHI* programme was not able to provide all CHWs with drugs and health commodities to sell because of a programme related decision. As a result, this core activity was excluded from the composite scoring for differentiating cases and controls among current CHWs. So, this classification limitation might minimize differences between the groups. Secondly, during the analysis period it was discovered that a monthly income of CHWs was an outcome, rather than a predictor of performance, hence deterring the inclusion of income of CHWs into the final model.

CONCLUSION & RECOMMENDATIONS

This study identified and shed light on some distinct factors like income and social prestige, which are positively associated with the performance of BRAC volunteer CHWs working in urban slums of Dhaka City. While some factors that encourage CHWs to perform actively in the programme are common to both urban and rural areas, the urban environment poses both new challenges and reduces some obstacles to this model. The specific recommendations that came from the CHWs in this study may help to improve performances of CHWs both within the *MANOSHI* programme and other programmes employing volunteer CHWs. But, given that the study was conducted in the capital city, which differs from other urban areas in Bangladesh in many ways (National Institute of Population Research and Training, MEASURE Evaluation, ICDDRB, & Associates for Community and Population Research, 2009), the findings should be contextualized before they are applied to other settings. At the same time, the fact that this study reiterates the importance of some factors already identified in rural areas underscores the need to address these issues to ensure the viability of this volunteer community workforce. Addressing the needs of the volunteer workers, sometimes in quite simple ways, which can strengthen their commitment (David & Chin, 1993), participation and their performance, thereby supporting the programme as a whole, is essential. In the case of CHWs, this can benefit community-based programmes directly, as well as, provide value to the national health system.

REFERENCES

Ahmed, S. M. (2008). Taking healthcare where the community is: The story of the Shasthya Shebikas of BRAC in Bangladesh. *BRAC University Journal,* 5(1), 39-45.

Awases, M. H. (2006). Factors affecting performance of professional nurses in Namibia. Health Studies: University of South Africa.

Bangladesh Health Watch. (2008). The State of Health in Bangladesh 2007: Health Workforce in Bangladesh: Who Constitutes the Healthcare System? Dhaka: BRAC University James P. Grant School of Public Health.

Bennett, S., & Franco, L. M. (1999). Public sector health worker motivation and health sector reform: a conceptual framework: Partnerships for Health Reform Project, Abt Associates Inc.

Bhattacharyya, K., LeBan, K., Winch, P., & Tien, M. (2001). Community health workers: incentives and disincentives: how they affect motivation, retention, and sustainability. Published by the Basic Support for Institutionalizing Child Survival Project (Basics II) for the United States Agency for International Development, Arlington, Virginia. October.

Bradley, S., & McAuliffe, E. (2009). Mid-level providers in emergency obstetric and newborn health care: factors affecting their performance and retention within the Malawian health system. *Human Resources for Health,* 7(1), 14.

Chowdhury, A. M. R., Chowdhury, S., Islam, N., Islam, A., & Vaughan, J. P. (1997). Control of tuberculosis by community health workers in Bangladesh. *Lancet,* 350(9072), 169-172.

David, F., & Chin, F. (1993). An analysis of the determinants of family planning volunteer workers' performance in Iloilo City. *Philippine population journal,* 9(1-4), 12.

Dieleman, M., Cuong, P. V., Anh, L. V., & Martineau, T. (2003). Identifying factors for job motivation of rural health workers in North Viet Nam. *Human Resources for Health,* 1(1), 10.

Dieleman, M., & Harnmeijer, J. W. (2006). Improving health worker performance: in search of promising practices. Geneva: World Health Organization.

Dingle, A., Sokolowski, W., Saxon-Harrold, S. K. E., Smith, J. D., & Leigh, R. (2001). Measuring volunteering: A practical Toolkit. *Washington, DC: Independent Sector and United Nations Volunteers*.

Fort, A. L., & Voltero, L. (2004). Factors affecting the performance of maternal health care providers in Armenia. *Human Resources for Health,* 2(8).

Franco, L. M., Bennett, S., & Kanfer, R. (2002). Health sector reform and public sector health worker motivation: a conceptual framework. *Social Science & Medicine,* 54(8), 1255-1266.

Franco, L. M., Bennett, S., Kanfer, R., & Stubblebine, P. (2004). Determinants and consequences of health worker motivation in hospitals in Jordan and Georgia. *Social Science & Medicine,* 58(2), 343-355.

Garcia-Prado, A., & Chawla, M. (2006). The impact of hospital management reforms on absenteeism in Costa Rica. *Health Policy and Planning,* 21(2), 91.

Gazi, R., Mercer, A., Khatun, J., & Islam, Z. (2005). Effectiveness of depot-holders introduced in urban areas: evidence from a pilot in Bangladesh. *Journal of Health Population and Nutrition,* 23(4), 377-387.

Haines, A., Sanders, D., Lehmann, U., Rowe, A. K., Lawn, J. E., Jan, S., et al. (2007). Achieving Child Survival Goals: Potential contribution of community health workers. *The Lancet,* 369(9579), 2121-2131.

Henderson, L. N., & Tulloch, J. (2008). Incentives for retaining and motivating health workers in Pacific and Asian countries. *Human Resources for Health,* 6(1), 18.

Hicks, V., & Adams, O. (2001). Pay and non-pay incentives, performance and motivation. Geneva: World Health Organisation.

Hughes, R. L., Ginnett, R. C., & Curphy, G. (2002). Leadership: Enhancing the lessons of experience. New York: McGraw-Hill/Irwin.

Joint Learning Initiative (2004). Human Resources for Health: Overcoming the Crisis: Harvard University Press, Cambridge.

Kabwa, P. B., Isoke, B. A., & Nyakahuma, G. N. (1996). Factors affecting dropout rate of community volunteer AIDS educators. (p. 189).

Kelly, J. M., Osamba, B., Garg, R. M., Hamel, M. J., Lewis, J. J., Rowe, S. Y., et al. (2001). Community health worker performance in the management of multiple childhood illnesses: Siaya District, Kenya, 1997-2001. *American journal of public health,* 91(10), 1617.

Khan, S. H., Chowdhury, A. M. R., Karim, F., & Barua, M. K. (1998). Training and retraining Shasthya Shebika: Reasons for turnover of Community Health Workers in Bangladesh. . *Health Care Supervisor,* 17(1), 37-47.

Kironde, S., & Klaasen, S. (2002). What motivates lay volunteers in high burden but resource-limited tuberculosis control programmemes? Perceptions from the Northern Cape province, South Africa. *The international journal of tuberculosis and lung disease: the official journal of the International Union against Tuberculosis and Lung Disease,* 6(2), 104.

Mahbub, A. (2000). A documentation on BRAC's Shashtha Shebika: exploring the possibilities of institutionalisation. mimeo., Bangladesh Rural Advancement Committee, Dhaka, October.

Mathauer, I., & Imhoff, I. (2006). Health worker motivation in Africa: the role of non-financial incentives and human resource management tools. *Human Resources for Health,* 4(1), 24.

National Institute of Population Research and Training, MEASURE Evaluation, ICDDRB, & Associates for Community and Population Research. (2009). Bangladesh Urban Health Survey 2006. Dhaka: NIPORT.

Nickols,F.(2003). Factors Affecting Performance Distance Consulting. http://home.att.net/nickols /articles.htm.

Personal Communication. (2008). In B. ICDDR (Ed.). Dhaka.

Rahman, M., & Tasneem, S. (2008). Determinants of Income of the Shasthya Shebikas: Evidences from a Pilot MNCH Initiative in the Nilphamari District of Bangladesh. Dhaka: BRAC.

Rigoli, F., & Dussault, G. (2003). The interface between health sector reform and human resources in health. *Human Resources for Health,* 1(1), 9.

Rowe, A. K., de Savigny, D., Lanata, C. F., & Victora, C. G. (2005). How can we achieve and maintain high-quality performance of health workers in low-resource settings? *The Lancet,* 366(9490), 1026-1035.

Sharpley, D. (2002). Perceptions, motivation and performance. DSA Business Psychology. www.dsa-int.com.

Shin, J. (2007). MANOSHI Shasthya Shebika: Factors affecting retention and job satisfaction New York: International Health Programme, NYU School of Medicine.

Soeters, R., & Griffiths, F. (2003). Improving government health services through contract management: a case from Cambodia. *Health Policy and Planning,* 18(1), 74.

Stekelenburg, J., Kyanamina, S. S., & Wolffers, I. (2003). Poor performance of community health workers in Kalabo District, Zambia. *Health Policy (Amsterdam, Netherlands),* 65(2), 109.

Suehiro, Y., & Altman, P. (2003). Female volunteers: an asset to the reproductive health sector in rural Cambodia. *Development in Practice,* 13(4), 346-360.

Tasneem, S. (2006). Community based health care approach and the ultra poor: Exploring Shasthya Shebikas' performance over time. Dhaka: BRAC.

Van Lerberghe, W., Conceicaõ, C., Van Damme, W., & Ferrinho, P. (2002). When staff is underpaid: dealing with the individual coping strategies of health personnel. *Bulletin of the World Health Organization,* 80, 581-584.

WHO. (2006). World health report 2006. Working together for health. Geneva: World Health Organization.

Yiu, C., Au, W. T., & Tang, C. S. (2001). Burnout and duration of service among Chinese voluntary workers. *Asian Journal of Social Psychology,* 4(2), 103-111.

Zurn, P., Dolea, C., & Stilwell, B. (2005). Nurse Retention and Recruitment: Developing a Motivated Workforce. Geneva: World Health Organization.