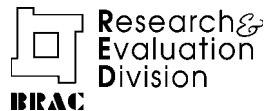


**Determinants of Income of the
Shasthya Shebikas: Evidences From a
Pilot MNCH Initiative in the *Nilphamari*
District of Bangladesh**

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Abstract

BRAC started a pilot maternal, neonatal and child health (MNCH) programme in the *Nilphamari* district of Northern Bangladesh in August 2005. A large number of new *Shasthya Shebikas* (SSs) were recruited under the MNCH program beside the existing ones. This study attempted to explore whether and how the income earning capability of the *Shasthya Shebikas*, both old and new, was affected due to this new initiative and also, the determinants of income for the SSs, and motivation for SS work in general. This study was conducted (Mar-Apr 2007) on a randomly drawn sample of 764 *Shasthya Shebikas*, roughly 130 from each of the six sub-districts of *Nilphamari* of which 453 were new and 311 were existing *Shasthya Shebikas*. Findings revealed that the motivation to become a *Shasthya Shebika* was mainly financial though for some the opportunity to provide socially beneficial services was also important. However, no matter what their motivation was and how strong, support from the family especially the spouse, was necessary to encourage and sustain *Shebika* work. Factors significantly affecting *Shebika*'s income were: competition from other health service providers in selling health products, brand preference by the clients, length of service or work experience as *Shebika*, uncertainty in earning from *Shebika* work due to seasonal fluctuation, and utilization of training received from sources other than BRAC. The long felt need of the *Shasthya Shebikas* to be trained in basic clinical competences such as that of a village doctor or even a midwife was pretty much evident from the study. In conclusion it can be said that the newly recruited *Shasthya Shebikas* were in a disadvantaged situation than the existing *Shasthya Shebikas* who were already working in that area. The programmatic implications of these findings are discussed.

Introduction

BRAC uses community-based health volunteers in the rural areas called *Shasthya Shebikas*¹ to deliver health services to the households in the villages. They are health volunteers trained to provide health services, such as, organizing health and nutrition education, mobilizing and motivating women to use modern family planning methods, educating and mobilizing women on immunization, selling essential health commodities, treating basic ailments, promoting sanitation and referring patients to health centers when necessary (BRAC Annual Report 2005). Besides, *Shasthya Shebikas* also assist in the implementation of the Tuberculosis program through information dissemination, identification of suspect cases, administration of Directly Observed Treatment Short Course (DOTS), follow-ups and referral (BRAC 2005) and they also mobilize and identify Malaria patients and treat them with medicines². Even though the *Shasthya Shebikas* work on a voluntary basis, they are able to earn some income, a major portion of which comes from the sale of essential health commodities and medicines and through other health related activities.

At the community level, the *Shasthya Shebikas* are the frontline workers assisting in antenatal care and offering care to mothers and neonates during postnatal period i.e. involved in supporting birth-related care, under-five child care to 150-200 households (BRAC 2005) assigned to each of them. The selection of *Shasthya Shebikas* by the programme is made on the basis of the following criteria (Khan *et al.* 1998):

1. Preferably VO members
2. Socially acceptable
3. Aged 25-35 years and married
4. Youngest child's age above two years
5. Eager to work, preferably educated and not living near a local health care facility/big bazaar

BRAC started its maternal, neonatal and child health (MNCH) initiative as a pilot programme in August 2005 in the *Nilphamari* district which is a part of Northern

¹ They are also referred to as *Shasthya Shebikas* or SS

² Source: BRAC 2004.

Bangladesh. A large number of new *Shasthya Shebikas* were recruited under the MNCH program, the training for whom started in August 2005. In this study, we consider a *Shebika* as ‘new’ if she received training and started her career or work as *Shebika* in or after August 2005 and ‘existing’ if she started her work as *Shebika* prior to August 2005 and is still continuing. In this context, it should be mentioned that both new and existing *Shasthya Shebikas* received training in August 2005, where the existing ones were introduced to the new activities under the MNCH program. These include: attendance during delivery, providing essential newborn care along with assisting in antenatal services and making post natal visits, home based management of birth asphyxia, advising birth registration, ensuring birth weight for newborn, referring complicated cases etc.³ Along with this, the responsibilities for the *Shasthya Shebikas* on the whole were redefined. Previously each *Shebika* was responsible for serving around 300 households, but after the initiation of this program and recruitment of the new *Shasthya Shebikas*, this number was reduced to around 150 households. Thus, for the existing *Shasthya Shebikas*, the catchment area was reduced. On the other hand, new services were introduced as part of the *Shebika* curriculum. Thus, this study aimed to explore the net consequences of these changes on the income of existing *Shasthya Shebikas*.

Objectives

In general, this study attempts to explore whether and how the income earning capability varied among the new and old *Shasthya Shebikas* (SSs) due to introduction of MNCH activities in the *Nilphamari* district of northern Bangladesh, including factors influencing their motivation and sustenance.

More specifically, the objectives of this paper are: 1) compare and contrast the profiles of the existing and the new SSs; 2) examine the income profile of the two types of SS, determinants of income, and underlying factors responsible for any variation; 3) to examine client profiles of the *Shebikas* and their felt needs; 4) to investigate SSs’ perception about the impact of their work on their own lives.

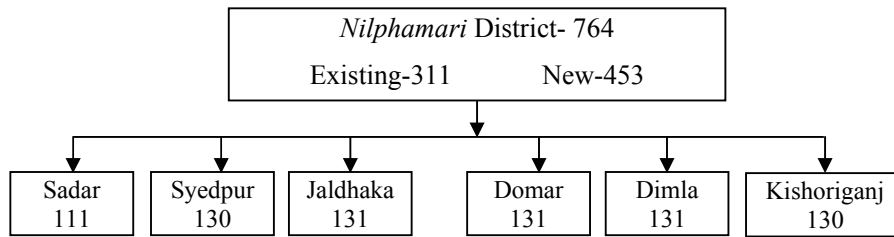
Design and sampling

At the time of the study, the total number of *Shasthya Shebikas* working in the district of *Nilphamari* was 2205, of which 1400 were newly recruited under the MNCH program and the rest (805) were already working⁴. This study was conducted on a randomly drawn sample of 764 *Shasthya Shebikas*, roughly 130 from each sub-district covering the six sub-districts of *Nilphamari*, of which 453 were new and the remaining (311) were existing *Shasthya Shebikas*.

³ Source: Ahmed (2007)

⁴ As of May 2006

Figure 1. Sampling distribution across the *Nilphamari* district



The proportion of new to existing *Shasthya Shebikas* in *Nilphamari* was also maintained in each of the six *upazilas* (Fig 1). Thus, the sample included in this study was statistically representative both at the *upazila* (sub-district) level and at the district level. The survey was carried out during March-April, 2007.

Results

Profile of the *Shasthya Shebikas* in the sample

A demographic profile of the *Shasthya Shebikas* working in the *Nilphamari* district included in the study is presented in Table 1. On the whole, the average (mean) age⁵ of the *Shasthya Shebikas* was 35 years. The mean age for the existing *Shasthya Shebikas* was 40 years and that for the new ones was 32 years. One of the selection criteria of the *Shasthya Shebikas* for the program at that time was that they had to be between 25 and 35 years of age. Further analysis shows that at the time of the interview around 2% of the existing *Shasthya Shebikas* were below 25 years, whereas 15% of the new *Shasthya Shebikas* were of that age.

The average household size for both types of *Shasthya Shebikas* was around five. Another selection criteria for *Shasthya Shebikas* is that the youngest child's age should not be less than 2 years. Here, it was found that 5% of the existing *Shasthya Shebikas* and 10% of the new ones reported having children less than two years of age.

Table 1. Socio-demographic Profile of the *Shasthya Shebikas*

	All SS	Existing <i>Shebika</i>	New <i>Shebika</i>
Average age of <i>Shasthya Shebikas</i> in years (mean)	35	40	32
Average number of Household members	4.6	4.5	4.6
<i>Shasthya Shebikas</i> having children aged two years or less (%)	8	5	10
Household headed by SS (%)	24	31	19
Of which VO (%)	82	88	74
Education level of <i>Shasthya Shebikas</i>			
No class passed %	28	24	31
Class 1- 5 %	35	40	31
Class 6-10 %	35	36	35
SSC and above %	2	1	3
N	764	311	453

⁵ Self reported by *Shasthya Shebikas*

Around 31% of the existing *Shasthya Shebikas* headed their households, whereas among the new *Shasthya Shebikas*, 19% were household heads. Most of the *Shasthya Shebikas* (82%) that were household heads were found to be VO members, the percentage being much higher among the existing ones. The education profile varied across *Shasthya Shebikas*. The percentage of illiteracy was found to be higher among the new *Shasthya Shebikas* (31%) compared to ones already working (24%). Around 40% of the existing *Shasthya Shebikas* have had a primary level of education, whereas this was only 31% among the new *Shabikas*. A slightly higher percentage of the existing *Shasthya Shebikas* (36%) crossed the secondary level compared to the new ones (35%). On the other hand, the percentage of those with an education level of SSC and above was higher among the new *Shasthya Shebikas* though the overall percentage was quite low (2%). Thus, most of the *Shasthya Shebikas* were found to have some level of literacy having studied at the primary or secondary level.

Though a selection criteria for a *Shebika* is that she should preferably be a village organization (VO) member, a significant proportion of the new *Shasthya Shebikas* were found not to be so when they were recruited (Table 2). Around 81% of the existing *Shasthya Shebikas* were BRAC VO members, whereas among the new ones, the percentage was much lower (68%). Also a small percentage (6%) among the existing *Shasthya Shebikas* were never associated with a BRAC VO membership and are still so. In contrast, around 18% of new *Shasthya Shebikas* claimed never to be a VO member. Interestingly, around 13% of *Shasthya Shebikas* had actually dropped out of a VO.

Table 2. VO membership of the *Shebikas* (%)

	All SS	Existing <i>Shebika</i>	New <i>Shebika</i>
VO membership	73	81	68
Became VO member before becoming an SS	40	47	36
Became VO member after becoming an SS	33	33	32
Not a VO member anymore	13	13	13
Never was a VO member	13	6	18
N	764	311	453

An overview of the economic profile of the *Shebika* households in the sample is presented in Table 3 below. Majority of the *Shasthya Shebikas* (41%) perceived that their households were sometimes in deficit and 28% perceived themselves to be at a breakeven level (no surplus or deficit). The new *Shasthya Shebikas* were relatively more optimistic than the existing ones when reporting their perceived financial status. On average, the median land holding was higher for the existing *Shasthya Shebikas* than the new ones.

Table 3. Perceived financial status of *Shebikas* household (%)

	All SS	Existing SS	New SS
Always deficit	13	12	15
Sometimes deficit	41	43	39
Just surviving	28	29	28
Surplus	17	16	18
Median Land holding (in decimal)	10	11	8

Table 4 presents some information on the *Shasthya Shebikas* relating to their assignments as a *Shebika* and livelihood. The average number of households which existing *Shasthya Shebikas* were assigned to serve was 163, whereas that for the new ones was 157. When asked about the importance of income from work as a *Shebika*, around 84% reported that it was one of the main sources of their household income. A higher percentage among the existing *Shasthya Shebikas* reported being involved in more than one economic activity other than their work as a *Shebika* and this percentage was higher among the existing *Shasthya Shebikas*. Most of the *Shasthya Shebikas* (63%) would find it difficult to survive without income from their work as a *Shebika* compared to the new ones. Most of the *Shasthya Shebikas* (63%) would find it difficult to survive without income from their work as a *Shebika*, while for a quite small percentage it would not matter at all.

Table 4. Some information on *Shebikas* work (%)

	All SS	Existing SS	New SS
Average no. of hhs for which <i>Shebika</i> is responsible	160	163	157
% of hhs for which <i>Shebikas</i> work is one of the main sources of income	84	84	84
% of <i>Shasthya Shebikas</i> involved in multiple economic activities (other than <i>Shasthya Shebikas</i> work)	39	44	35
Dependency on SS income as means of supporting the family			
Dependent	63	69	59
Partially dependent	32	25	36
Not dependent at all	5	6	5

Involvement in economic activities other than *Shebika* work

Besides working as *Shasthya Shebikas*, they were also found to be involved in other types of income generating activities (Table 5). Apparently, higher percentages among the new *Shasthya Shebikas* were engaged in these other types of economic activities. These were: involvement in agricultural self-employment, health related services (i.e. nursing, midwifery, vaccination programs, nutrition

related work, etc), other services (i.e. teaching, social work, drama actor etc), handicrafts, day labor etc.

Table 5. Current involvement in income-earning activities besides *Shebika* work (%)

Types of occupation	All SS	Existing SS	New SS
No income generating activity	61	59	65
Agricultural Self-Employed	13	14	13
Health related service	9	11	7
Other Service	3	4	3
Day Labor	7	7	8
Small business	3	3	3
Handicrafts	7	8	6
Serving other households	2	2	2

Background information on *Shasthya Shebikas* before they started work as a *Shebika*

Before moving on to the details on *Shasthya Shebikas*' income, this section highlights some general information regarding the *Shebika*'s motivation for starting their work as a *Shebika*, involvement before they started their work, how they became a *Shebika* and their perception of the initial family attitude towards their work.

Reasons for beginning work as a Shebika

When asked why they started working as *Shebika*, most of the *Shasthya Shebikas* (76%), especially the existing ones reported that they started work as a *Shebika* because it served as a source of earnings for their families (Table 6). Also quite a large percentage of *Shasthya Shebikas* (more from the existing ones) reported that it made them financially independent and was a source of pocket money.

Table 6. Reasons for beginning work as a *Shebika* (%)

Reasons	All SS	Existing SS	New SS
Source of earnings	76	78	75
Own financial independence/pocket money	68	73	64
Family appreciation/encouragement	8	7	8
Social recognition/respect	10	12	9
Satisfaction from benefiting others	33	37	30
Easier access to BRAC loans	2	1.4	3
To learn about diseases	0.2	0	0.2
To serve people	0.2	0.3	0

Note: Multiple responses allowed

Satisfaction from being involved in a type of work that benefits others society (33%) also encouraged *Shasthya Shebikas* to be involved in this work, especially in case of the existing *Shasthya Shebikas*. Being encouraged by their families and easier access to BRAC loans were also reasons why they started working as *Shasthya Shebikas*, and more from the new ones reported such reasons.

Employment Profile/Involvement of *Shasthya Shebikas* before they started working as *Shebika*

Table 7 presents the different types of occupations in which both existing and new *Shasthya Shebikas* were involved before they actually started their work as *Shasthya Shebikas*.

Table 7. Previous Occupation of *Shebika* (%)

Types of occupation	All SS	Existing SS	New SS
No income generating activity	57	49	62
Agricultural self-employed	15	19	12
Health related service	6	8	5
Other Service	9	13	6
Day Labour	9	8	10
Small Business	2	2	2
Handicrafts	6	7	6
Serving other households	4	3	4

Compared to the new *Shasthya Shebikas*, a higher percentage among the existing *Shasthya Shebikas* were involved in some type of income generating activity prior to becoming a *Shebika*. Before becoming a *Shebika*, they were mostly occupied in agricultural self-employed activities. Other types of occupations common among the *Shasthya Shebikas* were health related services (i.e. nursing, midwifery, vaccination programs, nutrition related work, etc), other services (i.e. teaching, social work, drama actor, day labor etc). Interestingly, a comparison with Table 5 shows that relatively higher percentages among both existing and new *Shasthya Shebikas* remained employed in similar occupations even after they started their work as a *Shebika*.

Process of becoming a Shebika

A general idea of how a *Shebika* joined this particular profession is presented in Table 8. Not much variation was found among the different types of *Shasthya Shebikas*. The percentage of *Shasthya Shebikas* who approached themselves to join as a *Shebika* was slightly higher than those who were selected by the program. Though very small, around 1% reported being approached by the *Shasthya Kormi* to become a *Shebika*.

Table 8. Process of becoming a *Shebika* (%)

Responses	All SS	Existing SS	New SS
Own Interest	50	50	50
Selected by PO	48	48	49
Approached by <i>Shasthya Karmi</i>	1	1	1
N	764	311	453

Initial family attitude towards Shebika work

Another factor that affected the participation in this mainly voluntary type of activity in the first place may have been the *Shasthya Shebikas* family's initial attitude towards her activity, an overview of which is presented in Table 9a. The *Shasthya Shebikas* were asked about their husband's (or influential family member's) initial attitude towards their work, and around 15% reported that they did not even have to ask for permission to start their work. Majority of the *Shasthya Shebikas*, a slightly higher percentage among the new ones than the existing ones, had to seek permission from their family members but faced no difficulties to become involved in this profession. Some percentage, more among the new ones faced problem in obtaining permission from their families, so the initial attitude was negative.

Table 9a. Initial family attitude towards *Shebika* work (%)

Initial family attitude	All SS	Existing SS	New SS
Didn't need to take permission	14.5	16.2	13.4
Had to take permission but faced no difficulties	79.5	78.6	80.1
Faced problem in obtaining permission	5.9	5.2	6.4
Didn't answer	0.13	--	0.22
N	764	311	453

Table 9b looks at the whether initial family attitude affected in anyway the perception of the family members towards the *Shebika* by considering the change in her say in the family. Among those who perceived that their importance in the family had increased, more than 80% did not face any difficulty while taking permission to begin work as a *Shebika*. In comparison, for those who faced restrain from their families when they began work, a much higher percentage (21%) felt that their importance in the family had not changed positively. This showed that the whether or not the *Shasthya Shebikas* family was supportive in the beginning did matter for the *Shasthya Shebikas* position in her family as perceived by the *Shebika* herself.

Table 9b. Change in family attitude towards *Shebika*'s work (%)

Initial family attitude towards <i>Shebika</i> work	Change in attitude towards the <i>Shebika</i> (importance in the family)			All
	Increased (more say)	No change	Decreased (less say)	
Did not need a permission	13.61	17.84	10.71	14.53
Had to take permission but did not face any difficulty	80.76	77.84	67.86	79.58
Faced difficulties while taking permission	5.63	4.32	21.43	5.89

Income profile of *Shasthya Shebikas*

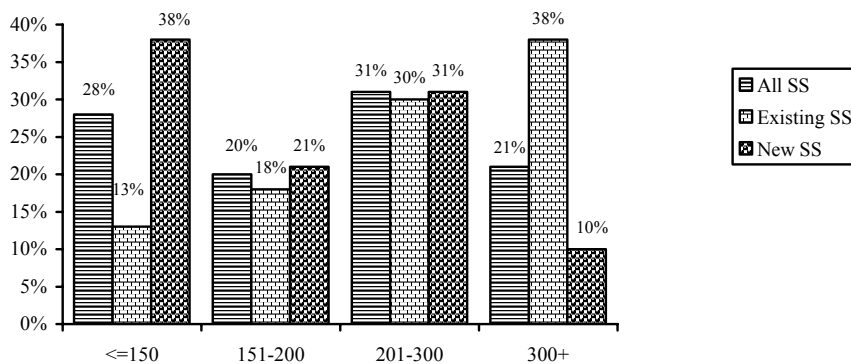
An overview of the income levels for the *Shasthya Shebikas* from their work as a *Shebika* in *Nilphamari* is presented in Table 10. The average (mean) level of income for the existing *Shasthya Shebikas* was much higher than that for the new ones. On average, the level of income for *Shasthya Shebikas* working that area was Tk. 273.

Table 10. Average monthly income levels for *Shebikas*

Types of <i>Shasthya Shebikas</i>	Average monthly income from selling products and providing health services (in Tk.)
All	273
Existing <i>Shasthya Shebikas</i>	349
New <i>Shasthya Shebikas</i>	222

Figure 2 presents the proportion of *Shasthya Shebikas* belonging to different monthly income groups giving an idea about the variation in income by their types in that area. The monthly income levels have been divided into four groups and the percentage of *Shasthya Shebikas* belonging to each group is shown. Around 28% of the total sample of *Shasthya Shebikas* reported having a monthly income level of Tk. 150 and less and 21% had an income level of Tk. 300 or more. When broken down by type of *Shebika*, only 13% of the existing *Shasthya Shebikas* were found to have a monthly income as such, whereas, among the new *Shasthya Shebikas*, a much higher percentage (38%) reported belonging to the lowest income group. The percentage of existing *Shasthya Shebikas* reporting having a monthly level of income of Tk. 300 and higher was 38%, whereas that among the new ones was only 10%.

Figure 2. Percentage of *Shebikas* belonging to different income groups



Sources of earnings for *Shebika*

Though mainly voluntary, work as a *Shebika* at BRAC allowed *Shasthya Shebikas* to generate income mainly from two sources: profits from selling health commodities purchased at a certain cost from BRAC and earnings from the provision of health related services. However, some *Shasthya Shebikas* were also found to earn incomes from outside BRAC.

Shasthya Shebikas usually sell basic curative medicines and health products, such as, oral saline, iodized salt, hygienic soap, sanitary napkins, delivery kits, oral contraceptives, condoms, etc. During the months of January and February, existing *Shasthya Shebikas* earned a mean profit of Tk. 202 from selling health commodities, which was higher than that made by the new ones (Tk. 123) (figure 3).

Figure 3. Average profits (in Tk.) from selling health commodities

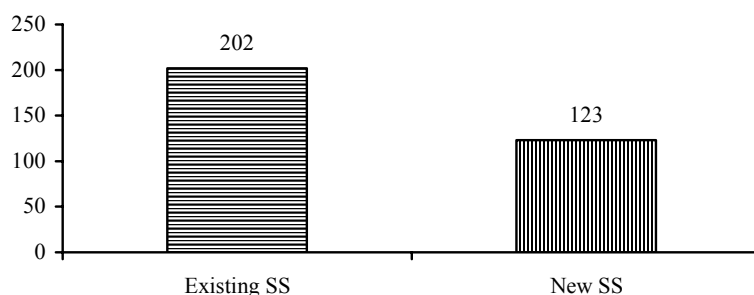


Table 11. *Shebikas* earnings from providing health services from BRAC and outside BRAC

Services	From BRAC						Outside BRAC					
	All		Existing		New		All		Existing		New	
	% of SS Earned	Avg. income (Tk.)	% of SS Earned	Avg. income (Tk.)	% of SS Earned	Avg. income (Tk.)	% of SS Earned	Avg. income (Tk.)	% of SS Earned	Avg. income (Tk.)	% of SS Earned	Avg. income (Tk.)
Referrals	30	14	38	20	24	14	2	101	3	180	1	28
Pregnancy Identification	91	32	92	35	91	30	0	-	-	-	-	-
Neonatal care during delivery	83	22	86	25	80	20	1	93	1	95	1	92
Measuring new- born weight	84	21	86	23	83	20	0	-	-	-	-	-
Other	6	22	6	29	6	17	1	238	1	305	1	105

Shasthya Shebikas also earn some income for performing designated services which acts as incentives. The different types of health services that generate income for the *Shasthya Shebikas* from both BRAC and outside BRAC are presented in Table 11. The *Shasthya Shebikas* were given a list and asked whether they performed the services mentioned in the question and also, the services they rendered apart from these, if any, and the incomes (cash or in-kind⁶) they received during the months of January and February (the last two months before the survey was conducted). Most (almost 91%) of all *Shasthya Shebikas* reported that from BRAC, they received Tk. 32 on average, for pregnancy identification and around 84% reported that they got Tk. 22 for being involved in services like neonatal care during delivery and measuring new born weight each. On average, around 30% reported receiving an average amount of Tk. 14 from BRAC for referring patients to other health care facilities. Interestingly, *Shasthya Shebikas*, though a very small percentage, also reported receiving different types of payments from outside BRAC for rendering such services. Around 2% of the *Shasthya Shebikas* received an average amount of Tk. 101 from sources outside BRAC for referring patients to health care facilities. Around 1% among all received Tk. 93, on average, for being involved in neonatal care during delivery from the patient's household. Other services, as mentioned by the *Shasthya Shebikas*, for which they received income were birth asphyxia, haircut for newborn, tuberculosis patients, ligation, etc.

Interestingly, more existing *Shasthya Shebikas* reported being involved in the provision of services than the new ones. Pregnancy identification seemed to be the most common service that generated income for the *Shasthya Shebikas*, whether they were existing or new. Existing *Shasthya Shebikas* reported receiving a higher amount of average earnings compared to the new *Shasthya Shebikas* from each of the different types of services they were involved in over the last two months. Also, a higher percentage among the existing *Shasthya Shebikas* also reported receiving payments from sources outside BRAC for providing referral services. Existing *Shasthya Shebikas* also received a higher amount, on average, from external sources for providing a range of other services.

Interestingly, when asked, *Shasthya Shebikas* also mentioned a list of health commodities that they purchased from outside BRAC. Around 11% of the existing *Shasthya Shebikas* and 5% of new *Shasthya Shebikas* were found to buy medicine from outside. Among the commodities bought, the most common ones reported by the *Shebika* were Diclophen (2.5%), Renitid (1.3%), Femicon (1%), Tasty Saline (1%), Dispirin (1%), Napa (1%), etc. The existing *Shebikas* reported collecting mostly Diclophen (4%), Renitid (2%), Femicon (1%), Minicon (1%), Tasty Saline (1%), Sukhi birth control pills (1%), T.C. Capsule

⁶ The market value for in-kind payments (i.e. sari, etc) was considered.

(1%), Napa (1.3%), Tetracyclin (1%) etc. The ones that new *Shasthya Shebikas* reported collecting buying from outside and selling were mainly Diclophen (1%), Renitid (1.7%), Tasty Saline (1%), etc. Not only, the percentage among the existing *Shebikas* reported to be doing so was higher compared to the new ones, but also, the existing *Shasthya Shebikas* were also found to purchase a wider variety of health commodities from outside BRAC and sell to their customers.⁷

Table 12 presents findings when the *Shasthya Shebikas* were asked whether they thought health advising and health commodity selling complemented or conflicted with each other.

Table 12. Priority/objective for *Shebikas* in providing health care service: Trade off between advising and selling

Priorities in providing health care service	%
Health advising	82.5
Splitting time equally or equal priority	16.6
Selling medicine/health products	1

It was found that most of the *Shasthya Shebikas* (83%) thought that providing health advising actually contributed positively towards selling health commodities, so there was no conflict between the two and thus they took care to focus more on providing health advice to the households under their responsibility. Only 1% gave priority to selling health commodities and reaching them to the households, whereas the remaining split their time between the two.

Shasthya Shabikas receive funds from the health program known as the revolving loan, in the form of medicines and health products, which they avail from BRAC at a ‘lower than market price’ cost. However, *Shasthya Shebikas* who are also VO members also have the access to a supplemental loan to encourage their work. The following Table displays the knowledge of *Shasthya Shebikas* about these funds. As shown, when asked, all of the *Shasthya Shebikas*, both existing and new were found to be aware of the program revolving funds, whereas a very small proportion reported actually knowing about the opportunity for getting supplemental loans from the program.

⁷ Results not shown

Table 13. Knowledge of funds for *Shebikas*

	Awareness about BRAC loans (%)		
	Program Revolving Loan/Program Fund	BRAC VO Loan	Supplemental Loans
All <i>Shebika</i> (by type)	100	87.5	1.05
Existing	100	90.9	2.3
New	100	85.2	0.2

Multiple responses, percent of cases

Perception of change in *Shebika* income after the introduction of the MNCH programme

This section captures the perception of the existing *Shasthya Shebikas*⁸ regarding changes in their own earnings after the introduction of the MNCH program in 2005 and also identifies some reasons that they held responsible for this change (Table 14). A higher percentage of *Shasthya Shebikas* believed that their income from work as a *Shebika* had gone down (57%), rather than increased (34%) after the introduction of the program, while some see no change in their income at all (7%).

Table 14. Perception of changes in income after the introduction of the MNCH programme (%)

Perception of <i>Shasthya Shebikas</i>	Existing SS
Earning are higher than before	34
Earning are lower than before	57
No change in earnings	7
N	311

The reasons why the incomes of the *Shasthya Shebikas* have increased are presented in Table 15 below. Most (73%) of them identified the increase in number of activities (earning an income) performed under the MNCH program as the main source of increase in their income. Besides, around 29% of the existing SSs cited familiarity with the neighbourhood and around 13% believed that reduction in the number of households (smaller catchment area) was the underlying reason which helped them to work more intensively.

⁸ This does not apply for new *Shasthya Shebikas*

Table 15. Reasons for increase in *Shebika* income after the introduction of the MNCH program as perceived by the *Shebikas*

Reasons	% of Existing SS who reported that income has increased after 2005
Increase in number of activities performed	73
More intensive service due to decline in number of HHs	13
More widely known	29
Increase in general health awareness among clients	2
Increase in patients	2

On the other hand, when asked about the reasons for decline in income after the introduction of the MNCH program, almost 93% of the existing *Shasthya Shebikas* whose income had gone down felt that this happened because of the reduction in the number of households after the introduction of this program. Interestingly, around 3% of the existing *Shebikas* thought that competition from other *Shasthya Shebikas* was a reason for the decline in their income. Competition from other sellers (i.e. pharmacies) and increase in price of medicines were among other reasons mentioned by them. (Table 16)

Table 16. Reasons for decline in *Shebika* income after the introduction of the MNCH programme as perceived by the *Shebikas*

Reasons	% of Existing SS who reported that income has decreased after 2005
Decline in number of HHs	93
More responsibilities to be performed	3
Competition from pharmacy	2
Increase in price of medicine	2
Too many <i>Shasthya Shebikas</i>	3

Factors perceived to affect *Shebika* income

This section highlights a few factors that the *Shebikas* thought affected their income.

Training from outside BRAC matters

External training refers to trainings that are not given to *Shasthya Shebikas* by BRAC, rather they take it on their own initiative from an outside institution⁹. Around 14% of the sampled *Shasthya Shebikas* (22% among the existing and 9%

⁹e.g. Family Welfare Centre, IDRS etc

among the new *Shasthya Shebikas*) reported receiving different types of external training for services usually high in demand. Table 17 presents a list of trainings that the *Shasthya Shebikas* reported taking from outside BRAC.

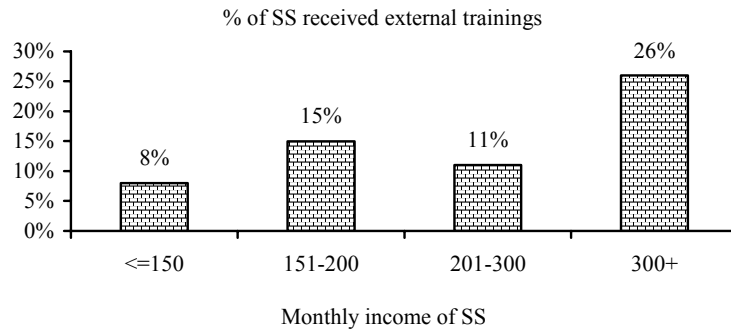
Table 17. List of trainings taken from outside BRAC as reported by SS (multiple responses, % of responses)

Types of <i>Shebika</i>	All SS	Existing SS	New SS
Midwifery	83.49	79.41	90.24
Leprosy training	5.5	7.35	2.44
Filaria	4.59	5.88	2.44
Measuring blood pressure	2.75	4.41	--
Pushing injection	2.75	4.41	--
Tuberculosis	1.83	2.94	--
Training from FWC	0.92	1.47	--
Training from IDRS	0.92	1.47	--
Pushing saline	0.92	1.47	--
Nursing	0.92	--	2.44

Interestingly, existing *Shasthya Shebikas* take a wider variety of training compared to the new ones. Among these are training on midwifery (higher percentage among the new *Shasthya Shebikas*), measuring blood pressure, pushing injection, training relating to leprosy, filaria and tuberculosis etc.

Figure 4 presents the association between the monthly income levels of *Shasthya Shebikas* and external training received from outside BRAC. It shows that of the SSs who had a monthly income of Tk. 300 and higher, about 26% reported having received training from outside BRAC. Conversely, only 8% of those who belonged to the lowest income group reported having received external training.

Figure 4. Association between *Shebika* income and additional training from outside BRAC



It was also found that those who reported having received training from outside BRAC served for a longer period as a *Shebika* compared to those who had a shorter length of service and the relationship was statistically significant (Table 18).

Table 18. Association between length of service as a *Shebika* and training taken from outside BRAC

Groups	Average Length of Service (mean) in years	t value (difference in mean)
<i>Shasthya Shebikas</i> who took training from outside BRAC	5.5	4.4 (Statistically significant)
<i>Shasthya Shebikas</i> who did not take any training from outside BRAC	3.5	

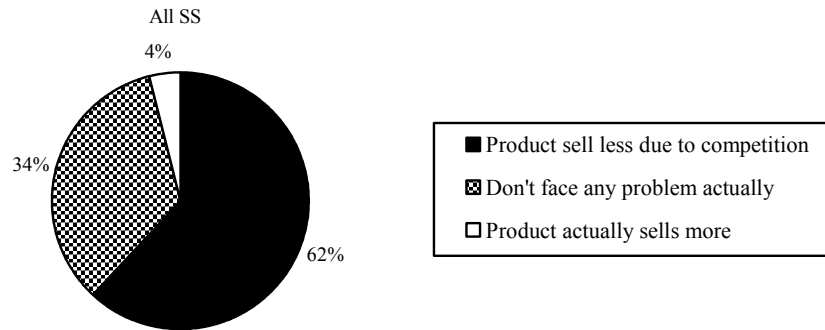
Competition Matters

Competition from other medicine or health commodity sellers or similar health service providers may be an important factor in determining the turnover to the *Shebika*. The availability of other health care service providers and health commodity sellers (for e.g. pharmacies, stores that sell drugs, village doctors, other NGO health care providers, other *Shasthya Shebikas*, etc) in a close vicinity may challenge a *Shebika's* income earning capability, especially when they are new in this profession.

Figure 5 presents the extent of competition faced by all *Shasthya Shebikas* working in the *Nilphamari* district while selling health commodities that arose due to the existence of other health commodity sellers and health service

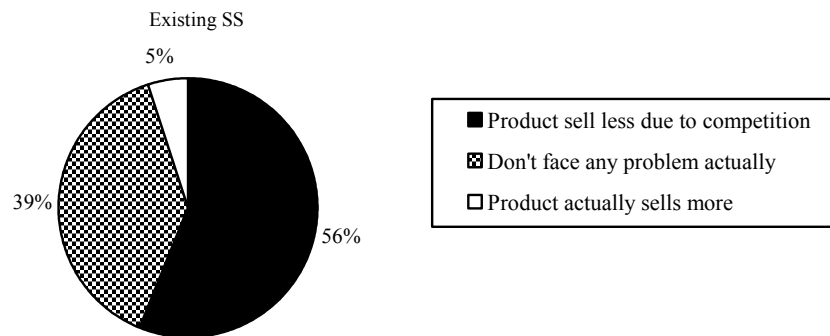
providers in the area. It was found that quite a substantial percentage (62%) of *Shasthya Shebikas* perceived themselves to be threatened by competition, while 34% reported not facing any problem. About 4% reported that their products actually sold more compared to other sellers in the vicinity, and as such they were actually better off.

Figure 5. Extent of competition faced by all *Shebikas* from other health service providers



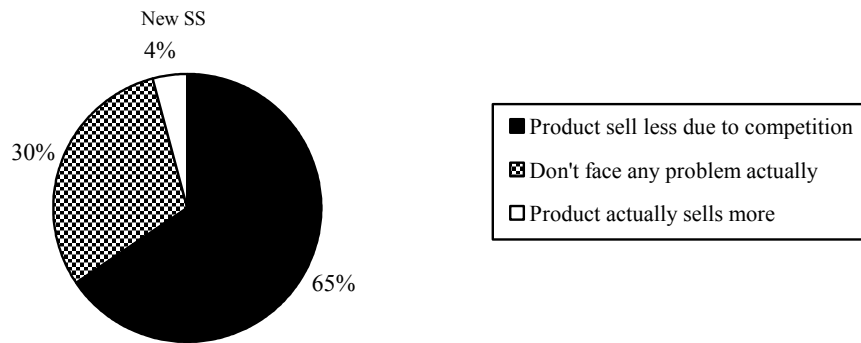
Furthermore, breaking down by the types of *Shebika* (figure 6), it is evident that among the existing *Shasthya Shebikas*, more than half faced such a problem. Around 39% did not feel threatened by competition at all and also did not think that having an alternative health service seller nearby affected their income in any way.

Figure 6. Extent of competition faced by the existing *Shebikas* from other health service providers



However, in comparison with the existing *Shasthya Shebikas*, a much higher percentage (65%) among the new *Shasthya Shebikas* reported facing difficulties due to the existence of other health commodity sellers (Fig 7).

Figure 7. Extent of competition faced by new *Shebikas* from other health service providers



The following paragraph attempts to explore the issue of competition in greater detail.

Aspects of Shasthya Shebikas for whom competition matters

Health infrastructures in the locality

To look further into the matter of competition faced by the *Shasthya Shebikas*, a breakdown of the health infrastructure in the *Shebika's* locality is presented in Table 19. Around 88% of *Shasthya Shebikas* facing difficulties in selling products mentioned that there were pharmacies in their locality. Seventy-one percent also reported about the availability of village doctors in proximity. Besides, existence of government hospitals and other *Shasthya Shebikas* or NGOs in the *Shebika's* locality was also mentioned to cause problems for their sale of health commodities.

Table 19. Health infrastructure in the locality for *Shebikas* as mentioned by those who reported that their product sold less due to competition

	% of <i>Shebikas</i> who reported problems due to competition		
	All SS	Existing SS	New SS
Pharmacy	88	87	89
Village doctor	71	71	72
Government hospital	18	15	19
Other NGO	4	4	4
Other SS	3	3	2
Others	2	3	2

** This Table includes multiple responses

This picture also holds more or less when compared between existing and new *Shasthya Shebikas*. The percentage of new *Shasthya Shebikas* facing competition

from pharmacies and government hospitals is higher than the existing ones, which may be due to the fact that existing *Shasthya Shebikas* may have already built some rapport with their clients or some reputation in that region. Interestingly, though *Shasthya Shebikas* usually serve specified households, 3% *Shasthya Shebikas* reported facing competition from *other Shasthya Shebikas*.

Perceived factors responsible for difficulties in selling products for *Shasthya Shebikas*

When asked why they faced difficulties in selling health commodities, a variety of reasons were mentioned by the *Shasthya Shebikas*, which are presented in Figure 8 by type of *Shebika*. Among the various reasons identified by *Shasthya Shebikas* which affect their earnings, around 80% reported that people relied more on existing pharmacies or medical establishments, whether or not they were located further or closer from the clients compared to the *Shebika* herself. Another commonly reported problem, which was reported more by the existing *Shasthya Shebikas* (60%) than new *Shasthya Shebikas* (56%), was that they did not have the medicine that their customers demanded. *Shasthya Shebikas* also faced difficulties in selling health commodities, more new ones compared to the existing ones, also because of people’s reluctance to buy from female sellers. Another reason that hampered the sale of health commodities was that clients preferred specific brands of medicines and health products that the *Shasthya Shebikas* did not sell.

Figure 8. Reasons for difficulty in selling medicine and health products

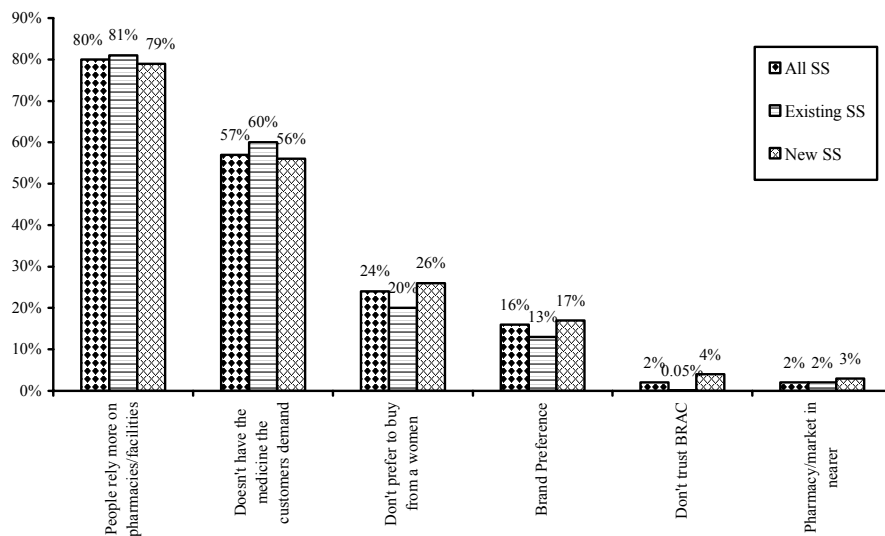


Table 20 looks further into brand preference by clients: 36% of the *Shasthya Shebikas* reported facing problems in selling health commodities because the customers preferred different brands other than the ones sold by them and existing *Shasthya Shebikas* seemed to be more aware of such a problem than the new ones.

Table 20. Competition in the form of brand preference for the sale of health products by *Shebikas*

Type of <i>Shebika</i>	Products sold by <i>Shebikas</i> (provided by BRAC) that face brand competition (%)						
	Faced such problem	Salt	Soap	Sanitary Napkin	Medicine	Contraceptives/ Birth control	Saline
All	36	1	10	1	23	3	5
Existing	38	1	8	2	26	4	5
New	34	2	12	0.2	20	2	5

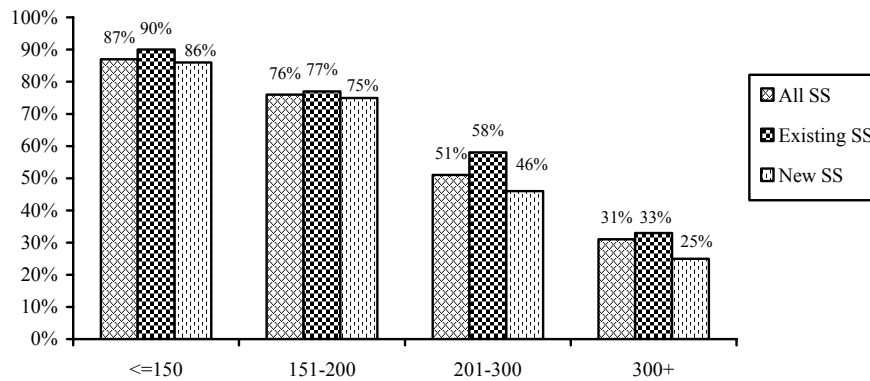
Shasthya Shebikas also faced such problem of brand preference while selling soaps, saline, and contraceptives/birth control materials.

A very small percentage reported lack of trust on BRAC as a reason why people did not want to buy health commodities from them and also the closer proximity of other pharmacies or the market to their clients compared to the *Shebika* herself.

Competition faced by different income groups

Figure 9 presents the situation of the *Shasthya Shebikas* facing problems due to competition among different income groups. The lowest income group had the highest percentage (87%) reporting such a problem, which was also true for both existing and new *Shasthya Shebikas*. *Shasthya Shebikas* belongs to successively higher income groups had lower percentages reporting such problem, both new and existing. Higher percentages among existing *Shasthya Shebikas* stated that their income was affected by competition compared to the new ones.

Figure 9. Percentage of *Shebikas* stating that their income is affected by competition, by income levels



Aspects of Shasthya Shebikas who did not face the problem of competition

Health infrastructure in the locality

As some *Shasthya Shebikas* mentioned that the health infrastructure in their areas affected their income, further exploration was also done for those who apparently did not report competition as a problem for selling health commodities (Table 21). It was found that these *Shasthya Shebikas* had a much poorer health infrastructure in their locality compared to those who complained about the negative effects of competition. A significant proportion of *Shasthya Shebikas* (36%) reported that the percentage of other health service providers such as pharmacies, village doctors, public hospitals, other NGOs is much less in the areas.

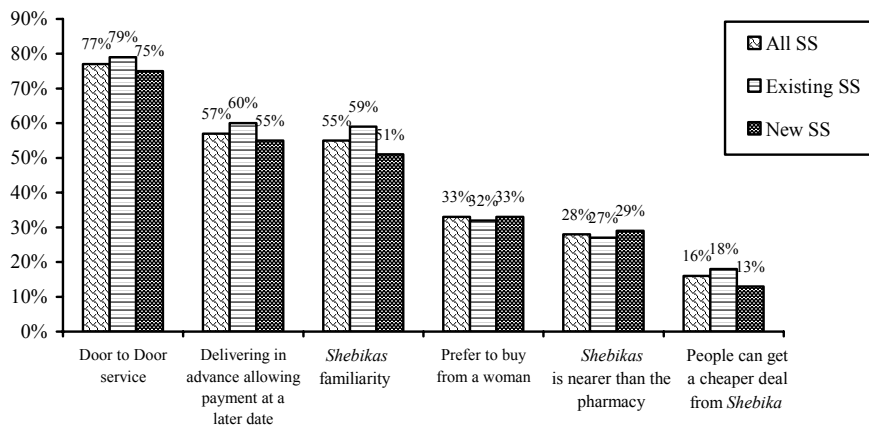
Table 21. Existence of different health service providers reported by *Shebikas* mentioning that competition did not affect their product sale

	% of <i>Shebika</i> reporting that competition doesn't affect their product sale		
	All SS	Existing SS	New SS
Pharmacy	58	62	55
Village doctor	42	49	35
Government hospital	8	9	8
Other NGO	4	6	2
Other <i>Shebikas</i>	0.6	-	1
Others	2	1	2
No competitors	36	33	38

Perceived factors for not facing any problem to sell their products

When asked about the reasons for enjoying an advantageous position in terms of selling health commodities compared to other existing health service providers (Figure 10), greater proportion of *Shasthya Shebikas*, both among the existing and the new, felt that providing door to door service (delivering at their doorsteps) was the reason why they were preferred to other similar service providers. *Shasthya Shebikas* also allowed their clients to pay for the commodity purchased/service taken from them at a later date, which encouraged their buyers to buy from them. This was practiced by a higher percentage of existing *Shasthya Shebikas* compared to that among the new ones. Since nearly 80% of the *Shebika* clients were female¹⁰ and due to the nature of some of the commodities (also see the client profile Table), they felt comfortable to buy products from the *Shasthya Shebikas*, being female sellers. This worked for both the existing and the new *Shasthya Shebikas*. Among other reasons, a reputation or ‘goodwill’ effect due to familiarity in the neighborhood, closer distance from clients as compared to the pharmacy/market and provision of a better deal in terms of relatively lower price charged to the clients of the products sold, encouraged people in the community to prefer *Shasthya Shebikas* over other local sellers/health service providers. Interestingly, there seemed to be a mutual buildup of faith and dependency between the *Shasthya Shebikas* and her clients as the *Shebika* trusted her clients with payments at a later date and also the clients trusted her for purchasing commodities.

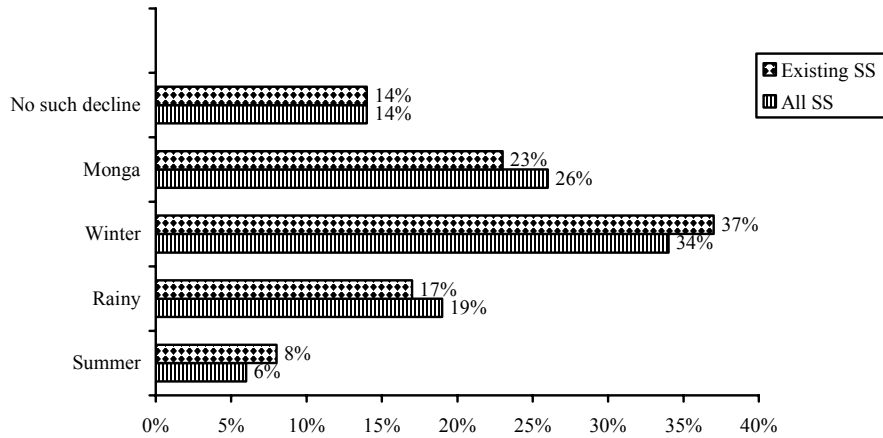
Figure 10. Reasons for advantageous position of SS in selling medicine and health products



¹⁰ See the client Table (Table 22)

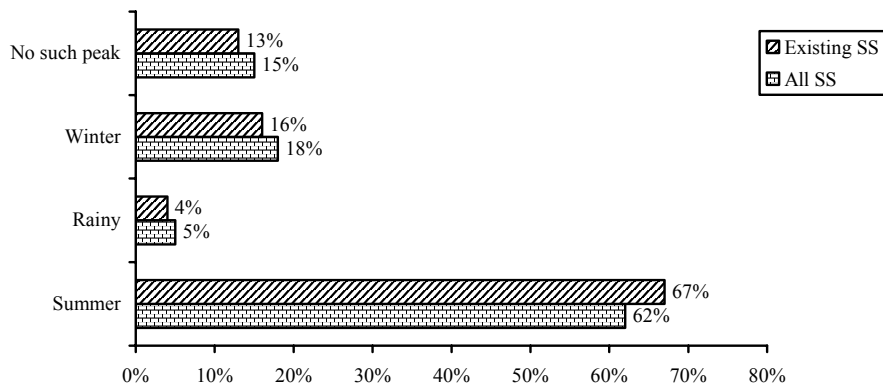
Income from *Shebika*'s work seems to be vulnerable to seasonal fluctuations over the year. Figure 11 shows that the time of the year during when income from work as a *Shebika* was distinctively the lowest was winter as reported by the majority of *Shasthya Shebikas*. On average, around 14% could not identify such a distinctive through season for their income.

Figure 11. Seasonality in *Shebika* earnings (Lowest Income)



On the other hand, Figure 12 shows that the time of the year during when income from work as a *Shebika* was distinctively the highest was summer as identified by majority of *Shasthya Shebikas*. On average, around 14% could not identify such a distinctive peak season for their income.

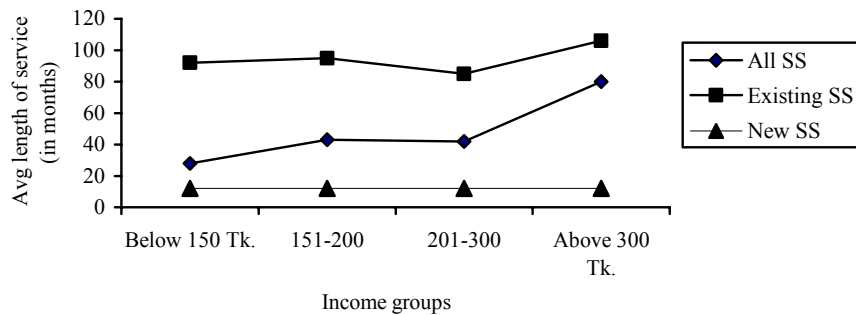
Figure 12. Seasonality in *Shebika* earnings (Highest Income)



Experience helps

The length of service or work experience as a *Shebika* seemed to have had a positive impact on the earnings generated from their activities. The following figure depicts the association between the income level of *Shasthya Shebikas*, all and by type of *Shasthya Shebikas*, and their average length of work experience as a *Shebika* in months. The figure below suggests a roughly positive relationship between the two. For the existing *Shasthya Shebikas*, the more the months of work experience i.e. the longer the length of service, the higher the level of income the *Shebika* had. However, there seemed to be no association between the two for the new ones.

Figure 13. Association between income groups and average length of service by *Shebikas*



V. Client profile of *Shebikas*

Though *Shasthya Shebikas* visit households to perform their duties and provide door-to-door service, people from the neighbourhood also seek their services by coming to their homes. In an attempt to get to know the clients of *Shasthya Shebikas* better, this section provides some background information regarding those who visited the *Shasthya Shebikas*. The Table below (Table 22) presents a profile of *Shebika*'s clients by their types just giving some basic information on the clients who visited the *Shasthya Shebikas* households to access health services provided by them. The *Shasthya Shebikas* were asked to report some specific information such as, the sex, regularity, BRAC VO membership of the client/client's family, etc and the type of problem for which they sought help and the type of products purchased from the *Shebika* about the last seven patents/clients who visited their households for health related service. The economic status of the clients was classified into four groups from the perspective of the *Shebika* – very poor, poor, moderately poor, well off and it was left to the *Shasthya Shebikas* to determine in which of these groups her clients belonged to.

Table 22. An overview of clients who visited *Shebika*'s household: Client profile (%)

<i>Shebika</i> (by type)	Sex		Regularity	Economic Status			BRAC VO membership	
	Male	Female		Extreme poor	Poor	Moderate poor		Well off
New	22.60	77.40	91.98	26.85	46.68	21.87	4.60	38.33
Existing	20.46	79.54	93.17	27.75	44.17	23.01	5.07	42.77
All	21.73	78.27	92.46	27.22	45.65	22.33	4.79	40.14

Shasthya Shebikas clients were mostly females, and more female clients visited existing *Shasthya Shebikas* compared to new ones. Around 93% of the clients who visited them were regular. Clients from different economic backgrounds utilized services provided by the *Shebika*.

Majority of the *Shebika* clients were poor, but around 5% of the people from well-off households also visited the *Shebika*. There also seemed to be a reputation effect for the existing *Shasthya Shebikas* as a higher percentage among the relatively better-off clients went to them. Interestingly, according to the *Shasthya Shebikas* herself, around 38% of the new *Shasthya Shebikas*' clients were BRAC village organization members, whereas around 43% of the old *Shebika* clients were such.

This section also helps provide an insight into the kind of problems that had brought clients to the *Shebika*'s households i.e. the types of services for which people relied on the *Shebika* for help. Table 23 presents an overview of the common diseases/problems and commodities purchased for which clients visited *Shebika* households as reported by the *Shebika*. The common complaints for which the clients came to the *Shebika*'s household were anemia, common cold/fever, diarrhoea, weakness etc. The products that were bought by clients from the *Shasthya Shebikas* were mostly medicines. They also purchased saline, pills and soap.

Table 23. Profile of services and products demanded by *Shebika* clients**a. Diseases/problems (%)**

Name of disease/Problems	All SS	Existing SS	New SS
Anaemia	22	22	22
Common cold	11	11	12
Peptic ulcer	6	6	6
Worm	2	2	
Diarrhoea	14	14	15
Dysentry	6	7	6
Skin disease	2	2	2
Weakness	15	14	15
Oral infection	2	2	1
Stomach pain	3	3	3
Fever	8	9	8
Other (gynaecological problems, pregnancy related problems, pneumonia, checkup, fileria, eclampsia)	2	2	2
To buy health commodities	7	8	7

b. Products purchased (%)

Name of Products purchased from <i>Shebikas</i>	
Medicine	82.1
Saline	13.5
Pill	3.3
Salt	1.8
Soap	1.2
Other (sanitary napkin, condoms, delivery kits)	1.2

Perceived incentives to improve *Shebika* income

Shasthya Shebikas felt that certain incentives, if provided by BRAC, could potentially improve their performance as *Shasthya Shebikas*. These are presented in Table 24.

Perceived incentives from BRAC for better performance

The most preferred incentive reported by the *Shasthya Shebikas* (around 96%), irrespective of their type, was to receive a fixed salary from BRAC for their work. Other monetary incentives expected were travel allowances, preferential access to loans, reduction in the price of medicines that they purchase, etc. The most preferred non-monetary incentive demanded by the *Shebika* was an umbrella which would help them work in sun or rain---thus increasing mobility. Other desired utilities such as bags, trunks for safe storage of health products, bicycles which would increase mobility and save time, mobile phones, etc. Forms

of recognition such as uniforms, certificates were also mentioned. Medical instruments mentioned included blood pressure measuring machine, thermometer, gloves, lights, etc. Some of them also wanted productive assets such as cows, sewing machines, tubewells, etc.

Table 24. *Shebika's* perception about incentives to be provided by BRAC for better performance (%)

Incentives mentioned by the <i>Shebikas</i>	Existing SS	New SS
Fixed Salary	96	95
Umbrella	33	30
Trunk	7	8
Asked for more medicine	7	3
Bag	6	2
Light	3	3
Cow (productive asset)	4	1
Reduction in medicine price	1	3
Travel allowances	2	2
Preferential access to loan	1	2
Other	7	4

*Reported figures are column percentages

**These are multiple responses

Training expected from BRAC

The following Table (Table 25) presents a list of the different types of training that *Shasthya Shebikas* expected from BRAC. These included training on how to measure blood pressure and push injections or saline, take temperature, and even treat illnesses like jaundice, pneumonia, diabetes, etc. Existing *Shasthya Shebikas* (51%) appeared to be more demanding of additional training requirements compared to new *Shasthya Shebikas* (32%). The new *Shasthya Shebikas* appeared to be more interested in taking training on how to provide midwifery services and treat diseases like pneumonia, diabetes and filaria. Training on diseases¹¹ such as leprosy, filaria, TB etc was also mentioned by the *Shasthya Shebikas*.

¹¹ It was not mentioned whether the training was on detecting or treating these diseases.

Table 25. *Shebika's* perception about required training other than those provided by BRAC (% of those who reported training was required)

Different types of training	All SS	Existing SS	New SS
Percentage of <i>Shasthya Shebikas</i> who wanted training	40	51	32
Blood Pressure measure	30	37	23
Injection Push	25	30	22
Treatment of Jaundice	22	24	19
Service of Midwife	18	15	21
Saline Push	9	10	7
Checking temperature/fever	8	8	8
Treatment of Pneumonia	8	6	9
Treatment of Diabetics	4	3	9
Treatment of Skin Disease	2	2	2
Treating for Arthritis	1	0	1
Treating Typhoid	2	3	1
Treating Gynecological problems	2	2	2
Treating Filariasis	2	2	3
Treating Tuberculosis	2	2	1

** This Table includes multiple responses

Interestingly, the average income of *Shasthya Shebikas* demanding a variety of training was found to be Tk. 347, which was significantly higher compared to that of *Shasthya Shebikas* (Tk. 225) who did not perceive other types of training as necessary.

Health commodities that may improve earnings for the Shebikas

When asked, *Shasthya Shebikas* also mentioned a list of health commodities that they purchased from outside BRAC, the sale of which generated extra earnings for them. Around 11% of the existing *Shasthya Shebikas* and 5% of new *Shasthya Shebikas* were found to buy medicine from outside. Among the medicines bought, the most common ones reported by the *Shebika* were Diclophen (2.5%), Renitid (1.3%), Femicon (1%), Tasty Saline (1%), Dispirin (1%), Napa (1%), etc. The existing *Shebikas* reported collecting mostly Diclophen (4%), Renitid (2%), Femicon (1%), Minicon (1%), Tasty Saline (1%), Sukhi birth control pills (1%), T.C. Capsule (1%), Napa (1.3%), Tetracyclin (1%) etc. The ones that new *Shasthya Shebikas* reported to be buying from outside mainly Diclophen (1%), Renitid (1.7%), Tasty Saline (1%), etc. Not only the percentage of the existing *Shebikas* who reported buying from outside higher compared to the new ones, but they were also found to purchase wider variety of health commodities from outside BRAC.¹²

¹² Results not shown

Brand preferences

Shasthya Shebikas purchase health commodities and medicines of certain brands from BRAC at a lower cost than the market rate and then keep a margin when they sell these to clients of health services. However, some *Shasthya Shebikas* faced problems in selling these products because their clients preferred other brands for the same medicine or health commodity than the ones BRAC provided them with.

Table 26 presents a list of commodities and different brands that were in high demand by community people as perceived by *Shasthya Shebikas* and were reported by them as having a good sale potential. Around 36%¹³ of all *Shasthya Shebikas* reported facing such problems of brand preference by the clients.

Table 26. Preferred brands by the clients for medicines and health products sold by *Shebikas* (%)

Health Commodities	All SS	Existing SS	New SS
Medicine for Hand/foot inflammation	1	2	1
Tasty saline/Oral saline	19	21	18
Lux/Keya Soap and Wheel Laundry Soap	24	18	29
Birth Control Injection	8	10	7
Diclophen	19	20	17
Medicine for Arthritis Tablets	6	10	3
Calcium	5	3	7
Dispirin	4	1	7
Salt	2	1	3
Renitid	11	14	9
Napa	16	16	17
Blood pressure medicine	1	1	2
Neotac	4	6	2
Femicon	1	1	1
Asthma	2	2	3
Shukhi Birth Control	5	6	5
Moxacil	3	5	0
Butapen	1	1	0
Kotrim	5	5	5
Renitidin	5	7	3
Cinkora	1	2	1
Saline (To be injected)	1	2	0
Eye drop	1	1	1
Tetracycline	1	0.5	1
Vitamin File	1	0	2
Renidin	1	0.5	1
Other company	2	1	4

Multiple responses

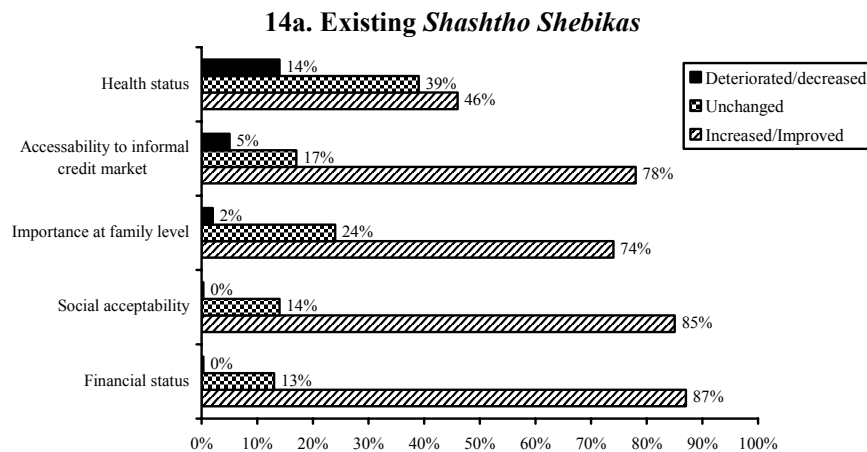
¹³ Please see Table 20

Around 60% of the existing *Shasthya Shebikas* mentioned that selling preferred brand products would raise their sales and 49% of the new *Shasthya Shebikas* also said the same.

Shebikas’ perception on the impact of work as Shebika on their own lives

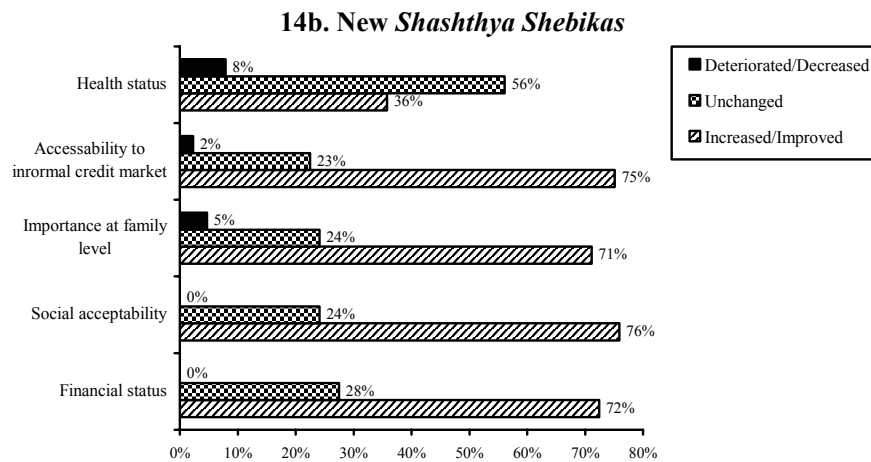
This section describes and compares the perceptions of existing and new *Shasthya Shebikas* on changes in different dimensions of their own lives, such as health status, access to the informal credit market, importance at family level, social acceptability and financial status which may be attributed to their work as a *Shebika*.

Figure 14 a. *Shebika’s perception of changes in their own lives after becoming a Shebika*



Both types of *Shasthya Shebikas* were positive about the impact that the *Shebika* work had on their lives, as most of them perceived that the situation had improved. However, compared to new *Shasthya Shebikas*, the existing ones seemed to be more optimistic about their financial status and social acceptability (or recognition). A higher percentage among the existing *Shasthya Shebikas* thought that their family members now valued them more than before and that people trusted them more giving a more favorable access to informal credit. Together these show that being in the profession for a longer time period may have created a reputation (trust or appreciation) for the *Shebika* which may have contributed to a relatively more favorable position in the society. Interestingly, though quite small, a percentage of *Shasthya Shebikas*, more among the new than the existing, believed that they are now less appreciated by their families due the nature of their work and also that their work had a negative effect on their health

status because of the mobility required to carry out the activities or duties of a *Shebika*.



Exploring the important factors affecting the income of *Shebikas*

In order to investigate the factors that affect the turnover from work as a *Shebika*, an Ordered Probit Regression Model has been used which uses income level as the dependent variable divided into four groups, group 1: Less than Tk. 150 per month, group 2: Tk. 151-200 per month, group 3: Tk. 200-300 per month and finally, group 4: Tk. 300 per month. Since the dependent variable, income groups has an ordering an ordered probit model is used here.

This section presents the findings from the regression analysis, which considers a wide variety of independent variables listed below in the regression Table. Table 27 shows the independent variables and coefficients along with their statistical significance for the sample of *Shashthya Shebikas* and then by breaking down between existing and new *Shashthya Shebikas*. The independent variables used in the regression model include both dummy and continuous variables. The dummy variables were created based on whether certain characteristics held for the *Shashthya Shebikas* or not to find the impact on their income. A wide range of demographic and economic characteristics for *Shashthya Shebikas* and their households was incorporated as explanatory variables. The list of confounding variables includes *Shashthya Shebikas*' age (and age-squared), household size, education level, VO membership, experience of paid work before being a *Shebika*, motivation level, family attitude, number of children aged two years or less, exposure to competition, length of service, etc. Quite a few variables were found to be statistically significant which are mentioned below.

Table 27. Regression analysis-ordered probit model

	All SS		Existing SS		New SS	
	Coef.	P>z	Coef.	P>z	Coef.	P>z
<i>Age of Shebika=35 years(mean)</i>	0.045	0.191	-0.028	0.695	0.059	0.201
<i>Age-squared of Shebika</i>	-0.001	0.2	0.0002	0.833	-0.001	0.256
<i>Household size of Shebika</i>	0.041*	0.084	0.032	0.458	0.059**	0.049
Had children less than two years of age (1=yes, 0=no)	-0.171	0.298	-0.264	0.391	-0.333*	0.105
Considered work as a <i>Shebika</i> among her main two daily responsibilities	0.084	0.345	0.225*	0.114	0.059**	0.618
VO member (1=yes, 0=no)	0.239**	0.013	0.196	0.247	0.199*	0.097
Was not Involved with only homebased income earning activities before becoming a <i>Shebika</i>	0.164	0.268	0.275	0.202	0.078	0.719
Was involved in paid work before becoming a <i>Shebika</i>	-0.028	0.8	-0.080	0.635	-0.096	0.545
Training received from outside BRAC	0.383**	0.003	0.650***	0	0.002	0.992
Considers their work as <i>Shebika</i> essential to run family	0.286**	0.002	0.544**	0.001	0.127	0.288
Buys health commodities from outside BRAC for sale	0.3*	0.08	0.395*	0.134	0.196	0.42
Faces no competition	0.346**	0.003	0.357*	0.061	0.425***	0.007
<i>Shebika</i> is household head	0.385***	0	0.312**	0.052	0.332**	0.024
Has Family support	0.401***	0	0.176	0.261	0.595***	0
Involved with only homebased income earning activities other than <i>Shebikas</i> work at present (1=yes, 0=otherwise)	-0.166	0.24	0.0123	0.952	-0.314	0.133
Involved in paid work (1=yes, 0=otherwise)	-0.082	0.493	0.080	0.657	-0.130	0.435
Education level (Class I-V) (1=yes, 0=otherwise)	0.186*	0.083	0.106	0.544	0.233*	0.101
Education level (Class VI and above) (1=yes, 0=otherwise)	0.067	0.573	0.074	0.701	0.058	0.71

(Table 27 continued...)

(Table 27 continued...)

Perceived financial status (1=deficit, 0=otherwise)	-0.402***	0	-0.512***	0	-0.373***	0.001
Perceive additional training as necessary (1=yes, 0=otherwise)	0.3***	0.001	0.293**	0.044	0.228*	0.065
Number of household under <i>Shebika</i> 's responsibility	0.001*	0.066	0.008***	0	0.001	0.574
Length of service as <i>Shebika</i>	0.006***	0	0.002*	0.095	0.007*	0.087
Aware of brand competition (1=yes, 0=otherwise)	0.210***	0.016	0.132	0.355	0.305***	0.007
Pseudo R square	0.13			0.13		0.09
N		750		302		448
		LR		LR		LR
		chi2(23)		chi2(23)		chi2(23)
		= 265.49		= 100.17		= 110

Note: * Significant at 10% level
 ** Significant at 5% level
 *** Significant at 1% level

The findings show that overall, the larger the *Shebika's* household, the more likely she is to have a higher level of income as a *Shebika* which probably stems from their sense of responsibility towards their households. Being a BRAC village organization member and receiving training from outside BRAC help *Shasthya Shebikas* earn a higher income. Those who believe that their work as a *Shebika* is an essential source of income to run their family tend to have higher earnings as they depend on it as a means to run their families. Buying health commodities from outside BRAC supplements those supplied by BRAC and generates more earnings, and therefore, more motivation to continue work as *Shasthya Shebikas*. They are also likely to earn more in areas where the health infrastructure is poor and there is not much competition from other health commodity sellers or health service providers. *Shasthya Shebikas* who are household heads are more likely to belong to higher income brackets and those who have approval and a supportive environment from their families also tend to earn more. Being educated seems to help but the relationship was not significant at higher levels of education. Against those who thought that it would be helpful if they could receive a wider variety of training from BRAC seem to be highly motivated as they were more likely to belong to a higher income group. However, there was found to be a significantly negative relationship between the perceived financial status and income, as those from a household running deficit is less likely to have a high level of income compared to those who perceived themselves to be from a better financial status. This may be explained by the fact that *Shasthya Shebikas* from worse off households probably had a less conducive environment or lesser means to generate income from work as *Shebika*. The higher the number of households for which the *Shebika* is responsible, the more likely is she to have a higher income level which is plausible as this broadens the base of her income. Work experience is also found to be a contributing factor to high income for *Shasthya Shebikas* as the longer the length of her service, the higher the probability of her belonging to a higher income group. Awareness of the preference of clients for specific brands also seems to be significantly positively associated with the income level of a *Shebika* in general.

When broken down by the type of *Shebika*, it was found that the factors that significantly worked towards generating higher income levels for existing *Shasthya Shebikas*, but not the new ones, were opting for external training, awareness of brand competition, buying health commodities from outside what BRAC supplies, number of households under her responsibility, perception of *Shasthya Shebikas* work as essential in running family, etc. Factors that are found to work for new *Shasthya Shebikas* were VO membership, awareness of brand competition, larger household size, and a supportive family environment.

Summarizing, factors that are found to significantly affect the *Shasthya Shebikas'* income are presented in the Table below (Table 28).

Table 28. Factors that significantly affect income of SS

	<i>Shasthya Shebikas</i>		
	All	Existing	New
VO member	***		***
Length of service as <i>Shebika</i>	***	***	***
Training received from outside BRAC	***	***	
Perceive additional training as necessary	***	***	***
Aware of brand competition	***		***
Buys health commodities from outside BRAC for sale	***	***	
Faces no competition	***	***	***
<i>Shebika</i> is household head	***	***	***
Considered work as a <i>Shebika</i> among her main two daily	***	***	***
Number of household under <i>Shebika</i> 's responsibility	***	***	
Household size of <i>Shebika</i>	***		***
Considers their work as <i>Shebika</i> essential to run family	***	***	
Has Family support	***		***
Perceived financial status (If deficit)	***	***	***

Note: * Significant at 10% level
 ** Significant at 5% level
 *** Significant at 1% level

While the coefficients of the Ordered Probit Regressions give the direction of influence of the variables, the values are not readily interpretable. This is because such model assumes a latent variable and explains the relation with that variable. Therefore, predicted values are often used to interpret the outcome. For this purpose, a positive base case is constructed for the *Shasthya Shebikas* where we consider the best possible situation conducive towards *Shebika* income. Then disadvantages are added to the base case and the probability is estimated. The best possible base case situation and the associated findings are presented below (Table 29).

Table 29. Situation 1

IF	THEN
<ul style="list-style-type: none"> ◆ Age of <i>Shebika</i>=35(mean) ◆ Age-squared of <i>Shebika</i>=1342(mean) ◆ Household size of <i>Shebika</i>=5 ◆ No child less than two years of age ◆ Considers work as a <i>Shebika</i> among her main two daily responsibilities ◆ VO member ◆ Involved with only homebased income earning activities before becoming a <i>Shebika</i> ◆ Involved in paid work before becoming a <i>Shebika</i> ◆ Received training from outside BRAC ◆ Considers their work as <i>Shebika</i> essential to run family ◆ Buys health commodities from outside BRAC for sale ◆ Doesn't face any competition ◆ <i>Shebika</i> is household head ◆ Has Family support ◆ Not Involved with only homebased income earning activities ◆ Not Involved in paid work ◆ Education level (Class VI and above) ◆ Perceived financial status is there is no deficit ◆ Perceives additional training as necessary ◆ Number of household under <i>Shebika</i>'s responsibility was 180 ◆ Length of service as <i>Shebika</i> is 50 months ◆ Aware of brand competition 	<ul style="list-style-type: none"> ◆ The probability of falling into income group 1 (monthly income less than 150 Taka) is 0.01% ◆ The probability of falling into income group 2 (monthly income 151-200 Taka) is 0.08% ◆ The probability of falling into income group 3 (monthly income 201-300 Taka) is 0.09% ◆ The probability of falling into income group 4 (monthly income above 300 Taka) is 90%

Using estimates of the first regression, such a *Shebika* has only 0.01% probability of having an income level of less than Tk. 150 and 90% probability of falling into the highest income group of Tk. 300 and above (Table 27).The regression findings for the alternative situation are presented below in Table 30.

Table 30. Situation 2

IF	THEN
<ul style="list-style-type: none"> • Age of <i>Shebika</i>=35(mean) • Age-squared of <i>Shebika</i>=1342(mean) • Household size of <i>Shebika</i>=3 • Has children less than two years of age • Doesn't consider work as a <i>Shebika</i> among her main two daily responsibilities • Not a VO member • Not Involved with any income generating activities before becoming a <i>Shebika</i> • No training from outside BRAC • Does not consider their work as <i>Shebika</i> essential to run family • Does not buy health commodities from outside BRAC for sale • Faces competition • Not a household head • Less Family support • Involved with only homebased income earning activities other than SS work • Involved in paid work other than SS work • Illiterate • Perceived financial status is there remains deficit • Doesn't perceive additional training as necessary • Number of household under <i>Shebika</i>'s responsibility is 140 • Length of service as <i>Shebika</i> is 12 months • Not aware of brand competition 	<ul style="list-style-type: none"> • The probability of falling into income group 1 (monthly income less than 150 Taka) is 91% • The probability of falling into income group 2 (monthly income 151-200 Taka) is 6% • The probability of falling into income group 3 (monthly income 201-300 Taka) is 2% • The probability of falling into income group 4 (monthly income above 300 Taka) is 0.01%

Using estimates of the second regression, such a *Shebika* now has a 91% probability of having an income level of less than Tk. 150 and only a 0.01% probability of falling into the highest income group of Tk. 300 and above (Table 28).

Discussion

This study highlights certain factors related to the income earning mechanism of the *Shasthya Shebikas* working in the *Nilphamari* district. These factors also influenced their incentive or motivation level, thereby creating an impact on their performance as *Shebika*. To summarize, the motivation to become a *Shasthya Shebika* was mainly financial though the opportunity to provide socially beneficial services was also an important factor for some of the *Shasthya Shebikas*. However, no matter what their motivation was and how strong, support from the family especially the spouse was important for sustainability of the *Shasthya Shebikas*. This was not always forthcoming as desired which may have affected their performance and motivation. The *Shasthya Shebikas* recognized the positive impact of the SS work on their lives as observed earlier (Mahbub 2000).

Ideally, *Shasthya Shebikas* can only be selected from among the BRAC village organization members. However, it was found that this was not always followed for a number of reasons such as the urge to start the programme as early as possible and shortage of the pool of eligible women. Also, the current average monthly income of the *Shasthya Shebikas* did not always provide sufficient incentive to continue their work or remain exclusively engaged in this work.

Among the factors found to significantly affect the *Shebika's* income were also the difficulty in selling health products due to competition from other health service providers in the locality, length of service or work experience as *Shebika*, vulnerability to uncertainty or instability in earning from *Shebika* work due to seasonal fluctuation, utilization of training external to BRAC, brand preference expressed by clients (that *Shasthya Shebikas* don't sell as BRAC supplies them with a different brand) and a wider number of services that could potentially be provided by them. Similar findings were also noted in another study on SS work for the ultrapoor (Tasneem 2007). Among others, the long felt need of the *Shasthya Shebikas* to be trained in basic clinical competence such as that of a village doctor or even a midwife was pretty much evident from the findings of this study.

In conclusion, it can be said that though the overall picture was quite optimistic, the *Shasthya Shebikas* newly recruited under the MNCH program were in a disadvantaged situation than the existing *Shasthya Shebikas* who were already working in that area.

Policy implications

Based upon the findings from this exploratory study, following suggestions are made which may contribute positively towards creating an enabling and encouraging scenario for the *Shasthya Shebikas* working in the *Nilphamari* district:

- Efforts and time are needed for recruiting women with some social work motivation to work as SS
- Efforts are needed to secure *Shebika's* family approval for support and sustainability of the *Shasthya Shebikas'* work
- To ensure financial benefits of VO membership to all the SSs which acts as an additional incentive, especially for the new *Shasthya Shebikas*
- Measures should be taken to facilitate increase in *Shebika's* income; supplying brands that are high in demand by clients may be an option
- Including some clinical skill training (e.g., Temp. and BP measurement), if possible, SS training will enhance their credibility before the villagers
- Measures to familiarize the SS in the community through advocacy work; other programme people may help by increasing inter-programme coordination and collaboration

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