

2018

**End line assessment of GSK supported Community Health workers (CHW) initiative in Sunamganj district, Bangladesh**

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## Executive summary

**Background and objective:** In spite of improvement in maternal and child health, Sylhet division continues to have the poorest indicators in Bangladesh. Higher mortality for both mother and child and poor utilization of healthcare services still exist in Sylhet division. Sunamganj is one of the remotest areas in Bangladesh and belongs to the Sylhet division having the poorest maternal and child health status. Since December 2012, CARE Bangladesh together with GSK and other key stakeholders has been implementing a Community Health Workers (CHWs) Initiative, which aims to address the lack of skilled human resources in remote and underserved areas of Sunamganj district. The overall goal of the CHW initiative is to improve maternal and child health outcomes in underserved/remote and poor communities of Bangladesh by increasing their access to quality health care services. Through a unique model of Public-Private partnership (PPP), the project developed 319 Private CSBAs who are providing maternal and child health services including primary treatment of Non Communicable Diseases (NCDs) like diabetes and hypertension in the entire Sunamganj district. To do a robust measurement in terms of assessing maternal, neonatal and child health (MNCH) related knowledge and practices as well as documentation of learning of this innovative initiative, icddr conducted a baseline study in 2012 and an end line assessment in 2018.

**Methods:** We conducted a household survey among the women who had at least a child birth in the last two years period prior to conducting interviews in the study area. Baseline data were collected during October to December 2012 and end line data were collected during August-November 2018 in Sunamganj district considered as the intervention area and Kishoreganj district considered as the comparison.

**Results:** Knowledge about almost all family planning methods increased considerably in the intervention area compared to the comparison. We found a huge increase in birth registration from baseline to end line (33% VS 72%) in the intervention area compared to the comparison area (40% VS 56%). A dramatic increase was shown in terms of attendance to birth preparedness sessions from baseline (9%) to end line (50%) in the intervention area compared to the comparison area (Baseline 16% VS End line 19%). Eighty-four percent of respondents received at least one antenatal check-up in their last pregnancy which was 60% in baseline for the intervention area where the change was 82% from 71% in the comparison area. Four or more than 4 antenatal care (ANC) visits increased from baseline to end line with a high rate in the intervention area (14.5% to 34%) compared to the comparison area (18% to 28%). At least one ANC received from a medically trained provider increased in the intervention area (43% to 60%) since baseline to end line while it was unchanged in the comparison area (56%). A similar trend was found in the reduction of home delivery in both the intervention (86% to 71%) and comparison areas (80% to 66%). Delivery conducted by a skilled provider increased at a high rate in the intervention area (13% to 37%) compared to the comparison area (21% to 36%) where 10% of the contribution was made by Private CSBA in the intervention area. Overall rate of receiving postnatal care (PNC) was not significantly increased but it was little higher in the intervention area (38% to 44%) than the comparison area (31% to 33%). First PNC provided by a medically trained provider within two days of delivery increased since baseline to end line at a high rate in the intervention area (9% to 30%) compared to the comparison area (15% to 28%). Good practices regarding newborn and child care also increased over time. Practice on timing of 1<sup>st</sup> bathing for a newborn not before 72 hours of delivery increased at a little high rate in the intervention area (50% to 71%) than the comparison area (34% to 50%). A similar trend was shown in colostrums feeding and cord care practices. Neonatal mortality decreased over time in both the intervention and comparison areas with a little higher rate in the intervention area. In the intervention area, neonatal mortality decreased from baseline (42) to end line (31) per 1000 live births where it was 37 to 29 in the comparison area. A similar trend was found in infant mortality rate and it was 78 to 48 in the intervention area and 60 to 38 in the comparison area. Consequently, under-five mortality rate also reduced since baseline to end line with a higher rate in the intervention area over the 6-7 years period. For the intervention area, it was 97% to 49% and in the comparison area it was 76 to 45. Seventy-seven percent of women reported that the quality of service provided by Private CSBA was good. Around 51% of women said that Private CSBA took a reasonable amount of money after providing services. Women as the main decision maker to seek health care for her illness remained unchanged from baseline (6%) to end line (6%) in the intervention area.

**Conclusion:** Despite a little bit slow progress in some indicators, almost all indicators related to MNCH improved a lot from baseline to end line over time. Changes in the intervention area were found to be higher improvement compared to the comparison area where Private CSBAs have contributed significantly. This approach can be scaled up especially in the remote settings with some modifications or adjustments based on programmatic gaps as appropriate to further improve the maternal and child health situation in Bangladesh.

## Chapter-1

### Project Background

GlaxoSmithKline (GSK) has established a new corporate community investment initiative in partnership with three international NGOs including CARE to strengthen community health systems in Least Developed Countries in which GSK operates profitably. Since December 2012, CARE Bangladesh, together with GSK and other key stakeholders have been implementing a Community Health Workers (CHWs) Initiative which aims to address the lack of skilled human resources in remote and underserved unions of Sunamganj district. The overall goal of the CHW initiative is to improve maternal and child health outcomes in underserved/remote and poor communities of Bangladesh by increasing their access to quality health care services. The initiative aimed to address the lack of skilled human resources in the remote and underserved 50 unions of Sunamganj district through an innovative Public-Private partnership (PPP). Based on project successes, recommendation and interest from the local district/sub-district health authorities and Ministry of Health and Family Welfare (MoHFW), the initiative has been expanded to the remaining 37 unions to cover all 87 unions of Sunamganj district from the year 2015 to 2018. Through a unique model of PPP, the project developed 319 Private CSBAs who are providing maternal and child health services including primary treatment of Non Communicable Diseases (NCDs) like diabetes and hypertension in the entire Sunamganj district. As CARE, GoB and other stakeholders have given emphasis for a robust measurement and documentation of learning of this innovative initiatives, icddr,b worked in collaboration with CARE Bangladesh since the beginning of the project in 2012.

CARE Bangladesh joined the community, the local government and the Ministry of Health and Family Welfare (MoHFW) recruited Private CSBAs in Sunamganj district with a view to addressing the human resource gap in health sector in Bangladesh. Private CSBAs have been trained for 6 months as per WHO and MoHFW accredited Skilled Birth Attendant (SBA) training followed by 3 months on job training. They are trained as per government CSBA program (6 months residential training) by OGSB which is Govt. accredited. Trainers were provided ToT by the government system. Besides, they are also trained on Primary Health Care (PHC) for one week, Community Integrated Management of Childhood Illness (C-IMCI) for 5 days and Health Management Information System (HMIS) and reporting for two days. As per their job profile, the Private CSBAs do some regular activities such as: pregnancy identification and registration; conduct normal vaginal delivery; provide ANC and PNC; provide Essential Newborn Care (ENC) and C-IMCI. Private CSBAs refer women and children to different health facilities to ensure Emergency Obstetric Care (EmoC) and emergency child care. The performance of Private CSBA is ensured by regular quality assurance visit using checklist, bi-monthly refreshers training through establishing skilled lab at sub district hospital and reviewing monthly joint performance at Family Welfare Centre (FWC) and Upazilla Health Complex (UHC). To make this initiative sustainable, the program adopted different approaches where engagement of local government and promotion of social entrepreneurship are playing the major role. Private CSBA usually get service charge (where possible) from the community as per service price set by the local government authority (UP Chairman, members, etc.). Preliminary observation, monitoring data and based on their training and skill created an opportunity to explore some additional service items that can be provided by the Private CSBA.

The CHW initiative of CARE Bangladesh can be regarded as a potentially sustainable maternal, newborn and child health care project that can be replicated in geographically difficult districts of Bangladesh. The mainstay of the project is to deliver a package of evidence-based and high impact interventions through a public-private partnership. Therefore, there is a need to utilize lessons learnt from this community based intervention project.

### Objectives of the study

#### Specific objectives of the study:

1. To assess the changes in MNCH related knowledge and practice indicators since baseline to end line in both intervention and comparison areas
2. To estimate the early child mortality and compare since baseline to end line in both the areas
3. To determine the effect of 'CARE-GSK-CHW' intervention in compare to comparison area over the time

## Chapter-2

### Research Design and Methods

This was a pre post cross-sectional study and we applied quantitative research methods. We conducted household questionnaire survey as appropriate to meet the research objectives. We conducted baseline survey during October to December 2012 and end line survey during August to November, 2018 in both intervention and comparison areas. Sunamganj district was intervention area where CARE Bangladesh implemented the 'CARE-GSK-CHW Initiative' from 2012-2018. We considered Koshorganj as comparison area because of having some sort of similar characteristics with the Sunamganj district. We applied multistage cluster sampling procedure to conduct the survey. We randomly selected 10 upazilas in each district then we did another randomization to select unions from selected upazillas and finally we randomly selected desired number of villages from selected unions. Women who had delivery outcomes of live baby in last 2 years prior to data collection were selected for the survey. We recruited all eligible women from the finally randomly selected each village using Probability Proportional to Size method. Interviewers visited every household and eligible participants were identified and interviewed after obtaining their written consent. During home visit if any eligible woman is reported as being absent then data collectors tried at least two more times to reach them to interview her.

### Sample Size

Based on the recent prevalence data of several outcomes and impact indicators proposed by the intervention, we used the statistical method to calculate the sample size needed to detect a 30% to 50% improvement in indicators. To ensure enough sample size we considered neonatal mortality indicator which indicated highest number sample size among all other indicators. We assumed 40% reduction in neonatal mortality since baseline to end line for the sample size calculation. Based on the above formula and confirming the level of statistical power @ 80%, 3274 mothers were needed at end line to assess the change in the indicators that was least known at baseline. As this survey uses cluster sampling approach, design effect is needed to be accounted in sample size calculation. Design effect was calculated as 1.03 and sample size becomes 3372 ( $3274 \times 1.03$ ). Cluster size in our setting was 27 ( $3274/120$ ). Thus, design effect was calculated as 1.03 and sample size becomes 3372 ( $3274 \times 1.03$ ). With a 5% non-response rate, the sample size was 3540 in each area (intervention and comparison areas). With the above calculation, a total of 7080 ( $3540 + 3540$ ) samples were required for conducting the end line survey including Intervention and control areas. We performed Probability Proportional to Size (PPS) sampling to recruit villages (cluster). Finally, we were able to complete 3599 interviews in the intervention area and 3602 interviews in the comparison area. Sample sizes were little more than the desired size as we had to cover each household from the randomly selected clusters.

### Sample size for baseline and end line at a glance

Study area	Sample size was at baseline	Sample size was at end line
Intervention area: Sunamganj District	996	3599
Comparison area: Kishoreganj District	982	3602

### Data Analysis

At the time of data collection, a database template was designed to enter all the quantitative data. SQL (Version-8)/Dot net (Version-10) software was used as appropriate. Expert data management assistants entered all the data and they were responsible for cross-checking, editing, and labelling the study variables. We performed descriptive statistical analysis to measure the socio-demographic characteristics of the intervention and comparison groups between the baseline and end line. Mean and frequencies were computed for continuous and categorical variables respectively and 95% confidence interval was considered for two side p value estimation at 5% significance level for all statistical inference. We performed Difference-in-Differences (DID) analysis for each indicator to see the effect of intervention that includes the time effect. We performed covariate adjustment based on significant exploratory variables including age, education, religion, parity, wealth index. Cluster adjustment was considered during the analysis. The analysis was performed using the statistical software package STATA (13.1).

### Ethical Assurance for Protection of Human rights

We conducted household questionnaire survey with community women who had delivery outcomes of live baby in last 2 years prior to data collection. All the study participants we mentioned had no minimal risks in our study. All the participants were explained about the background of the study, the reasons for selecting the respondents and expectation from the participants. After that the participants were asked for written consent prior to the interviews. We interviewed only when we obtained their consent. Participation in the interview was completely voluntary.

Participants had every freedom to stop interview without any obligation during discussion or interview if they felt uncomfortable at any stage during the interviewing process. Privacy, anonymity and confidentiality were maintained strictly. Participants were assured that their participation and all information given by them would be kept strictly confidential and anonymous. The data were kept under the confidential and strict supervision of the head of the project under lock and key. None other than the investigators of this research had an access to the information. Any personal information related to identity of the informant was kept completely secret. In reports, only aggregated information were presented, no individual information were reported. We made clear that there would be no direct benefits to study participants. Participants would be able to talk to any of our project staff if they want and we would be obliged to answer any questions. Arrangements for the place of interview or discussion were ensured according to participant's choice so that they could sit and freely talk with privacy. All the data forms were kept in locked rooms, allowing only relevant staff, investigators of the study and members of the Ethical Review Committee of icddr,b to access the information. This protocol was approved by the Institutional Review Board of icddr,b.

### **Field implementation plan**

An expert team from icddr,b in conducting this kind of surveys was involved in preparing the survey tool. Questionnaires were developed based on research questions and objectives of the study. The survey tool was shared and finalized with team members from CARE Bangladesh. While recruitment of the field staff, we preferred to recruit FRAs having social science background experienced in quantitative data collection. Study investigators trained all the data collectors on the data collection tool. After pre-testing the tool, we incorporated the feedback into the final version of the tool. There were 11 teams consisting of 5-6 Field Research Assistants (FRAs) and a Field Research Supervisor (FRS) in each team who were responsible for data collection and supervision of data collection team. Each team was assigned different data collection areas. An action plan on data collection activity was finalized during training period. Each FRA conducted 3 to 4 interviews per day taking almost three months to complete the data collection. During data collection, FRS closely monitored and supervised the FRAs in the field. One Research Officer and two Project Research physicians maintained the overall coordination and provided technical support with the team. In order to ensure the quality of the data, supervisors observed interviews, did the spot checking, questionnaire crosschecking and performed re-interviews. In addition to this, during data collection, study team consisting of two Project Research Physicians, Research Officer, Statistician, Study Investigators and Principal Investigator chalked out the entire implementation plan and executed it accordingly. They visited field sites regularly by turns to ensure the quality of data. In addition, they maintained the liaison with all the stakeholders to ensure smooth field implementation. However, standardization procedures were done before and during the study to ensure similarity in measurement techniques among staff members and standard study protocols were established for all data collection procedures. Questionnaires used for the collection of information were translated into the languages appropriate to the communities, during data collection, the data entry team worked on data entry simultaneously. Every one week, field team sent questionnaires to head office for entry.

### **Wealth Index Analysis/ Socioeconomic Status Index**

The wealth index is a composite measure of a household's cumulative living standard. The wealth index is calculated using easy-to-collect data on a household's ownership of selected assets, such as televisions and bicycles; materials used for housing construction; and types of water access and sanitation facilities. Information on the wealth index is based on data collected in the Household Questionnaire. This questionnaire includes questions concerning the household's ownership of a number of items such as a television and car; dwelling characteristics such as flooring material; type of drinking water source; toilet facilities; and other characteristics that are related to wealth status.

Each household asset for which information was collected assigned a weight or factor score generated through principal components analysis (PCA). The resulting asset scores are standardized in relation to a standard normal distribution with a mean of zero and a standard deviation of one. These standardized scores are then used to create the break points that define wealth quintiles as: Lowest, Second, Middle, Fourth, and Highest. Each household is assigned a standardized score for each asset, where the score differs depending on whether or not the household owned that asset (or, in the case of sleeping arrangements, the number of people per room). These scores are summed by household, and individuals are ranked according to the total score of the household in which they reside. The sample is then divided into population quintiles - five groups with the same number of individuals in each.

Wealth quintiles are expressed in terms of quintiles of individuals in the population, rather than quintiles of individuals at risk for any one health or population indicator. This approach to defining wealth quintiles has the advantage of producing information directly relevant to the principal question of interest, for example, the health status or access to services for the poor in the population as a whole. This choice also facilitates comparisons across indicators for the same quintile, since the quintile denominators remain unchanged across indicators. However, some types of analysis may require data for quintiles of individuals at risk.

Point to be noted here, we followed similar procedure for wealth index analysis that were applied in DHS data analysis, but asset score may not be the same for each area. In DHS data analysis, nationwide common household asset items are considered to calculate the asset score; here we followed the same asset items. However, in addition to this, we also included some other asset items based on their availability in the study area. As this study was based in a rural area, it should not be compared with the asset index from urban areas, but this is very much comparable with regional quintile analysis for the other rural areas of Sylhet division.

# Results

## Results from Baseline-2012 and End line survey-2018

Throughout the report, for most of the indicators, we have tried to put comparative discussion from baseline-2012 to End line intervention area-2018. Findings have been arranged in 14 chapters with several sections inside. The name of the chapters and sections are stated below:

- ❖ Characteristics of Respondents, Housing and Household Population
  - Housing Characteristics
  - Characteristics of Respondents
- ❖ Marriage, Reproductive information, Fertility Preference and Regulation
  - Marriage and Reproductive information
  - Fertility preference
  - Fertility Regulation
- ❖ Maternal Health
  - Pregnancy registration and birth preparedness,
  - Knowledge and practices of Antenatal care
  - Antenatal complication and referral status
  - Uptake of Iron and Folic Acid during last pregnancy
  - Knowledge and practice related to delivery care
  - Delivery complication and referral status
  - Knowledge and practice related to postnatal care
  - Postnatal complication and referral status
  - Ideal mother who received skilled services in all episode during her pregnancy period
  - Maternal morbidity and treatment
- ❖ Neonatal and Child Health
  - Knowledge and practice of newborn care
  - Child Health,
  - Early Childhood Mortality
- ❖ Family and Social Support in last pregnancy
- ❖ Women empowerment and mobility in care seeking
- ❖ Entrepreneurship and acceptability of private CSBA
- ❖ Knowledge regarding non communicable diseases and its reported prevalence
- ❖ Mass media exposure
- ❖ Conclusion

Chapterwise descriptions of the main findings have been given at the start of each chapter.

## Chapter-3

### Characteristics of Respondents, Housing and Household Population

#### Key Findings

- More than 97% households use tube-well as a source of drinking water in both areas
- In the intervention area, 18% households have improved latrine facility which is 10% points increased since baseline (8%). In the comparison area, 21% households have improved latrine facility which is 4% points increased since baseline (17%). Little more than 1% households have no latrine and defecate in an open space in intervention area which was 6% at baseline. In comparison area about 0.5% households have no latrine and defecate in an open space in intervention area which was 4.5% at baseline. In the intervention area, 65% households now have electricity which was 38% at baseline whereas 88% households now have electricity compare to 56% at baseline in comparison area.
- Ninety five percent respondents do not have self income in the intervention area while it 93.5% in the comparison area
- About 92% households have their own home in the intervention area while it was 96% at comparison area
- Majority study participants in both areas (Intervention-35%; Comparison-34%) were in between 20 to 24 years age category
- Majority study participants in both areas (Intervention-83%; Comparison-97%) were from Muslim community

This chapter gives an overview of socio-economic characteristics of the population, household condition, main source of drinking water, toilet facility in the household, housing facilities, possession of household durable goods, status of fuel in the household, availability of electricity, salt intake status and ownership of household and agricultural land. This chapter also provides an overview of demographic characteristics of the household population, including age, occupation, average monthly income, husband's occupation, etc.

#### Section-3.1: Housing Characteristics

Table-3.1(a): Water and sanitation of the Household

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Main source of drinking water</b>				
Supply water	5(0.5%)	52(1.4%)	2(0.2%)	32(0.9%)
Tube well water	973(97.7%)	3519(97.8%)	980(99.8%)	3552(98.6%)
Pit/Well water	10(1.0%)	16(0.4%)	0(0.0%)	0(0.0%)
Ponds/River/Canal	8(0.8%)	8(0.2%)	0(0.0%)	0(0.0%)
Others	0(0.0%)	4(0.1%)	0(0.0%)	18(0.5%)
<b>Boiled water prior to drink</b>				
Yes	8(0.8%)	51(1.4%)	16(1.6%)	16(0.4%)
No	988(99.2%)	3548(98.6%)	966(98.4%)	3586(99.6%)
<b>Water source for cooking and hand washing</b>				
Supply water	3(0.3%)	26(0.7%)	2(0.2%)	50(1.4%)
Tube well water	740(74.3%)	2771(76.9%)	940(95.7%)	3399(94.4%)
Pit/Well water	13(1.3%)	25(0.7%)	0(0.0%)	10(0.3%)
Rain water	0(0.0%)	14(0.4%)	0(0.0%)	21(0.6%)
Ponds/River/Canal	240(24.1%)	756(21.0%)	40(4.1%)	105(2.9%)
Others	0(0.0%)	7(0.2%)	0(0.0%)	17(0.5%)
<b>Toilet facility in the household</b>				
Sanitary latrine (linked with sewerage)	4(0.4%)	69(1.9%)	12(1.2%)	64(1.8%)
Sanitary latrine (with septic tank)	82(8.2%)	658(18.3%)	170(17.3%)	765(21.2%)
Ring slab latrine (with water sill)	171(17.2%)	723(20.1%)	162(16.5%)	683(18.9%)
Ring slab latrine (with broken water sill)	349(35.0%)	1398(38.8%)	442(45.0%)	1758(48.8%)
Pit latrine	242(24.3%)	284(7.9%)	111(11.3%)	273(7.6%)
Bucket toilet	6(1(0.1%)	3(0.1%)	2(0.2%)	2(0.1%)
Hanging toilet	84(8.4%)	407(11.3%)	37(3.8%)	42(1.2%)
Others	1(0.1%)	7(0.2%)	1(0.1%)	0(0.0%)
No facility/ Bush/open space/field	62(6.2%)	50(1.4%)	45(4.6%)	15(0.4%)

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Status of toilet facility</b>				
Shared	330(33.1%)	1469(40.8%)	456(46.4%)	1798(49.9%)
Not shared	604(60.6%)	2079(57.8%)	481(49.0%)	1789(49.7%)
Not applicable	62(6.2%)	51(1.4%)	45(4.6%)	15(0.4%)

The table presents similar results according to baseline and end line survey findings regarding the main source of drinking water and status of boiling water in both intervention and comparison area. Main source of water for cooking and hand washing is Tube well water in both intervention (98%) and comparison area (99%). The use of sanitary latrine with septic tank was found to be increasing from baseline (8%) to end line (18%) in intervention area whereas the open defecation was reported to be decreasing in both intervention and comparison area. The trend of toilet sharing was found increasing from baseline to end line in intervention (baseline 33% end line VS 41%) and comparison area (baseline 46% VS end line 50%)

Table-3.1(b): Housing Characteristics

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Roof materials</b>				
Pucca (Bricks and Cement)	13(1.3%)	231(6.4%)	12(1.2%)	91(2.5%)
Corrugated iron	936(93.9%)	3353(93.1%)	952(96.9%)	3506(97.3%)
Tally	2(0.2%)	5(0.1%)	3(0.3%)	3(0.1%)
Straw/Bamboo/Leaves	43(4.3%)	10(0.3%)	12(1.2%)	1(0.03%)
Others	2(0.2%)	0(0.0%)	3(0.3%)	1(0.03%)
<b>Wall materials</b>				
Pucca (Bricks and Cement)	97(9.7%)	725(20.1%)	58(5.9%)	624(17.3%)
Corrugated iron	356(35.7%)	2299(63.9%)	813(82.8%)	2946(81.8%)
Clay/mud	306(30.7%)	347(9.6%)	14(1.4%)	14(0.4%)
Straw/Bamboo/Leaves	200(20.1%)	226(6.3%)	89(9.1%)	14(0.4%)
Others	37(3.7%)	2(0.1%)	8(0.8%)	4(0.1%)
<b>Flooring materials</b>				
Pucca (Bricks and Cement)	46(4.6%)	461(12.8%)	66(6.7%)	664(18.4%)
Semi – Pucca	15(1.5%)	103(2.9%)	27(2.8%)	89(2.5%)
Clay/Kutchha	935(93.9%)	3027(84.1%)	888(90.4%)	2847(79.0%)
Wood/Bamboo	0(0.0%)	8(0.2%)	1(0.1%)	2(0.1%)
<b>Rooms used for sleeping</b>				
One	460(46.2%)	1092(30.3%)	583(59.4%)	1591(44.2)
Two	315(31.6%)	1299(36.1%)	250(25.5%)	1184(32.9%)
Three	141(14.2%)	696(19.3%)	98(9.9%)	483(13.4%)
Four	51(5.1%)	306(8.5%)	37(3.8%)	223(6.2%)
Five or more	29(2.9%)	206(5.7%)	14(1.4%)	121(3.4%)
<b>Having Electricity or solar system</b>				
Have Electricity in the house	376(37.8%)	2339(65.0%)	549(55.9%)	3159(87.7%)
Have Solar system in the house	Not available	1030(28.6%)	Not available	523(14.5%)
Have electricity or solar in the house	N/A	2919(81.1%)	N/A	3339(92.7%)

Corrugated Iron (Tin) is the most common roofing material in intervention and comparison area. The main roof material of the household is corrugated Iron in both intervention (93%) and comparison area (97%). Most of the households' main wall material is also corrugated iron followed by clay/ mud (baseline 31% VS end line 10%) brick and cement (baseline 10% VS end line 20%), straw /bamboo (baseline 20% end line 6%), etc in both areas. Regarding the flooring materials, most of the households used clay/kutchha in both areas in intervention (baseline 94% VS end line 84%) and comparison area (baseline 90% VS end line 80%). The number of room used for sleeping indicates the extent of crowding in the household. As for the room used for sleeping, the study found that one room used for sleeping was shown to be decreasing in intervention area (baseline 46% VS end line 36%) whereas two rooms for sleeping was found to be increasing in both intervention (baseline 32% VS end line 36%) and comparison area (baseline 26% VS end line 33%).

Table-3.1(c): Household Possessions

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Ownership durable goods</b>				
Have Radio/Cassette/CD/DVD player	31(3.1%)	76(2.1%)	94(9.6%)	104(2.9%)
Have Television	128(12.9%)	632(17.6%)	209(21.3%)	1112(30.9%)
Have Mobile telephone	639(64.2%)	3287(91.3%)	748(76.2%)	3381(93.9%)
Have Fixed or non-mobile telephone	8(0.8%)	41(1.1%)	6(0.6%)	41(1.1%)
Have Refrigerator	18(1.8%)	371(10.3%)	68(6.9%)	849(23.6%)
Have Almirah/wardrobe/showcase/Alna	505(50.7%)	2558(71.1%)	749(76.3%)	2983(82.8%)
Have Shallow machine	-	105(2.9%)	-	111(3.1%)
Have Computer	10(1.0%)	132(3.7%)	25(2.6%)	130(3.6%)
<b>Ownership of Transport</b>				
Have Car/ truck	2(0.2%)	37(1.0%)	4(0.4%)	25(0.7%)
Have Motorcycle/motor scooter/tempo	17(1.7%)	192(5.3%)	45(4.6%)	307(8.5%)
Have Rickshaw/van	24(2.4%)	35(0.9%)	39(3.9%)	127(3.5%)
Have Bicycle	53(5.3%)	218(6.1%)	245(24.9%)	881(24.5%)
Have Tractor	-	70(1.9%)	-	36(1.0%)
Have Animal-drawn cart (cart drawn by horse)	3(0.3%)	24(0.7%)	1(0.1%)	19(0.5%)
Have Boat	133(13.4%)	510(14.2%)	20(2.0%)	95(2.6%)
Have Boat with a motor	-	170(4.7%)	-	56(1.6%)
<b>Ownership of farm animals</b>				
Yes	662(66.5%)	2190(60.8%)	740(75.4%)	2585(71.7%)
No	334(33.5%)	1409(39.1%)	242(24.6%)	1017(28.2%)
<b>Farm animals-Cows in the Household</b>				
One to two cows	201(20.2%)	701(19.5%)	291(29.6%)	908(25.2%)
Three to Five cows	126(12.7%)	363(10.1%)	109(11.1%)	256(7.1%)
Six to ten cows	33(3.3%)	85(2.4%)	6(0.6%)	28(0.8%)
Eleven or more cows	4(0.4%)	22(0.6%)	0(0.0%)	6(0.2%)
No Cows in the Household	298(29.9%)	1019(28.3%)	334(34.0%)	1387(38.5%)
<b>Farm animals-Goats/Sheep in the Household</b>				
One to two goats/sheep	66(6.6%)	139(3.9%)	69(7.0%)	296(8.2%)
Three to five goats/sheep	20(2.0%)	68(1.9%)	10(1.0%)	50(1.4%)
Six or more goats/sheep	7(0.7%)	24(0.7%)	2(0.2%)	8(0.2%)
No Goats/Sheep in the Household	569(57.1%)	1959(54.4%)	659(67.1%)	2231(61.9%)
<b>Farm animals-Chickens/ducks/ pigeon in the Household</b>				
One to five chickens/ducks/ pigeons	327(32.8%)	915(25.4%)	443(45.1%)	1288(35.8%)
Six to ten chickens/ducks/ pigeons	131(13.2%)	424(11.8%)	141(14.4%)	631(17.5%)
Eleven to twenty chickens/ ducks/pigeons	54(5.4%)	307(8.5%)	48(4.9%)	302(8.4%)
Twenty one or more chickens/ ducks/pigeons	15(1.5%)	87(2.4%)	17(1.7%)	93(2.6%)
No Chickens/ducks/pigeon in the Households	135(13.5%)	457(12.7%)	91(9.3%)	271(7.5%)
<b>Ownership of home</b>				
Have own home	902(90.6%)	3315(92.1%)	947(96.4%)	3467(96.2%)
Don't have own home	94(9.4%)	284(7.9%)	35(3.6%)	135(3.8%)
<b>Ownership agricultural land</b>				
No land	669(67.2%)	2321(64.5%)	545(55.5%)	2124(59.0%)
1-100 decimal land	151(15.2%)	652(18.1%)	284(28.9%)	1045(29.0%)
101-200 decimal land	80(8.0%)	234(6.5%)	93(9.5%)	230(6.4%)
201-500 decimal land	65(6.5%)	265(7.4%)	45(4.6%)	131(3.6%)
501or more decimal land	31(3.1%)	120(3.3%)	15(1.5%)	42(1.2%)
Don't know	0(0.0%)	7(0.2%)	0(0.0%)	30(0.8%)

Possession of durable goods is another indicator of socioeconomic status. The possession and use of household durable goods have multiple effects and implications on health and living standards. For example, access to radio and or television exposes household members to updated daily events, information and educational materials. Likewise, a refrigerator prolongs food storage and keeps fresh and hygienic. Ownership of transportation allows greater access to services and enhances social and economic activities. The data related to functional durable goods, we found in end line that 91% household possessed Mobile phone which was 64% in baseline intervention

area. This percentage was also found to be increasing in comparison area (baseline 76% VS end line 94%). The other household possessions such as: Television, computer, refrigerator were also found to be increasing in both intervention and comparison area from baseline to end line. Almost 95% respondents reported that they had their own home in intervention and comparison area while more than 65% respondents reported that they did not have agricultural land.

Table-3.1(d): Status of cooking fuel in the Household

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
Electricity	0(0.0%)	7(0.2%)	2(0.2%)	12(0.3%)
LPG	0(0.0%)	304(8.4%)	2(0.2%)	545(15.1%)
Natural Gas	0(0.0%)	23(0.6%)	0(0.0%)	3(0.1%)
Biogas	0(0.0%)	2(0.1%)	2(0.2%)	5(0.1%)
Kerosene	1(0.1%)	0(0.0%)	0(0.0%)	2(0.1%)
Coal/Lignite	7(0.7%)	49(1.4%)	1(0.1%)	0(0.0%)
Charcoal	1(0.1%)	42(1.2%)	0(0.0%)	2(0.1%)
Wood	467(46.9%)	1815(50.4%)	535(54.5%)	2156(59.9%)
Straw/Shrubs/grass	320(32.1%)	516(14.3%)	205(20.9%)	321(8.9%)
Agricultural crop	32(3.2%)	13(0.4%)	14(1.4%)	15(0.4%)
Animal dung	142(14.3%)	792(22.0%)	218(22.2%)	535(14.9%)
Others	26(2.6%)	36(1.0%)	3(0.3%)	6(0.2%)

The indoor household pollution has important implications for the health of the household members. The type of fuel used for cooking influence indoor air quality and the degree to which members are exposed to the risk of respiratory and other diseases. The end line study shows that 50% household used wood a bit increase than the baseline (47%), 22% used animal dung which was 14% in baseline and 14% used straw/grass as fuel which was 32% in baseline. In the comparison area, wood is the leading fuel and found to be increasing from baseline (55%) to end line (60%).

Table-3.1(e): Salt intake status in the Household

Socio-demographic traits	Intervention area		Comparison area
	Midline-2016 N=1755	End line-2018 N=3599	End line-2018 N=3602
<b>Salt used mainly for eating and cooking</b>			
Packet salt	1674 (95.4%)	3482(96.7%)	2814(78.1%)
Non packet salt	81 (4.6%)	117(3.3%)	788(21.9%)
<b>Name of salt mostly used</b>			
Fresh	422 (24.0%)	1384(38.4%)	320(8.9%)
Molla Salt	504 (28.7%)	576(16.0%)	275(7.6%)
Pubali	82 (4.7%)	233(6.5%)	340(9.4%)
ACI	82 (4.7%)	177(4.9%)	654(18.2%)
Teer	6 (0.3%)	9(0.3%)	97(2.7%)
Others (Pure/Ifad/Super/Satata/Chingri/confidence/Tripti, cristal, etc.)	347 (19.8%)	518(14.4%)	261(7.2%)
Don't know	231 (13.2%)	585(16.3%)	867(24.1%)
<b>Iodized salt used mainly for eating &amp; cooking</b>			
Yes	1329 (75.7%)	2476(68.8%)	2358(65.5%)
No	221 (12.6%)	304(8.4%)	593(16.5%)
Don't know	205 (11.7%)	819(22.8%)	651(18.0%)

Regarding the salt intake of the household, the end line data shows that 97% respondents reported that they used packet salt for cooking and eating in intervention area whereas 78% in comparison area. In intervention area, those who use packet salt, mostly use fresh salt (38%), Molla salt (16%), and 16% did not know the name of the company. In comparison area, the end line survey presents that ACI (18%), Pubali (9%), fresh (9%), molla salt (8%) are the frequently cited names and 24% did not know the name of the salt they intake. When we asked them about the status of Iodized salt, (69%) reported that they took Iodized salt but it was 76% in baseline and 23% did not know whether the salt was Iodized or not. In comparison area, 66% reported iodized salt intake and 18% did not know whether it was iodized or not.

## Section-3.2: Background characteristics of Respondents

Table-3.2(a): Characteristics of survey respondents

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Age in completed years</b>				
≤ 19 years	55(5.5%)	240(6.7%)	80(8.1%)	338(9.4%)
20-24 years	307(30.8%)	1261(35.0%)	332(33.8%)	1232(34.2%)
25-29 years	328(32.9%)	1125(31.3%)	298(30.3%)	994(27.6%)
30-35 years	236(23.7%)	743(20.6%)	212(21.6%)	796(22.1%)
>36 years	70(7.0%)	230(6.4%)	60(6.1%)	242(6.7%)
Median age in completed years	25	25	25	25
<b>Religion</b>				
Islam	803(80.6%)	2996(83.2%)	955(97.3%)	3508(97.4%)
Hindu	193(19.4)	601(16.7%)	27(2.7%)	91(2.5%)
Christian/Buddhist	-	2(0.1%)	-	3(0.1%)
<b>Education of respondent</b>				
No formal education	436(43.8%)	814(22.6%)	226(23.0%)	493(13.7%)
Incomplete primary education (Class 1-4)	215(21.6%)	1033(28.7%)	176(17.9%)	675(18.8%)
Complete primary education (Class 5 )	162(16.3%)	659(18.3%)	198(20.2%)	537(14.9%)
Incomplete secondary education (Class 6-9)	156(15.7%)	828(23.0%)	307(31.3%)	1355(37.6%)
Secondary and above education (Class ≥10 )	27(2.7%)	256(7.1%)	75(7.6%)	538(14.9%)
Informal education (Hafiz/Daora/Kitab /etc.)	-	8(0.2%)	-	4(0.1%)
Others	-	1(0.03%)	-	-
Median years of completed education	2	4	5	6
<b>Marital Status</b>				
Currently married	983(98.7%)	3555(98.8%)	964(98.2%)	3568(99.0%)
Divorced	3(0.3%)	4(0.1%)	1(0.1%)	9(0.3%)
Separated	6(0.6%)	15(0.4%)	11(1.1%)	11(0.3%)
Widowed	4(0.4%)	17(0.5%)	5(0.5%)	12(0.3%)
Deserted	-	8(0.2%)	1(0.1%)	2(0.1%)
<b>Respondent's occupation</b>				
Homemaker/ housewife	971(97.5%)	3477(96.6%)	950(96.7%)	3492(96.9%)
Day laborer	6(0.6%)	18(0.5%)	1(0.1%)	5(0.1%)
Service	5(0.5%)	24(0.7%)	4(0.4%)	44(1.2%)
Agriculture/Farming/Fishing/boat man	-	14(0.4%)	-	3(0.1%)
Skilled labor	-	27(0.8%)	-	25(0.7%)
Student	-	10(0.3%)	-	8(0.2%)
Handicraft/small business	9(0.9%)	22(0.6%)	14(1.4%)	16(0.4%)
Others	5(0.5%)	7(0.2%)	13(1.3%)	9(0.3%)
<b>Number of family members</b>				
Mean	6.5	6.6	5.8	5.7
<b>Family Members involved in income generation</b>				
Mean	1.5	1.5	1.5	1.4
<b>Average monthly self income</b>				
No income	944(94.8%)	3369(93.6%)	889(90.5%)	3368(93.5%)
≤1000 BDT	37(3.7%)	150(4.2%)	74(7.5%)	125(3.5%)
1001-3000 BDT	10(1.0%)	41(1.1%)	13(1.3%)	55(1.5%)
3001-5000 BDT	0(0.0%)	18(0.5%)	4(0.4%)	23(0.6%)
5001≥	5(0.5%)	21(0.6%)	2(0.2%)	319(9.9%)

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Education of husband</b>				
No formal education	520(52.2%)	1355(37.7%)	375(38.2%)	1013(28.1%)
Incomplete primary education (Class 1-4)	170(17.1%)	706(19.6%)	165(16.8%)	704(19.5%)
Complete primary education (Class 5 )	140(14.1%)	635(17.6%)	179(18.2%)	607(16.9%)
Incomplete secondary education (Class 6-9)	105(10.5%)	592(16.4%)	172(17.5%)	801(22.2%)
Secondary and above education (Class ≥10 )	61(6.1%)	259(7.2%)	91(9.3%)	438(12.2%)
Diploma	-	-	-	8(0.2%)
Informal education (Hafiz/Daora/Kitab /etc.)	-	45(1.3%)	-	28(0.8%)
Others	-	7(0.2%)	-	3(0.1%)
Median years of completed education	0	4	4	5
<b>Husband's occupation</b>				
Service	53(5.3%)	186(5.2%)	96(9.8%)	365(10.1%)
Day laborer	355(35.6%)	603(16.8%)	145(14.8%)	345(9.6%)
Business	135(13.6%)	624(17.3%)	238(24.2%)	868(24.1%)
Agriculture/Farming/Fishing	292(29.3%)	1354(37.6%)	264(26.9%)	735(20.4%)
Rickshaw/Van puller/boat man	45(4.5%)	79(2.2%)	70(7.1%)	96(2.7%)
Skilled labor (e.g., mason)	-	238(6.6%)	-	443(12.3%)
Oversees worker	28(2.8%)	176(4.9%)	69(7.0%)	344(9.6%)
Transport worker	31(3.1%)	89(2.5%)	42(4.3%)	79(2.2%)
Autorikshaw/Bike/Nosimon driver	-	67(1.9%)	-	229(6.4%)
Immam/Purohit	-	27(0.8%)	-	14(0.4%)
Unemployed	9(0.9%)	71(1.9%)	8(0.8%)	39(1.1%)
Handicraft	19(1.9%)	14(0.4%)	30(3.1%)	7(0.2%)
Not applicable	4(0.1%)	22(0.6%)	6(0.6%)	16(0.4%)
Others	25(2.5%)	49(1.4%)	14(1.4%)	22(0.6%)

The end line result shows that most of the respondents (35%) were in between 20 to 24 years age category followed by 31% in 25 to 29 years in intervention area and the age of the respondents was almost same in comparison area. In terms of the religion of the respondents, 83% respondents were Muslims and 17% were Hindus in intervention area whereas in comparison area 97% were Muslims and 3% were Hindus. We found a decreasing trend of Hindu population from baseline (19%) to end line (17%). We found significant decrease of having no formal education from baseline 44% to end line 23% in intervention and from 23% to 14% in comparison area. Ninety nine percent respondents were currently married and 97% women were housewives in intervention and comparison area. Mean numbers of family members involved in income generation was 1.5 in both baseline and end line in intervention area. Almost 94% respondents in both intervention and comparison did not have self income found in end line survey. In end line survey, around 38% respondents' husbands did not have formal education while in baseline it was 52% in intervention area. In comparison area, the percentage of respondents' husband having no formal education was found to be decreasing from baseline to end line (38% VS 28%).

## Chapter-4

### Marriage, Reproductive information, Fertility Preference and Regulation

#### Key Findings

- Mean age at first marriage found to be almost 17.7 at end line in the intervention area which was 17.4 during baseline-2012; on the other hand median age at first marriage remained unchanged (16.6) in the comparison area
- Unwanted pregnancy decreased since baseline (21%) to end line (15%), the number of mistimed pregnancy increased since baseline (14%) to midline (19%) in intervention area.
- Use of contraceptive method slightly increased since baseline for any method (51.5% to 53%) and any modern method (39% to 48%) in the intervention area. Whereas in the comparison area modern method use slightly increased (63% to 64%) and use of any method slightly decreased (69% to 67%)
- Sixteen percent unmet need for family planning was found in the intervention area whereas it was 11% in the comparison area.

This chapter describes the age at first marriage, total number of pregnancies and child birth of respondents, number of living children, current pregnancy status, wanted and unwanted pregnancy, family planning methods, methods specific information and its current use, etc.

#### Section-4.1: Marriage and Reproductive information

Table 4.1(a): Marriage and Reproductive information of the study participants

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Age at first marriage (completed years)</b>				
≤14 years	100(10.0%)	314(8.7%)	160(16.3%)	572(15.9%)
15-18 years	652(65.5%)	2274(63.2%)	677(68.9%)	2570(71.4%)
19-24 years	230(23.1%)	934(25.9%)	138(14.1%)	438(12.2%)
25 and above years	14(1.4%)	77(2.1%)	7(0.7%)	21(0.6%)
Can't remember	-	-	-	1(0.03%)
Median age at first marriage	18	18	16	17
<b>Number of pregnancies (Gravida)</b>				
1 time	-	828(23.0%)	-	931(25.9%)
2 times	-	842(23.4%)	-	993(27.6%)
3 times	-	738(20.5%)	-	720(19.9%)
4 times	-	509(14.1%)	-	501(13.9%)
≥5 times	-	682(18.9%)	-	457(12.7%)
Mean	-	3.0	-	2.0
<b>Number of children given birth (Para)</b>				
1 time	232(23.3%)	991(27.5%)	286(29.1%)	1079(30.0%)
2 times	211(21.2%)	902(25.1%)	265(26.9%)	1019(28.3%)
3 times	179(17.9%)	706(19.6%)	169(17.2%)	722(20.0%)
4 times	134(13.5%)	479(13.3%)	118(12.0%)	4390(12.2%)
≥5 times	240(24.1%)	521(14.5%)	144(14.7%)	343(9.5%)
Mean	3.3	2.0	2.7	2.0
<b>Number of living children</b>				
No one	14(1.4%)	15(0.4%)	2(0.2%)	2(0.1%)
1	253(25.4%)	1107(30.8%)	326(33.2%)	1172(32.5%)
2	234(23.5%)	949(26.4%)	266(27.1%)	1063(29.5%)
3	208(20.9%)	735(20.4%)	183(18.6%)	743(20.6%)
4	137(13.8%)	422(11.7%)	112(11.4%)	383(10.6%)
≥5	150(15.1%)	371(10.3%)	93(9.5%)	239(6.6%)
Mean	2.8	2.0	2.4	2.0

Marriage is the leading social and demographic indicator and demographic indicator of the exposure of women to the risk of pregnancy. Marriage in Bangladesh marks the point in a woman's life when childbearing becomes socially acceptable. Age at first marriage has a major effect on child bearing because the risk of pregnancy depends

on the age at which women first marry. Women, who marry early, are more likely to have their first child at a young age and give birth to more children and contribute to higher fertility. However, age at first marriage between 15 to 18 years decreased a bit since baseline (66%) to end line in intervention (63%) while marriage in this age bracket increased a bit in comparison area (baseline 69% VS end line 71%). In terms of the mean number of children given birth, we found the decreasing trend from 3.3 to 2.00 in intervention and comparison area Mean number of living children (current) decreased in intervention area (baseline 2.8 VS end line 2.0) and comparison area (baseline 2.4 VS end line 2.0).

## Section-4.2: Fertility preference

Table 4.2(a): Fertility preference of the study participants

Socio-demographic traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Current pregnancy status</b>				
Pregnant	67(6.7%)	257(7.1%)	45(4.6%)	129(3.6%)
Not pregnant	929(93.3%)	3313(92.1%)	937(95.4%)	3451(95.8%)
Not sure	-	28(0.8%)	-	22(0.6%)
<b>Wanted or unwanted pregnancy in the last pregnancy</b>				
Wanted at that time	643(64.6%)	2367(65.8%)	661(67.3%)	2319(64.4%)
Wanted later	142(14.3%)	696(19.3%)	129(13.1%)	776(21.5%)
Never wanted any more children	211(21.2%)	535(14.9%)	192(19.6%)	507(14.1%)

In the intervention area, 7.3 % women reported to be pregnant at the time of interview compared to 3.6% in the control area. When respondents were asked about their intention about last pregnancy, 34.2% in the intervention area and 35.8% in the control area reported that their last pregnancy was either mistimed or absolutely unwanted. Mistimed pregnancy increased 5% point (from 14.3% to 19.3%) in the intervention area and 6% point (from 13.3% to 21.5%) in the control area. Percentage of respondent who reported their last pregnancy was absolutely unwanted (never wanted to be pregnant) dropped 6% point from (21.2% to 14.9 %) and 5% point (19.6 % to 14.1%) in the intervention and control area respectively.

## Section-4.3: Fertility Regulation

Table 4.3(a): Knowledge and practice of family planning (FP) methods

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Knowledge about FP methods*</b>				
Female sterilization	318(31.9%)	1476(41.0%)	259(26.4%)	1237(34.4%)
Male sterilization	94(9.4%)	319(8.9%)	136(13.9%)	345(9.6%)
Pill	876(87.9%)	3467(96.4%)	959(97.7%)	3534(98.1%)
Intrauterine devices (IUD)	118(11.9%)	1121(31.2%)	259(26.4%)	673(18.7%)
Injectable	791(79.4%)	2972(82.6%)	885(90.1%)	3195(88.7%)
Implant/Norplant	267(26.8%)	1465(40.7%)	423(43.1%)	1945(54.0%)
Condom	190(19.1%)	1079(29.9%)	618(62.9%)	1824(50.7%)
Safe period	35(3.5%)	101(2.8%)	14(1.4%)	105(2.9%)
Withdrawal	6(0.6%)	31(0.9%)	3(0.3%)	39(1.1%)
Lactational Amenorrhea Method	-	17(0.5%)	-	14(0.4%)
Herbal/Ayurvedic	-	13(0.4%)	-	2(0.1%)
Others	22(2.2%)	5(0.1%)	2(0.2%)	0(0.0%)
Don't know		11(0.3%)		0(0.0%)

\* Multiple responses

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Source of knowledge about FP methods*</b>				
Qualified doctor (MBBS)	-	298(8.3%)	-	96(2.7%)
Nurse/ Midwife/FWV	-	397(11.0%)	-	345(9.6%)
SACMO/MA (Govt.)	-	14(0.4%)	-	11(0.3%)
Private CSBA	-	546(15.2%)	-	-
FWA/HA	-	559(15.5%)	-	823(22.9%)
CHCP	-	55(1.5%)	-	117(3.3%)
NGO health worker	-	337(9.4%)	-	205(5.7%)
VD/Pharmacist	-	324(9.0%)	-	178(4.9%)
TBA	-	111(3.1%)	-	15(0.4%)
Relatives/Neighbours	-	2846(79.1%)	-	3220(89.4%)
Media (Radio/TV/Newspaper)	-	83(2.3%)	-	169(4.7%)
Poster/Banner/ signboard/Brochure/leaflet	-	90(2.5%)	-	138(3.8%)
Self	-	216(6.0%)	-	19(0.5%)
Other (CHW, CmSS members, UP members)	-	19(0.5%)	-	6(0.2%)
Do not know	-	13(0.4%)	-	4(0.1%)
<b>Current use of contraception</b>				
Any method	513(51.5%)	1907(53.0%)	682(69.4%)	2404(66.7%)
Any modern method	389(39.1%)	1728(48.1%)	616(62.7%)	2312(64.2%)
<b>Current use of contraception by methods</b>				
Female sterilization	13(1.3%)	78(2.2%)	22(2.2%)	66(1.8%)
Male sterilization	3(0.3%)	11(0.3%)	3(0.3%)	6(0.2%)
Intrauterine devices	2(0.2%)	42(1.2%)	8(0.8%)	15(0.4%)
Implant/Norplant	7(0.7%)	81(2.3%)	22(2.2%)	88(2.4%)
Injectable	59(5.9%)	194(5.4%)	102(10.4%)	343(9.5%)
Pill	280(28.1%)	1225(34.0%)	417(42.5%)	1622(45.0%)
Condom	25(2.5%)	102(2.8%)	42(4.3%)	148(4.1%)
Safe period	103(10.3%)	137(3.8%)	62(6.3%)	59(1.6%)
Withdrawal	9(0.9%)	32(0.9%)	2(0.2%)	27(0.8%)
Others	12(1.2%)	10(0.8%)	2(0.2%)	6(0.3%)
Use nothing	483(48.5%)	1687(46.9%)	300(30.6%)	1222(33.9%)
<b>Current use of contraception by types of method</b>				
Long acting permanent methods <sup>1</sup>	25(2.5%)	212(5.9%)	55(5.6%)	175(4.9%)
Short acting methods <sup>2</sup>	364(36.5%)	1521(42.3%)	561(57.1%)	2113(58.7%)
Traditional methods <sup>3</sup>	124(12.4%)	179(4.8%)	66(6.7%)	92(2.6%)
<b>Source of FP methods *</b>				
Qualified doctor (MBBS)	26(2.6%)	119(3.3%)	29(2.9%)	85(2.4%)
Nurse/ Midwife/FWV	249(25.0%)	281(7.8%)	209(21.3%)	364(10.1%)
SACMO/MA (Govt.)	4(0.4%)	16(0.4%)	12(1.2%)	13(0.4%)
CSBA (Govt.)	5(0.5%)	0(0.0%)	57(5.8%)	0(0.0%)
Private CSBA	0(0.0%)	64(1.8%)	0(0.0%)	0(0.0%)
CHCP	0(0.0%)	55(1.5%)	0(0.0%)	116(3.2%)
FWA/HA	0(0.0%)	337(9.4%)	0(0.0%)	529(14.7%)
NGO health worker	10(1.0%)	55(1.5%)	21(2.1%)	43(1.2%)
VD/Pharmacist	176(17.7%)	854(23.7%)	249(25.4%)	1212(33.7%)
TBA	0(0.0%)	23(0.6%)	0(0.0%)	19(0.5%)
Self	17(1.7%)	0(0.0%)	4(0.4%)	0(0.0%)
Other	30(3.0%)	129(3.6%)	97(9.9%)	41(1.1%)
Do not know	2(0.2%)	16(0.4%)	1(0.1%)	14(0.4%)

\* Multiple responses

<sup>1</sup> Male and Female sterilization, Intrauterine devices, Implant/Norplant

<sup>2</sup> Injectable, pill, condom

<sup>3</sup> Safe period, Withdrawal and Others

\* Multiple responses

Traits	Intervention area (End line-2018)			Comparison area (End line-2018)		
	For spacing	For limiting	Total N=3599	For spacing	For limiting	Total N=3602
Unmet need for FP services	313 (8.7%)	256 (7.1%)	569 (15.8%)	255 (7.1%)	139 (3.9%)	394 (10.9%)

The end line results showed that knowledge about almost all family planning methods increased considerably in intervention area compared to comparison area. In intervention area, we found increased knowledge for female sterilization (baseline 32% VS end line 44%), Intrauterine devices (IUD) (baseline 12% VS end line 31%), Implant or Norplant (baseline 27% VS end line 41%), condom (baseline 19% VS end line 30%) etc. We tried to explore the source of knowledge about the family planning methods of women in both intervention and comparison area. In intervention area, we found that 79% women came to know about the family planning methods from relatives/neighbours whereas in comparison area 89% women heard it from relatives or neighbours. In intervention area, they also heard it from FWA (16%), private CSBA (15%), NGO health worker (9%), qualified doctor (8%), etc. Other than the relatives and neighbours, in the comparison area, they also came to know about different family planning methods from FWA (23%), NGO health worker (6%), media (radio, TV, newspaper) (5%), village doctor or pharmacist (5%). The current use of any method and modern method of contraception showed increase in the intervention area than comparison area. In the intervention area, use of any method increased to 57% in end line which was 52% in baseline and use of modern method was 39% in baseline whereas 48% was in end line survey. Use of any contraceptive method rather decreased a bit in comparison area since baseline (69%) to end line (67%).

## Chapter-5

### Maternal Health

#### Key Findings

##### Registration and Birth Planning

- Seventy two percent (72%) women were registered or contacted with any healthcare provider after their pregnancy confirmation while it was 33% at baseline in the intervention area; in contrast, it was increased from 41% to 57% in the comparison area. Private CSBA could contribute 46% in the intervention area.
- Dramatic increase occurred in terms of attendance to birth preparedness session from baseline (9%) to end line (50%) in the intervention area whereas it was changed from 16% to 19% in the comparison area.
- Most of the birth preparedness sessions were conducted by private CSBA (33.5%) followed by NGO health workers (11%), qualified doctor (6%) in the intervention area.
- About 43% women received birth planning card in their last pregnancy and of them 30% received from private CSBA in the intervention area.

##### ANC

- Knowledge regarding recommended 4 ANC increased from 32% to 62% in the intervention area while it was remained unchanged in the comparison area (31%).
- Knowledge regarding pregnancy related all 5 danger signs slightly increased from baseline to end line (0.5% to 0.6%) in the intervention area whereas there was no improvement in the comparison area.
- Eighty four percent (84%) women received at least one antenatal check-up which was 60% at baseline in the intervention area; in contrast, 82% women in the comparison area received at least one antenatal check-up which was 71% at baseline.
- In the intervention area, 34% women received 4 or more ANCs at end line which was 15% at baseline. At the same time, it increased from 18% to 28% in the comparison area.
- About 60% women in the intervention area received at least one ANC from a medically trained provider while it was 43% at baseline. Private CSBA contributed 40% in providing skilled ANC in the intervention area. Whereas it remained unchanged (56%) in the comparison area.
- Knowledge found increased in excessive bleeding (baseline 38% Vs end line 51%), convulsion (baseline 53% Vs end line 63%) in the intervention area whereas it was unchanged in comparison area.
- As a whole, women reported less antenatal complications they experienced at end line in both areas.
- Around 28% women received iron/iron folic acid tablet at least 90 or more in the intervention area which is less than baseline (39%).

##### Delivery

- Perception about home as delivery place reduced at end line in both areas; it was changed from 85% to 75% in the intervention area and 71% to 67.5% in comparison area.
- Facility birth increased from 13% to 27.5% in the intervention area and it increased from 19% to 33% in the comparison area.
- Delivery by a skilled provider increased at almost 3 times from 13% to 37 % in the intervention area whereas it increased from 21% to 36% in the comparison area. Private CSBA contributed 10% delivery in the intervention area.

##### PNC

- In end line 44% women took postnatal check up while it was 38% in baseline in the intervention area; whereas it was changed from baseline 31% to 33% at end line in the comparison area.
- Although overall PNC uptake was not improved that much but PNC visits for 4 or more times increased in both intervention (2% to 11%) and comparison (7% to 18%) areas.
- PNC received within 2 days from a medically trained provider increased more than 3 times base line in the intervention area (9% to 30%) and about 2 times in the comparison area (15% to 28%).

##### Ideal mother

- A woman can be considered as ideal mother who received at least one ANC, delivery care and PNC within 48 hrs from a skilled provider. About 12% women could call as an ideal mother in intervention area while it was 5% at baseline; in contrast, 10% women could call as an ideal mother in the comparison area which remained unchanged since baseline.

This chapter provides information on several aspects of maternal health including antenatal care, delivery and postnatal care. The health care that a woman receives during pregnancy, at the time of delivery, and soon after delivery is important for the survival and wellbeing of both the mother and the child. The table in this chapter present findings from the most recent pregnancies and births in last two years preceding the survey. In all the tables we have provided information of intervention and comparison with a focus on baseline and end line survey.

### Section-5.1: Pregnancy registration and birth preparedness

Table 5.1(a): Pregnancy registration

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Women registered or contacted to any healthcare provider in recent pregnancy</b>				
Yes	333(33.4%)	2596(72.1%)	399(40.6%)	2038(56.6%)
No	663(66.6%)	1003(27.9%)	583(59.4%)	1564(43.4%)
<b>Registered or contacted by whom*</b>				
Qualified doctor (MBBS)	53(5.3%)	54(1.5%)	14(1.4%)	74(2.1%)
Nurse/ Midwife/FWV	96(9.6%)	255(7.1%)	79(8.0%)	407(11.3%)
SACMO/MA	46(4.6%)	5(0.1%)	102(10.4%)	49(1.4%)
Govt. CSBA	18(1.8%)	-	29(3.0%)	-
Private CSBA	-	1671(46.4%)	-	-
FWA/HA	-	419(11.6%)	-	539(14.9%)
CHCP	-	108(3.0%)	-	535(14.9%)
NGO health worker	53(5.3%)	544(15.1%)	94(9.6%)	499(13.9%)
CARE CHW	-	340(9.4%)	-	-
TBA	2(0.2%)	12(0.3%)	-	5(0.1%)
VD/Pharmacist	18(1.8%)	2(0.1%)	-	1(0.03%)
Other	33(3.3%)	4(0.1%)	58(5.9%)	16(0.4%)
Do not know	16(1.6%)	31(0.9%)	23(2.3%)	27(0.8%)

Baseline and end line data showed a huge difference in terms of the women who were registered or listed by any healthcare provider at the time of pregnancy. In the intervention area, during the baseline 33% women reported that they were registered or listed by a health care provider/worker during the last pregnancy but end line survey showed that 72% women were registered which was more than twofold increase (39% point increase) Similarly, pregnancy registration by health care provider also increased in the comparison area from baseline (41%) to end line (57%). In intervention area, almost half of the pregnancies were registered by private CSBA followed by 15% by NGO health workers, 12% by FWA, 9% by CARE CHW.

\* Multiple responses

Table 5.1(b): Birth preparedness

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Women attended any birth preparedness discussion</b>				
Yes	94(9.4%)	1817(50.5%)	159(16.2%)	670(18.6%)
No	902(90.6%)	1782(49.5%)	823(83.8%)	2932(81.4%)
<b>Birth preparedness sessions offered by*</b>				
Qualified doctor (MBBS)	33(3.3%)	206(5.7%)	33(3.4%)	165(4.6%)
Nurse/ Midwife/FWV (Govt.)	19(1.9%)	118(3.3%)	31(3.1%)	97(2.7%)
Govt. CSBA	3(0.3%)	-	18(1.8%)	-
Care Private CSBA	-	1205(33.5%)	-	-
SACMO/MA (Govt.)	2(0.2%)	81(2.3%)	1(0.1%)	12(0.3%)
CHCP	-	25(0.7%)	-	103(2.9%)
FWA/HA	-	75(2.1%)	-	132(3.7%)
NGO health worker	14(1.4%)	405(11.2%)	43(4.4%)	231(6.4%)
Care CHW	-	221(6.1%)	-	-
VD/Pharmacist	-	11(0.3%)	-	11(0.3%)
Do not know	0(0.0%)	5(0.1%)	2(0.2%)	4(0.1%)
<b>Women received birth planning (BP) card</b>				
Received	-	1534(42.6%)	-	290(8.1%)
Didn't receive	-	2065(57.4%)	-	3312(91.9%)
<b>Source of BP card*</b>				
Qualified doctor (MBBS)	-	6(0.2%)	-	3(0.1%)
Nurse/ Midwife/FWV (Govt.)	-	44(1.2%)	-	30(0.8%)
Private CSBA	-	1080(30.0%)	-	-
FWA/HA	-	31(0.9%)	-	27(0.8%)
CHCP	-	22(0.6%)	-	31(0.9%)
NGO health worker	-	421(11.7%)	-	201(5.6%)
CARE CHW	-	214(5.9%)	-	-
TBA	-	4(0.1%)	-	-
VD/Pharmacist	-	2(0.1%)	-	-
CmSS members	-	-	-	-
Other	-	4(0.1%)	-	3(0.1%)
Don't know	-	1(0.03%)	-	4(0.1%)

Birth Preparedness is a key component of safe motherhood programs and a comprehensive strategy aimed at reducing delays around care-seeking, reaching and receiving care during birth, and promoting skilled care at delivery and in the immediate postnatal period. We found dramatic increase in terms of attendance to birth preparedness discussion in the intervention area. In the intervention area, around 50% respondents reported that they attended the discussion related to birth preparedness conducted by any healthcare provider in end line which was only 9% during baseline. So, we found 40% point increase from baseline to end line (from 9% to 50%). On the other hand, in comparison area, attendance in the birth preparedness session increased a little bit (from 16% to 19%). In intervention area, during end line, we found that most of the birth preparedness sessions were conducted by private CSBA (34%) followed by NGO health workers (11%), qualified doctor (6%), etc. About 43% respondents in intervention area reported that they had received birth planning card in their last pregnancy. Among them, 30% received birth planning card from private CSBA, 12% received from NGO health workers, 6% from care health workers.

## Section-5.2a: Women's knowledge about Antenatal care

Table 5.2(a): Knowledge related to Antenatal care

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Required number of ANC visits</b>				
1	8(0.8%)	97(2.7%)	11(1.1%)	170(4.7%)
2	97(9.7%)	306(8.5%)	127(12.9%)	522(14.5%)
3	334(33.5%)	957(26.6%)	398(40.5%)	1063(29.5%)
4 or more	319(32.0%)	2240(62.2%)	306(31.2%)	1131(31.4%)
Do not know	154(15.5%)	445(12.4%)	113(11.5%)	716(19.9%)
Not required	84(8.4%)	0(0.0%)	0(0.0%)	0(0.0%)
<b>Knowledge on pregnancy complications*</b>				
Excessive bleeding/ Hemorrhage	382(38.4%)	1820(50.6%)	558(56.8%)	1834(51.0%)
Convulsion	524(52.6%)	2267(63.0%)	500(50.9%)	1769(49.1%)
Severe Headache/Blurring of vision/ Swollen legs/hands/face(edema)	766(76.9%)	2432(67.6%)	760(77.9%)	2133(58.9%)
High Fever/ Foul smelling discharge from vagina	196(19.7%)	465(12.9%)	133(13.5%)	209(5.8%)
Labor lasting more than 12 hours/ Hand/leg prolapsed/ breach presentation	191(19.2%)	591(16.4%)	265(26.9%)	696(19.3%)
<b>Women who could tell all the 5 danger signs of pregnancy</b>	5(0.5%)	20(0.6%)	13(1.3%)	9(0.3%)
<b>Women who could tell at least 3 danger signs of pregnancy</b>	372(37.4%)	1385(38.5%)	414(42.2%)	1097(30.5%)

The table shows that in end line, 62% respondents in intervention area reported that 4 or more Antenatal care visits were required and almost 29% respondents told that 3 Antenatal care visits were required during pregnancy. On the contrary, in comparison area, knowledge regarding recommended 4 or more ANC remained unchanged (31% in both baseline and end line). In response to the question about how many ANCs were required, 12% women in end line reported that they did not know about it which was a 4% point reduction from baseline (16%) whereas this percentage increased from baseline to end line (from 12% to 20%) in comparison area. Women were found to be more knowledgeable about some pregnancy related complications in end line survey in intervention. Their knowledge found increased in excessive bleeding (baseline 38% VS end line 51%), convulsion (baseline 53% VS end line 63%). For few pregnancy complications, their knowledge decreased as well such as; high fever (baseline 20% VS end line 13%), blurring of vision (baseline 77% VS end line 68%), prolong labour (baseline 19% VS end line 16%). But in the comparison area, we found that their knowledge on all pregnancy related complications decreased from baseline to end line such as: excessive bleeding (baseline 57% VS end line 51%), convulsion (baseline 51% VS end line 49%), high fever (baseline 14% VS end line 6%), blurring of vision (baseline 78% VS end line 59%), prolong labour (baseline 27% VS end line 19%). Higher percentage of women could tell 3 danger signs of pregnancy than 5 danger signs in baseline and end line in intervention area but in comparison area the percentage of women who could tell at least three danger signs of pregnancy decreased 10% point from baseline (42%) to end line (31%).

## 5.2b: Women's antenatal care practices

Table 5.2(b): Antenatal care coverage

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Women received any antenatal check-up</b>				
Received	597(59.9%)	3029(84.2%)	695(70.8%)	2957(82.1%)
Didn't receive	399(40.1%)	570(15.8%)	287(29.2%)	645(17.9%)
<b>Number of ANC received in last pregnancy</b>				
1 time	140(14.1%)	636(17.7%)	180(18.3%)	767(21.3%)
2 times	159(16.0%)	621(17.3%)	169(17.2%)	701(19.4%)
3 times	154(15.5%)	547(15.2%)	172(17.5%)	469(13.0%)
4 or more times	144(14.5%)	1225(34.0%)	174(17.7%)	1020(28.3%)
Don't know	-	-	-	-
Didn't receive any ANC	399(40.1%)	570(15.8%)	287(29.2%)	645(17.9%)
<b>Source of Antenatal care visits*</b>				
Qualified doctor (MBBS)	306(30.7%)	902(25.1%)	328(33.4%)	1674(46.5%)
Nurse/ Midwife/FWV	97(9.7%)	269(7.5%)	179(18.2%)	324(9.0%)
SACMO/MA (Govt.)	12(1.2%)	14(0.4%)	26(2.6%)	11(0.3%)
Govt. CSBA	15(1.5%)	-	23(2.3%)	13(0.4%)
Private CSBA	-	969(26.9%)	-	-
CHCP	-	79(2.2%)	-	355(9.9%)
FWA/HA	-	38(1.1%)	-	118(3.3%)
NGO health worker	22(2.2%)	422(11.7%)	61(6.2%)	319(8.9%)
VD/Pharmacist/ Homeo doctor	72(7.2%)	246(6.8%)	42(4.3%)	105(2.9%)
TBA	3(0.3%)	10(0.3%)	2(0.2%)	8(0.2%)
CARE CHW	-	32(0.9%)	-	-
Other	70(7.0%)	43(1.2%)	33(3.4%)	24(0.7%)
Don't know	-	5(0.1%)	-	6(0.2%)
Didn't receive any ANC	399(40.1%)	570(15.8%)	287(29.2%)	645(17.9%)
<b>Any ANC from a medically trained provider</b>	430(43.2%)	2154(59.8%)	556(56.6%)	2020(56.1%)
<b>At least one ANC from Private CSBA</b>	-	1440(40.0%)	-	-

In end line survey, 84% respondents in intervention area reported that they had received at least one antenatal check-up in the last pregnancy which was 24% point increase since baseline (60%). In comparison area, we also found the increasing trend since baseline to end line (from 71% to 82%). Those who had received antenatal check-up in intervention area, 34% of them received 4 or more times in end line survey which was 15% in baseline survey. In comparison area, we also found 10% point increase from 18% to 28% in the uptake of four more antenatal cares. Private CSBA was found to be the leading antenatal care provider sharing the 26% of the total services, followed by 25% by qualified doctor. We found 5% point reduction of antenatal care services from baseline by qualified doctor that might have been shared by private CSBA. On the other hand, in comparison area, the antenatal care by qualified doctor increased 13% point from 33% to 46%. In intervention area, antenatal care by medically trained providers increased 17% point from 43% to 60% whereas in comparison area it did not increase rather it decreased by 1% point.

\* If more than one source of antenatal care was mentioned, only the provider with the highest qualifications is considered in this tabulation.

Table 5.2(c): Antenatal care coverage\*

Background Characteristics	MBBS Doctor	Nurse/ Midwife/ FWV	Private CSBA	Govt. CSBA	SACMO/ MA	CHCP	HA/ FWA	NGO worker	Unqualified provider	TBA	CARE CHW	Other	Don't know	No one	Total	Any ANC	ANC from medically trained provider
<b>Intervention (Baseline-2012)</b>																	
Lowest	25(12.5%)	24(12.0%)	-	5(2.5%)	2(1.0%)	-	-	0(0.0%)	20(10.0%)	1(.5%)	-	10(5.0%)	0(0.0%)	113(56.5%)	100	87(43.5%)	56(28.0%)
Second	52(26.1%)	19(9.5%)	-	2(1.0%)	3(1.5%)	-	-	8(4.0%)	15(7.5%)	1(.5%)	-	15(7.5%)	0(0.0%)	84(42.2%)	100	115(57.8%)	76(38.0%)
Middle	55(27.6%)	25(12.6%)	-	2(1.0%)	4(2.0%)	-	-	8(4.0%)	16(8.0%)	1(.5%)	-	8(4.0%)	0(0.0%)	80(40.2%)	100	119(59.8%)	86(43.0%)
Fourth	67(33.7%)	15(7.5%)	-	2(1.0%)	5(2.5%)	-	-	3(1.5%)	9(4.5%)	0(0.0%)	-	21(10.6%)	0(0.0%)	77(38.7%)	100	122(61.3%)	89(44.5%)
Highest	107(53.8%)	14(7.0%)	-	1(.5%)	1(.5%)	-	-	3(1.5%)	12(6.0%)	0(0.0%)	-	16(8.0%)	0(0.0%)	45(22.6%)	100	154(77.4%)	123(61.5%)
<b>Total</b>	<b>306(30.7%)</b>	<b>97(9.7%)</b>	<b>-</b>	<b>12(1.2%)</b>	<b>15(7.5%)</b>	<b>-</b>	<b>-</b>	<b>22(2.2%)</b>	<b>72(7.2%)</b>	<b>3(.3%)</b>	<b>-</b>	<b>70(7.0%)</b>	<b>0(0.0%)</b>	<b>399(40.1%)</b>	<b>100</b>	<b>597(59.9%)</b>	<b>430(43.2%)</b>
<b>Intervention (End line-2018)</b>																	
Lowest	98(13.6%)	40(5.6%)	217(30.1%)	-	3(0.4%)	14(1.9%)	9(1.3%)	84(11.7%)	69(9.6%)	1(0.1%)	8(1.1%)	9(1.3%)	0(0.0%)	167(23.2%)	100	553(76.8%)	358(49.7%)
Second	124(17.2%)	50(6.9%)	196(27.2%)	-	3(0.4%)	19(2.6%)	11(1.5%)	85(11.8%)	65(9.0%)	0(0.0%)	3(0.4%)	8(1.1%)	1(0.1%)	155(21.5%)	100	565(78.5%)	373(51.8%)
Middle	171(23.8%)	48(6.7%)	196(27.2%)	-	3(0.4%)	11(1.5%)	7(0.9%)	82(11.4%)	57(7.9%)	3(0.4%)	8(1.1%)	11(1.5%)	3(0.4%)	120(16.7%)	100	600(83.3%)	419(58.2%)
Fourth	194(26.9%)	69(9.6%)	196(27.2%)	-	2(0.3%)	21(2.9%)	8(1.1%)	84(11.7%)	39(5.4%)	4(0.6%)	7(0.9%)	11(1.5%)	1(0.1%)	84(11.7%)	100	636(88.3%)	461(64.0%)
Highest	315(43.8%)	62(8.6%)	164(22.8%)	-	3(0.4%)	14(1.9%)	3(0.4%)	87(12.1%)	16(2.2%)	2(0.3%)	6(0.8%)	4(0.6%)	0(0.0%)	44(6.1%)	100	676(93.8%)	543(75.5%)
<b>Total</b>	<b>902(25.1%)</b>	<b>269(7.5%)</b>	<b>969(26.9%)</b>	<b>-</b>	<b>14(0.4%)</b>	<b>79(2.2%)</b>	<b>38(1.1%)</b>	<b>422(11.7%)</b>	<b>246(6.8%)</b>	<b>10(0.3%)</b>	<b>32(0.9%)</b>	<b>43(1.2%)</b>	<b>5(0.1%)</b>	<b>570(15.8%)</b>	<b>100</b>	<b>3030(84.2%)</b>	<b>2154(59.8%)</b>
<b>Comparison (Baseline-2012)</b>																	
Lowest	35(17.8%)	34(17.3%)	-	6(3.0%)	6(3.0%)	-	-	9(4.6%)	7(3.6%)	1(.5%)	-	4(2.0%)	0(0.0%)	95(48.2%)	100	102(51.8%)	81(41.1%)
Second	50(25.5%)	40(20.4%)	-	1(.5%)	4(2.0%)	-	-	19(9.7%)	11(5.6%)	1(.5%)	-	8(4.1%)	0(0.0%)	62(31.6%)	100	134(68.4%)	95(48.5%)
Middle	65(33.0%)	33(16.8%)	-	7(3.6%)	7(3.6%)	-	-	12(6.1%)	10(5.1%)	0(0.0%)	-	10(5.1%)	0(0.0%)	53(26.9%)	100	144(73.1%)	112(56.9%)
Fourth	74(37.8%)	33(16.8%)	-	6(3.1%)	5(2.6%)	-	-	11(5.6%)	11(5.6%)	0(0.0%)	-	7(3.6%)	0(0.0%)	49(25.0%)	100	147(75.0%)	118(60.2%)
Highest	104(53.1%)	39(19.9%)	-	6(3.1%)	1(.5%)	-	-	10(5.1%)	3(1.5%)	0(0.0%)	-	4(2.0%)	0(0.0%)	29(14.8%)	100	167(85.2%)	150(76.5%)
<b>Total</b>	<b>328(33.4%)</b>	<b>179(18.2%)</b>	<b>-</b>	<b>26(2.6%)</b>	<b>23(2.3%)</b>	<b>-</b>	<b>-</b>	<b>61(6.2%)</b>	<b>42(4.3%)</b>	<b>2(.2%)</b>	<b>-</b>	<b>33(3.4%)</b>	<b>0(0.0%)</b>	<b>288(29.3%)</b>	<b>100</b>	<b>694(70.7%)</b>	<b>556(56.6%)</b>
<b>Comparison (End line-2018)</b>																	
Lowest	248(34.4%)	79(10.9%)	-	1(0.1%)	5(0.7%)	71(9.9%)	18(2.5%)	55(7.6%)	24(3.3%)	5(0.7%)	-	1(0.1%)	4(0.6%)	210(29.2%)	100	510(70.8%)	333(46.2%)
Second	300(41.7%)	70(9.7%)	-	0(0.0%)	2(0.3%)	92(12.8%)	14(1.9%)	55(7.6%)	28(3.9%)	2(0.3%)	-	4(0.6%)	1(0.1%)	152(21.1%)	100	568(78.9%)	372(51.7%)
Middle	325(45.1%)	70(9.7%)	-	2(0.3%)	4(0.6%)	71(9.9%)	26(3.6%)	73(10.1%)	18(2.5%)	0(0.0%)	-	5(0.7%)	1(0.1%)	126(17.5%)	100	592(82.2%)	401(55.6%)
Fourth	354(49.2%)	56(7.8%)	-	5(0.7%)	0(0.0%)	67(9.3%)	30(4.2%)	78(10.8%)	22(3.1%)	0(0.0%)	-	8(1.1%)	0(0.0%)	100(13.9%)	100	621(86.3%)	415(57.6%)
Highest	447(62.1%)	49(6.8%)	-	5(0.7%)	0(0.0%)	54(7.5%)	30(4.2%)	58(8.1%)	13(1.8%)	1(0.1%)	-	6(0.8%)	0(0.0%)	57(7.9%)	100	663(92.1%)	501(69.6%)
<b>Total</b>	<b>1674(46.5%)</b>	<b>324(9.0%)</b>	<b>-</b>	<b>13(0.4%)</b>	<b>11(0.3%)</b>	<b>355(9.9%)</b>	<b>118(3.3%)</b>	<b>319(8.9%)</b>	<b>105(2.9%)</b>	<b>8(0.2%)</b>	<b>-</b>	<b>24(0.7%)</b>	<b>6(0.2%)</b>	<b>645(17.9%)</b>	<b>100</b>	<b>2954(82.1%)</b>	<b>2022(56.1%)</b>

The table showed that the Antenatal care coverage by providers was associated with economic status of the family. However, we found the increasing trend of ANC service by medically trained providers from lowest wealth quintile to highest wealth quintile in intervention (lowest quintile 28% highest quintile 62%). Similar trend of increase was also found in comparison area (lowest quintile 46% highest quintile 70%). We found that women from lowest wealth quintile (30%) tend to receive more ANC from private CSBA compared to women in highest wealth quintile (23%)

\* If more than one source of antenatal care was mentioned, only the provider with the highest qualifications is considered in this tabulation.

Table 5.2(d): Any Antenatal care coverage by Private CSBA

	Intervention (End line-2018) n=1440	
	Distribution within clients	Coverage by quintile
Lowest	325(22.6%)	325(45.1%)
Second	295(20.5%)	294(40.8%)
Middle	298(20.7%)	299(41.5%)
Fourth	289(20.1%)	289(40.1%)
Highest	233(16.1%)	233(32.4%)
<b>Total</b>	<b>1440(100%)</b>	<b>1440(40.0%)</b>

Note: We have considered any Antenatal Care Coverage by Private CSBA if women received at least one ANC from Private CSBA.

For any Antenatal care by private CSBA, we found that women in highest quintile (32%) were less likely to antenatal care from private CSBA compared to women in lowest (45%), second (41%) and middle wealth quintile (42%)

Table 5.2(e): Components measured during ANC check-up

Components	End line-2018	
	Intervention area	Comparison area
	n=3029	n=2957
<b>Height measured</b>	421(13.9%)	154(5.2%)
<b>Weight measured</b>	2224(73.4%)	2211(74.8%)
<b>Anemia checked</b>	2462(81.3%)	1212(40.9%)
<b>Blood pressure checked</b>	2775(91.6%)	2333(78.9%)
<b>Blood sample taken</b>	1143(37.7%)	1377(46.6%)
<b>Urine sample taken for protein and sugar test</b>	672(22.2%)	911(30.8%)
<b>Urine sample taken for pregnancy test</b>	926(30.6%)	751(25.4%)
<b>Ultra-sonogram performed</b>	1567(51.7%)	2368(80.1%)

The content of Antenatal care is an essential component of ANC service quality. The women who sought antenatal care in intervention and comparison area most of them had measured their blood pressure (intervention 92% comparison 79%), Anemia (intervention 81% comparison 41%), weight (intervention 73% comparison 75%).

Table 5.2(f): Components measured during ANC check-up by Private CSBA

Components	End line-2018
	n=1440
<b>Height measured</b>	229(15.9%)
<b>Weight measured</b>	1171(81.3%)
<b>Anemia checked</b>	1245(86.5%)
<b>Blood pressure checked</b>	1363(94.7%)
<b>Blood sample taken</b>	560(38.9%)
<b>Urine sample taken for protein and sugar test</b>	406(28.2%)
<b>Urine sample taken for pregnancy test</b>	337(23.4%)

The table presents the components which were checked by private CSBA while providing Antenatal care. The components of antenatal care checked by private CSBA were blood pressure (95%), anemia (87%), and weight (81%). In addition, private CSBA had also taken blood sample (39%), urine sample taken for protein and sugar test (28%), etc.

**Table 5.2(g): Antenatal complication**

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Women suffered from ANC complications</b>				
Did not have any complication	372(37.4%)	2450(68.1%)	494(50.3%)	2744(76.2%)
Have faced complications	624(62.7%)	1149(31.9%)	488(49.7%)	858(23.8%)
Total	996(100%)	3599(100%)	982(100%)	3602(100%)
<b>ANC complications women suffered from*</b>				
Hemorrhage/bleeding	14(1.4%)	55(1.5%)	31(3.2%)	62(1.7%)
Convulsion	41(4.1%)	55(1.5%)	20(2.0%)	17(0.5%)
Severe Headache	141(14.2%)	222(6.2%)	163(16.6%)	121(3.4%)
High fever	122(12.3%)	181(5.0%)	90(9.2%)	128(3.6%)
Blurring of vision	71(7.1%)	140(3.9%)	64(6.5%)	80(2.2%)
Swollen legs/ hands/face (edema)	132(13.3%)	386(10.7%)	83(8.5%)	219(6.1%)
High blood pressure	12(1.2%)	83(2.3%)	13(1.3%)	42(1.2%)
Reduced/absent fetal movements	14(1.4%)	118(3.3%)	38(3.9%)	103(2.9%)
Foul smelling discharge from vagina	11(1.1%)	17(0.5%)	6(0.6%)	32(0.9%)
Severe anemia	30(3.0%)	68(1.9%)	21(2.1%)	58(1.6%)
Rupture of membrane before 37 weeks	-	47(1.3%)	-	51(1.4%)
Others (e.g., physical weakness, excessive vomiting, Jaundice, Urine infection, severe abdominal pain, Loin pain etc.)	480(48.2%)	179(5.0%)	304(30.9%)	196(5.4%)
Can't remember	-	35(0.9%)	-	3(0.1%)
Did not have any complication	372(37.4%)	2450(68.1%)	494(50.3%)	2742(76.1%)
<b>First contact with healthcare provider for ANC complications</b>				
Contacted to skilled provider	324(51.9%)	760(74.1%)	308(63.0%)	635(74.0%)
Contacted to NGO/Govt. health worker	1(0.2%)	31(3.0%)	8(1.3%)	11(1.3%)
Contacted to unskilled provider	187(30.0%)	235(22.9%)	103(21.1%)	101(11.8%)
Don't know	0(0.0%)	0(0.0%)	0(0.0%)	2(0.2%)
Didn't contact with anybody/go anywhere	112(17.9%)	123(10.7%)	70(14.3%)	109(12.7%)

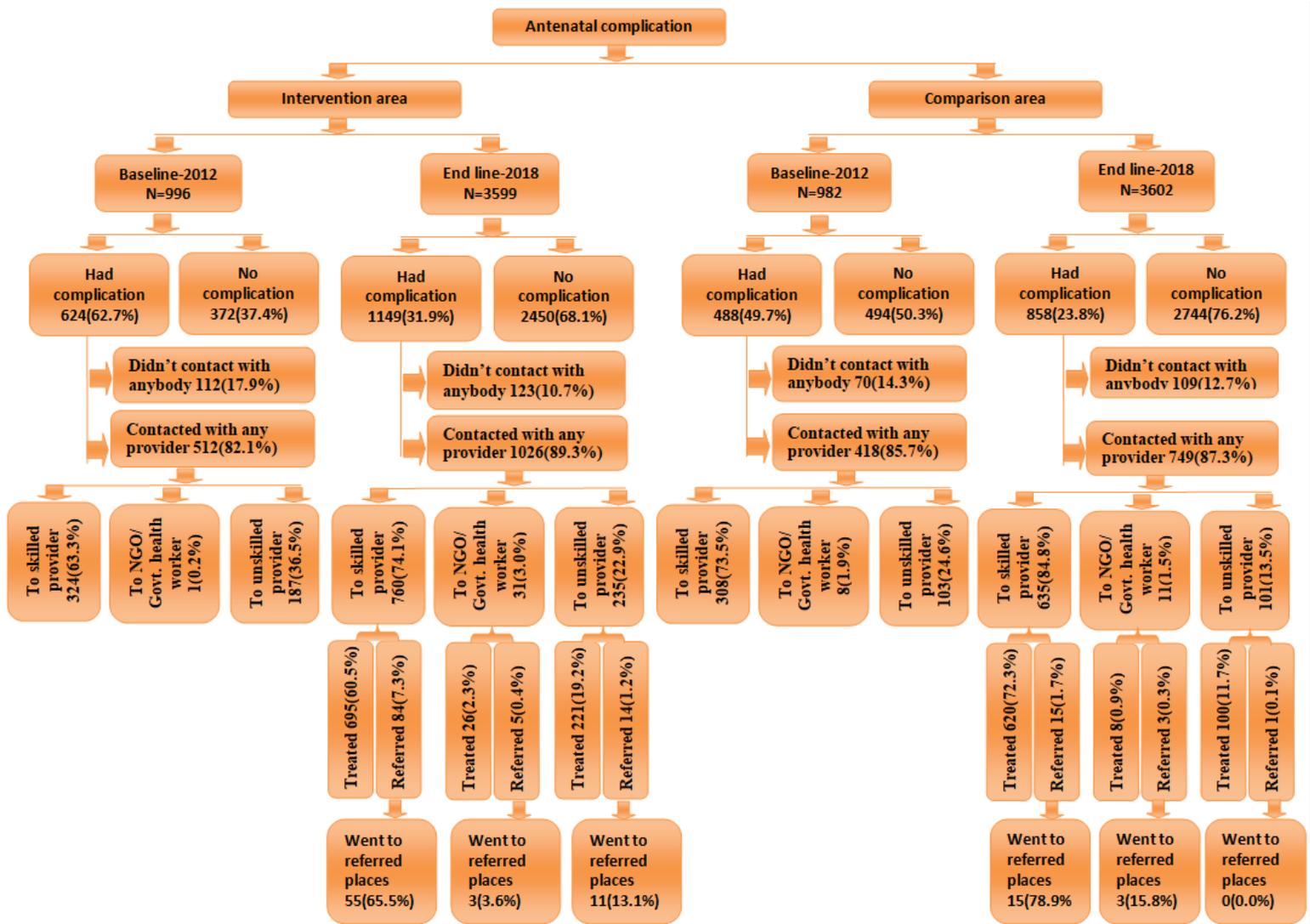
We wanted to look at how many women had complications during pregnancy and the types of complications. In end line survey, it was found that 32% women had faced complications during last pregnancy but it was 63% in baseline in intervention. In comparison area, the complications also reduced to half from baseline (50%) to end line (24%). Types of complications during pregnancy reduced in both the intervention and comparison area. The end line result shows the reduction trend in intervention and comparison (convulsion: intervention 2% comparison 0.5%), severe headache: intervention 6%, comparison 3%, high fever intervention 5% comparison 3%). However, those who had complications during pregnancy, most of them had contacted first in intervention area to skilled providers (74%) which was higher than the baseline (52%) whereas it was 85% in comparison area. We found a decreasing trend of contacting with unskilled provider from baseline to end line in both intervention and comparison area from 30% to 23% and 21% 12% respectively.

**Table 5.2(h): Referral status of antenatal complication**

	<b>Intervention area</b>	<b>Comparison area</b>
	<b>End line-2018</b>	<b>End line-2018</b>
<b>Treatment provided by 1<sup>st</sup> provider for ANC complications</b>		
Treated	942(82.0%)	730(85.1%)
Referred	84(7.3%)	19(2.2%)
Didn't contact with anybody/go anywhere	123(10.7%)	109(12.7%)
<b>Overall treatment provided by types of provider</b>		
Treated by skilled provider	695(60.5%)	620(72.3%)
Referred by skilled provider	65(5.7%)	15(1.7%)
Treated by NGO/Govt. health worker	26(2.3%)	8(0.9%)
Referred by NGO/Govt. health worker	5(0.4%)	3(0.3%)
Treated by unskilled provider	221(19.2%)	100(11.7%)
Referred by unskilled provider	14(1.2%)	1(0.1%)
Don't know		2(0.2%)
Didn't contact with anybody/go anywhere	123(10.7%)	109(12.7%)
<b>Women went to the referred place for taking treatment</b>		
Went to that place referred by skilled provider	55(65.5%)	15(78.9%)
Went to that place referred by NGO/Govt. health worker	3(3.6%)	3(15.8%)
Went to that place referred by unskilled provider	11(13.1%)	0(0.0%)
<b>The place where women took care finally for complications</b>		
At Home	52(4.5%)	15(1.8%)
CC/RD/USC	9(0.8%)	8(0.9%)
UH&FWC	7(0.6%)	1(0.1%)
UHC	60(5.2%)	60(7.0%)
MCWC	5(0.4%)	7(0.8%)
DH	9(0.8%)	39(4.6%)
MCH	52(4.5%)	39(4.6%)
10-30 bed govt. specialized hospital	27(2.4%)	1(0.1%)
NGO health center	20(1.7%)	6(0.7%)
Private clinic	58(5.1%)	298(34.7%)
Doctor's private chamber (MBBS)	513(44.7%)	184(21.5%)
VD/Pharmacist/Homeo doctor	194(16.9%)	81(9.4%)
Other	12(1.0%)	5(0.6%)
Can't remember	8(0.7%)	5(0.6%)
<b>Source of receiving help during referral *</b>		
Qualified doctor (MBBS)	29(34.5%)	14(73.7%)
Nurse/ Midwife/FWV (Govt.)	9(10.7%)	1(5.3%)
Private CSBA	10(11.9%)	0(0.0%)
FWA/HA	0(0.0%)	2(10.5%)
CHCP	0(0.0%)	0(0.0%)
NGO health worker	4(4.8%)	0(0.0%)
Care CHW	1(1.2%)	0(0.0%)
VD/Pharmacist	3(3.5%)	1(5.3%)
Homeo doctor	1(1.2%)	0(0.0%)
TBA	3(3.6%)	0(0.0%)
Relatives/Neighbors	47(56.0%)	7(36.8%)
Others	2(2.4%)	0(0.0%)
Total	(n=84)	(n=19)
<b>Areas of help women received *</b>		
To select the facility and service provider	56(66.7%)	16(84.2%)
Arranged transport to go to health facility	8(9.5%)	2(10.5%)
Took me to the health facility	39(46.4%)	5(26.3%)
Helped to take treatment from the facility	8(9.5%)	2(10.5%)
To communicate with referral facility	10(11.9%)	1(5.3%)
To give money	20(23.8%)	3(15.8%)
Total	(n=84)	(n=19)

\* Multiple responses

\* Multiple responses



**Figure-1: ANC complication**

Respondents reported that when they went to the providers, 82% of them were treated by that providers in the intervention area and 85% were treated in the comparison area. Among them 7% were referred in intervention and 2% in comparison area. Those who were given treatment, most of them were (60%) in intervention and 72% in comparison were given by the skilled providers. However, those who were referred 66% of them in intervention and 79% in comparison went to that referred places. The place from where they finally received the treatment were MBBS doctor's private chamber ( intervention 45% comparison 22%), followed by VD/Pharmacist chamber (intervention 17% comparison 9%). Most of the respondents reported that they received help from relatives and neighbours (intervention 56% comparison 37%) followed by qualified doctor (intervention 35% comparison 74%) during referral. They mostly received help in the area of selecting the facility and provider (intervention 67% comparison 84%), accompanying to the health facility (intervention 46% comparison 26%), arranging money (intervention 24% comparison 16%) etc.

### Section-5.3: Uptake of Iron and Folic Acid during last pregnancy

Table 5.3(a): Uptake of Iron and Folic Acid

	Intervention area		Comparison area
	Baseline-2016 N=1755	End line-2018 N=3599	End line-2018 N=3602
<b>Women received iron/iron folic acid tablet in last pregnancy</b>			
Yes	1271(72.4%)	2338(65.0%)	2540(70.5%)
No	484(27.6%)	1261(35.0%)	1062(29.5%)
<b>Women took at least 90 or more IFA tablets</b>			
Less than 90	577(32.9%)	1298(36.1%)	1159(32.2%)
At least 90 or more	688(39.2%)	997(27.7%)	1347(37.4%)
Don't know/Can't remember	6(0.3%)	42(1.2%)	34(0.9%)
Not took any IFA tablet	484(27.6%)	1261(35.0%)	1062(29.5%)
Total	1755(100%)	3598(100%)	3602(100%)
<b>Women received iron syrup in last pregnancy</b>			
Yes	33 (1.9%)	73(2.0%)	31(0.9%)
No	1722 (98.1%)	3523(98.0%)	3571(99.1%)
Total	1755 (100%)	3596(100%)	3602(100%)
<b>Number of days taken iron syrup in last pregnancy</b>			
≤5 days	4 (12.1%)	4(0.1%)	2(0.1%)
6-10 days	6 (18.2%)	4(0.1%)	2(0.1%)
11-15 days	8(24.2%)	8(0.2%)	7(0.2%)
16-30 days	8 (24.2%)	25(0.7%)	6(0.2%)
31 days or above	5 (15.2%)	13(0.4%)	5(0.1%)
Don't know/Can't remember	2 (6.1%)	19(0.5%)	9(0.2%)
Not took any IFA syrup	33 (100%)	3523(98.0%)	3570(99.1%)
<b>Number of bottles of iron syrup taken</b>			
1 bottle	14(42.4%)	29(0.8%)	13(0.4%)
2 bottle	7(21.2%)	13(0.4%)	6(0.2%)
3 bottle	3(9.1%)	7(0.2%)	3(0.1%)
4 or above bottle	8(24.2%)	3(0.1%)	0(0.0%)
Don't know	1(3.0%)	21(0.6%)	9(0.2%)
Not took any IFA syrup	33(100%)	3523(98.0%)	3570(99.1%)
<b>Source of the iron/iron folic acid tablet or syrup*</b>			
TBA	10(0.6%)	8(0.2%)	14(0.4%)
Relatives/Neighbors	9(0.5%)		
SACMO/MA (Govt.)	7(0.4%)	12(0.3%)	24(0.7%)
Nurse/ Midwife/FWV	73(4.1%)	324(9.0%)	415(11.5%)
Qualified doctor (MBBS)	158(9.0%)	65(1.8%)	55(1.5%)
VD/Pharmacist	248(14.1%)	949(26.4%)	1053(29.2%)
NGO health worker	148(8.4%)	171(4.8%)	251(6.9%)
Private CSBA	386(22.0%)	539(15.0%)	0(0.0%)
Care CHW	20(1.1%)	66(1.8%)	0(0.0%)
CHCP	181(10.3%)	239(6.6%)	753(20.9%)
FWA/HA	225(12.8%)	200(5.6%)	283(7.9%)
Other	8 (0.5%)	14(0.4%)	18(0.5%)
Don't know	5 (0.3%)	53(1.5%)	27(0.8%)

The uptake of Iron and Folic acid supplements is associated with a reduced risk of iron deficiency and anaemia in pregnant women. We wanted to explore the uptake of iron and folic acid during last pregnancy. The table shows that about 63% women reported in the intervention area that they had received iron/iron folic acid tablet in their last pregnancy which was a bit higher in the comparison area (71%). Around 40% women in the intervention and comparison area reported that they had taken less than 100 Iron and Folic Acid during last pregnancy. In both intervention and comparison areas almost all of the respondents (98% and 99% respectively) told that they did not take Iron syrup in their last pregnancy. Most of the women in intervention (26%) and comparison area (29%) received iron/iron folic acid tablet or syrup from VD/ pharmacist. In end line survey, we found that 15% women received iron/iron folic acid tablet or syrup from private CSBA.

\* Multiple responses

## Section-5.4a: Women's attitudes towards delivery place and provider

Table 5.4(a): Knowledge related to delivery care

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>A woman should have her delivery</b>				
At Home	849(85.2%)	2702(75.1%)	699(71.2%)	2431(67.5%)
Community Clinic	0(0.0%)	26(0.7%)	0(0.0%)	7(0.2%)
Public health facility	132(13.3%)	740(20.6%)	204(20.8%)	827(22.9%)
Private health facility	15(1.5%)	112(3.1%)	69(7.0%)	310(8.6%)
NGO health facility	0(0.0%)	11(0.3%)	8(0.8%)	12(0.3%)
Others	0(0.0%)	1(0.3%)	2(0.2%)	0(0.0%)
Don't know	0(0.0%)	7(0.2%)	0(0.0%)	15(0.4%)
<b>Preferable provider to conduct the delivery</b>				
Qualified doctor (MBBS)	91(9.1%)	502(13.9%)	150(15.3%)	739(20.5%)
Nurse/ Midwife/FWV	48(4.8%)	394(10.9%)	154(15.7%)	553(15.4%)
SACMO/MA (Govt.)	5(0.5%)	2(0.1%)	7(0.7%)	5(0.1%)
Private CSBA	0(0.0%)	331(9.2%)	0(0.0%)	0(0.0%)
CHCP	0(0.0%)	7(0.2%)	0(0.0%)	1(0.03%)
NGO health worker	0(0.0%)	16(0.4%)	1(0.1%)	3(0.1%)
VD/Pharmacist	1(0.1%)	7(0.2%)	2(0.2%)	6(0.2%)
TBA	779(78.2%)	2237(62.2%)	641(65.3%)	2208(61.0%)
Relatives/Neighbors	68(6.8%)	64(1.8%)	16(1.6%)	42(1.2%)
Others	0(0.0%)	25(0.7%)	7(0.7%)	19(0.5%)
Don't know	4(0.4%)	14(0.4%)	4(0.4%)	26(0.7%)

We also assessed the knowledge and practices related to delivery. In response to the question where a woman should have her delivery, 75% women reported that women should have her delivery at home which was 85% in baseline in intervention area. The knowledge of not to have delivery at home also reduced from 71% to 68% in comparison area. Knowledge to have delivery in public health facilities increased in both intervention (from 13% to 21%) and comparison area (from 21% to 23%). In comparison area, 68% women reported that women should deliver at home and 23% preferred public health facility for delivery. In intervention area, almost 14% women opined that delivery should be conducted by qualified (MBBS) doctor whereas 9% women in baseline told that delivery should be conducted by qualified (MBBS) doctor. Major percentage of women (62%) in end line and 78% in baseline reported that delivery should be conducted by TBA. In comparison area, 61% women told that delivery should be conducted by TBA which was a bit higher in baseline (65%).

## Section-5.4b: Women's delivery care practices

Table 5.4(b): Delivery preparation and history of last delivery

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Actions taken as birth-preparedness in last delivery*</b>				
Decided about place of delivery	481(48.3%)	2880(80.0%)	609(62.0%)	2463(68.4%)
Saved money	204(20.5%)	731(20.3%)	340(34.6%)	567(15.7%)
Prepared emergency transport	71(7.1%)	220(6.1%)	55(5.6%)	64(1.8%)
Decided about birth attendant	494(49.6%)	1326(36.8%)	358(36.5%)	823(22.8%)
Selected about blood donor	3(0.3%)	57(1.6%)	10(1.0%)	83(2.3%)
Selected referral facilities if any complication	58(5.8%)	63(1.8%)	47(4.8%)	125(3.5%)
Accompanying person for complications	14(1.4%)	57(1.6%)	8(0.8%)	71(1.9%)
Collected safe delivery kit	53(5.3%)	212(5.9%)	63(6.4%)	112(3.1%)
Others (blade, thread, soap, oil, clean cloths)	346(34.7%)	1148(31.8%)	274(27.9%)	985(29.8%)
Did not take any preparation	0(0.0%)	449(12.5%)	0(0.0%)	840(23.3%)
<b>Place of recent delivery</b>				
At Home	857(86.0%)	2573(71.5%)	783(79.7%)	2372(65.9%)
At Community Clinic	0(0.0%)	20(0.6%)	0(0.0%)	2(0.1%)
Public health facility	100(10.0%)	614(17.1%)	95(9.7%)	390(10.8%)
Private health facility	28(2.8%)	330(9.2%)	92(9.4%)	803(22.3%)
NGO health facility	1(0.1%)	39(1.1%)	5(0.5%)	18(0.5%)
Community based delivery centre	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
On street/transport	0(0.0%)	16(0.4%)	0(0.0%)	15(0.4%)
Others	10(1.0%)	4(0.1%)	7(0.7%)	1(0.1%)
Don't know	0(0.0%)	3(0.1%)	0(0.0%)	1(0.03%)
<b>Assistance during recent delivery</b>				
Qualified doctor(MBBS)	92(9.2%)	533(14.8%)	127(12.9%)	901(25.0%)
Nurse/Midwife/Paramedics/FWV	40(4.0%)	453(12.6%)	73(7.4%)	385(10.7%)
Govt. CSBA	0(0.0%)	0(0.0%)	2(0.2%)	0(0.0%)
CARE Private CSBA	0(0.0%)	355(9.9%)	0(0.0%)	0(0.0%)
SACMO/MA	0(0.0%)	5(0.1%)	4(0.4%)	2(0.1%)
FWA/HA	0(0.0%)	3(0.1%)	0(0.0%)	86(2.4%)
NGO Worker	0(0.0%)	29(0.8%)	0(0.0%)	8(0.2%)
TBA	746(74.9%)	2014(56.0%)	711(72.4%)	2145(59.6%)
CARE CHW	0(0.0%)	72(2.0%)	0(0.0%)	0(0.0%)
Unqualified Provider (VD/Pharmacist)	10(1.0%)	20(0.6%)	4(0.4%)	9(0.3%)
Relatives	99(9.9%)	82(2.3%)	30(3.1%)	48(1.3%)
Self	2(0.2%)	0(0.0%)	6(0.6%)	1(0.03%)
Others	7(0.7%)	33(0.9%)	25(2.5%)	17(0.5%)
<b>Assistance during recent delivery by types</b>				
Skilled provider	133(13.4%)	1346(37.4%)	210(21.4%)	1288(35.8%)
Unskilled provider <sup>4</sup>	863(86.6%)	2253(62.6%)	772(78.6%)	2314(64.2%)
<b>Mode of recent delivery</b>				
Normal vaginal delivery	945(94.9%)	2971(88.9%)	863(87.9%)	2799(77.7%)
Caesarean delivery	51(5.1%)	399(11.1%)	119(12.1%)	803(22.3%)

**Birth preparedness:** We asked women what they did as a part of birth preparedness practice for last delivery. As a part of birth preparedness, the women mentioned in intervention area that, they decided about the place of delivery (baseline 48% VS end line 80%), saved money (baseline 20% VS end line 20%), chosen the delivery birth attendant (baseline 50% VS end line 37%). In comparison area, place of delivery increased a bit (baseline 62% VS end line 68%), whereas savings for delivery (baseline 35% VS end line 16%) and preparation for emergency transport (baseline 6% VS 2% end line) decreased from baseline to end line.

**Place of last delivery:** In response to the question where their last deliveries had taken place, we found 14% point reduction in home delivery from 72% to 86% in intervention area. Likewise, in comparison area, we also found the

decreasing trend of home delivery from 80% to 66%. In intervention area, we found the increasing trend of facility delivery in end line survey such as: delivery at public health facility (baseline 10% VS end line 17%), delivery at private health facility (baseline 3% VS end line 9%). Similarly, in comparison area, we found an increasing trend to deliver at private health facility (baseline 9% VS end line 22%).

**Assistance during delivery: We asked women who conducted their last delivery.** Around 15% women in intervention reported that their last delivery was conducted by qualified doctor (MBBS) which was a bit higher than the baseline 9%. The rate of delivery by qualified provider became doubled from 13% to 25%. Around 10% women reported that their deliveries were conducted by private CSBA. We found huge reduction of delivery from 75% to 56% by TBA in intervention and from 72% to 56% in comparison area. However, delivery conducted by the skilled providers is increasing. In baseline, 13% deliveries were conducted by the skilled providers whereas end line data shows that 37% deliveries were conducted by the skilled providers. For comparison area, the skilled deliveries were also found to be increasing from baseline (21%) to end line (36%).

**Mode of recent delivery:** We also wanted to know whether the last delivery was normal or Caesarean. The rate of Caesarean delivery was found to be increasing in intervention area from baseline to end line (5% VS 11) and in comparison area from baseline to end line (12% VS 22%).

Table 5.4(c): Place of delivery (Quintile Analysis)

Wealth quintile	Home	CC	Public Facility	Private Facility	NGO Facility	Others	On street	Don't know	Total
<b>Intervention (Baseline-2012)</b>									
Lowest	183(91.5%)	0(0.0%)	13(6.5%)	2(1.0%)	0(.0%)	2(1.0%)	0(0.0%)	0(0.0%)	200(100%)
Second	181(91.0%)	0(0.0%)	13(6.5%)	2(1.0%)	0(.0%)	3(1.5%)	0(0.0%)	0(0.0%)	199(100%)
Middle	167(83.9%)	0(0.0%)	26(13.1%)	3(1.5%)	0(.0%)	3(1.5%)	0(0.0%)	0(0.0%)	199(100%)
Fourth	173(86.9%)	0(0.0%)	21(10.6%)	4(2.0%)	1(.5%)	0(.0%)	0(0.0%)	0(0.0%)	199(100%)
Highest	153(76.9%)	0(0.0%)	27(13.6%)	17(8.5%)	0(.0%)	2(1.0%)	0(0.0%)	0(0.0%)	199(100%)
<b>Total</b>	<b>857(86.0%)</b>	<b>0(0.0%)</b>	<b>100(10.0%)</b>	<b>28(2.8%)</b>	<b>1(1.1%)</b>	<b>10(1.0%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>996(100%)</b>
<b>Intervention (End line-2018)</b>									
Lowest	612(85.0%)	4(0.6%)	74(10.3%)	16(2.2%)	6(0.8%)	1(0.1%)	5(0.7%)	2(0.3%)	720(100%)
Second	595(82.6%)	6(0.8%)	76(10.6%)	33(4.6%)	5(0.7%)	1(0.1%)	4(0.6%)	0(0.0%)	720(100%)
Middle	550(76.4%)	2(0.3%)	130(18.1%)	32(4.4%)	3(0.4%)	2(0.3%)	1(0.1%)	0(0.0%)	720(100%)
Fourth	480(66.5%)	3(0.4%)	171(23.8%)	59(8.2%)	8(1.1%)	0(0.0%)	0(0.0%)	0(0.0%)	720(100%)
Highest	336(47.2%)	5(0.7%)	163(22.6%)	190(26.4%)	17(2.4%)	0(0.0%)	6(0.8%)	1(0.1%)	719(100%)
<b>Total</b>	<b>2573(71.5%)</b>	<b>20(0.6%)</b>	<b>614(17.1%)</b>	<b>330(9.2%)</b>	<b>39(1.1%)</b>	<b>4(0.1%)</b>	<b>16(0.4%)</b>	<b>3(0.1%)</b>	<b>3599(100%)</b>
<b>Comparison (Baseline-2012)</b>									
Lowest	184(93.4%)	0(0.0%)	13(6.6%)	0(.0%)	0(.0%)	0(.0%)	0(0.0%)	0(0.0%)	197(100%)
Second	171(87.2%)	0(0.0%)	16(8.2%)	9(4.6%)	0(.0%)	0(.0%)	0(0.0%)	0(0.0%)	196(100%)
Middle	162(82.2%)	0(0.0%)	21(10.7%)	11(5.6%)	2(1.0%)	1(.5%)	0(0.0%)	0(0.0%)	197(100%)
Fourth	152(77.6%)	0(0.0%)	19(9.7%)	20(10.2%)	2(1.0%)	3(1.5%)	0(0.0%)	0(0.0%)	196(100%)
Highest	114(58.2%)	0(0.0%)	26(13.3%)	52(26.5%)	1(.5%)	3(1.5%)	0(0.0%)	0(0.0%)	196(100%)
<b>Total</b>	<b>783(79.7%)</b>	<b>0(0.0%)</b>	<b>95(9.7%)</b>	<b>92(9.4%)</b>	<b>5(.5%)</b>	<b>7(.7%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>982(100%)</b>
<b>Comparison (End line-2018)</b>									
Lowest	553(76.8%)	1(0.1%)	63(8.8%)	92(12.8%)	3(0.4%)	1(0.1%)	7(0.9%)	1(0.1%)	721(100%)
Second	533(74.0%)	1(0.1%)	75(10.4%)	110(15.3%)	1(0.1%)	0(0.0%)	2(0.3%)	0(0.0%)	720(100%)
Middle	500(69.4%)	0(0.0%)	77(10.7%)	133(18.5%)	6(0.8%)	0(0.0%)	4(0.6%)	0(0.0%)	721(100%)
Fourth	467(64.9%)	0(0.0%)	89(12.4%)	158(21.9%)	4(0.6%)	1(0.1%)	1(0.1%)	0(0.0%)	720(100%)
Highest	319(44.3%)	0(0.0%)	86(11.9%)	310(43.1%)	4(0.6%)	0(0.0%)	1(0.1%)	0(0.0%)	720(100%)
<b>Total</b>	<b>2372(65.9%)</b>	<b>2(0.1%)</b>	<b>390(10.8%)</b>	<b>803(22.3%)</b>	<b>18(0.5%)</b>	<b>1(0.03%)</b>	<b>15(0.4%)</b>	<b>1(0.03%)</b>	<b>3602(100%)</b>

We wanted to explore whether wealth have any influence on the place of the delivery. In intervention and comparison area, we found that women in the highest wealth quintile found to have increasing trend of giving birth at private and public health facilities compared to women in the lowest wealth quintile. The rate of delivery at public and private health facilities found to have increased since baseline to end line across all wealth quintiles. Similar trend of increasing facility delivery and decreasing home delivery was also found in the comparison area from lowest wealth quintile to highest quintile.

Table 5.4(d): Place of delivery (Quintile Analysis)

Wealth quintile	Home delivery	CC	Facility delivery	Others	On street	Don't know	Total
<b>Intervention (Baseline-2012)</b>							
Lowest	183(91.5%)	0(0.0%)	15(7.5%)	2(1.0%)	0(0.0%)	0(0.0%)	200(100%)
Second	181(91.0%)	0(0.0%)	15(7.5%)	3(1.5%)	0(0.0%)	0(0.0%)	199(100%)
Middle	167(83.9%)	0(0.0%)	29(14.6%)	3(1.5%)	0(0.0%)	0(0.0%)	199(100%)
Fourth	173(86.9%)	0(0.0%)	26(13.1%)	0(0.0%)	0(0.0%)	0(0.0%)	199(100%)
Highest	153(76.9%)	0(0.0%)	44(22.1%)	2(1.0%)	0(0.0%)	0(0.0%)	199(100%)
<b>Total</b>	<b>857(86.0%)</b>	<b>0(0.0%)</b>	<b>129(12.9%)</b>	<b>10(1.0%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>996(100%)</b>
<b>Intervention (End line-2018)</b>							
Lowest	612(85.0%)	4(0.6%)	96(13.3%)	1(0.1%)	5(0.7%)	2(0.3%)	720(100%)
Second	595(82.6%)	6(0.8%)	115(15.9%)	1(0.1%)	4(0.6%)	0(0.0%)	720(100%)
Middle	550(76.4%)	2(0.3%)	165(22.9%)	2(0.3%)	1(0.1%)	0(0.0%)	720(100%)
Fourth	480(66.5%)	3(0.4%)	236(32.8%)	0(0.0%)	0(0.0%)	0(0.0%)	720(100%)
Highest	336(47.2%)	5(0.7%)	371(51.6%)	0(0.0%)	6(0.8%)	1(0.1%)	719(100%)
<b>Total</b>	<b>2573(71.5%)</b>	<b>20(0.6%)</b>	<b>983(27.3%)</b>	<b>4(0.1%)</b>	<b>16(0.4%)</b>	<b>3(0.1%)</b>	<b>3599(100%)</b>
<b>Comparison (Baseline-2012)</b>							
Lowest	184(93.4%)	0(0.0%)	13(6.6%)	0(0.0%)	0(0.0%)	0(0.0%)	197(100%)
Second	171(87.2%)	0(0.0%)	25(12.8%)	0(0.0%)	0(0.0%)	0(0.0%)	196(100%)
Middle	162(82.2%)	0(0.0%)	34(17.3%)	1(0.5%)	0(0.0%)	0(0.0%)	197(100%)
Fourth	152(77.6%)	0(0.0%)	41(20.9%)	3(1.5%)	0(0.0%)	0(0.0%)	196(100%)
Highest	114(58.2%)	0(0.0%)	79(40.3%)	3(1.5%)	0(0.0%)	0(0.0%)	196(100%)
<b>Total</b>	<b>783(79.7%)</b>	<b>0(0.0%)</b>	<b>192(19.6%)</b>	<b>7(0.7%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>982(100%)</b>
<b>Comparison (End line-2018)</b>							
Lowest	553(76.8%)	1(0.1%)	158(21.9%)	1(0.1%)	7(0.9%)	1(0.1%)	721(100%)
Second	533(74.0%)	1(0.1%)	184(25.6%)	0(0.0%)	2(0.3%)	0(0.0%)	720(100%)
Middle	500(69.4%)	0(0.0%)	217(30.1%)	0(0.0%)	4(0.6%)	0(0.0%)	721(100%)
Fourth	467(64.9%)	0(0.0%)	252(35.0%)	0(0.0%)	1(0.1%)	0(0.0%)	720(100%)
Highest	319(44.3%)	0(0.0%)	400(55.6%)	0(0.0%)	1(0.1%)	0(0.0%)	720(100%)
<b>Total</b>	<b>2372(65.9%)</b>	<b>2(0.1%)</b>	<b>1211(33.6%)</b>	<b>1(0.03%)</b>	<b>15(0.4%)</b>	<b>1(0.03%)</b>	<b>3602(100%)</b>

The place of delivery especially home delivery and facility delivery is associated with wealth. Place of delivery varies depending on the wealth quintile. As previously observed, women in the lowest wealth quintile are less likely to have facility delivery and opt for home delivery. Conversely, more women in the highest wealth quintile usually go to facility delivery compared to women in lowest quintile in both intervention and comparison area.

Table 5.4(e): Delivery care provider (Quintile Analysis)

Wealth quintile	Qualified doctor (MBBS)	Nurse/midwife/FWV	SACM O/ MA	Private CSBA	HA/ FWA	NGO Worker (other)	CARE CHW	TBA	unqualified provider	Relative/Neighbor	Other	Self	Total
<b>Intervention (Baseline-2012)</b>													
Lowest	10(5.0%)	6(3.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	153(76.5%)	2(1.0%)	27(13.5%)	1(.5%)	1(.5%)	100
Second	12(6.0%)	4(2.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	160(80.4%)	4(2.0%)	19(9.5%)	0(0.0%)	0(0.0%)	100
Middle	18(9.0%)	10(5.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	145(72.9%)	2(1.0%)	23(11.6%)	0(0.0%)	1(.5%)	100
Fourth	15(7.5%)	13(6.5%)	0(0.0%)	1(.5%)	0(0.0%)	0(0.0%)	0(0.0%)	154(77.4%)	0(0.0%)	16(8.0%)	0(0.0%)	0(0.0%)	100
Highest	37(18.6%)	11(5.5%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	134(67.3%)	2(1.0%)	14(7.0%)	1(.5%)	0(0.0%)	100
<b>Total</b>	<b>92(9.2%)</b>	<b>44(4.4%)</b>	<b>0(0.0%)</b>	<b>1(1.1%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>746(74.9%)</b>	<b>10(1.0%)</b>	<b>99(9.9%)</b>	<b>2(.2%)</b>	<b>2(.2%)</b>	<b>100</b>
<b>Intervention (End line-2018)</b>													
Lowest	35(4.9%)	65(9.0%)	0(0.0%)	74(10.3%)	0(0.0%)	7(0.9%)	24(3.3%)	479(66.5%)	3(0.4%)	21(2.9%)	13(1.8%)	1(0.1%)	100
Second	55(7.6%)	63(8.8%)	1(0.1%)	82(11.4%)	3(0.4%)	6(0.8%)	11(1.5%)	472(65.6%)	7(1.0%)	13(1.8%)	6(0.8%)	0(0.0%)	100
Middle	83(11.5%)	83(11.5%)	0(0.0%)	69(9.6%)	0(0.0%)	5(0.7%)	14(1.9%)	434(60.3%)	5(0.7%)	21(2.9%)	5(0.7%)	0(0.0%)	100
Fourth	115(15.9%)	118(16.4%)	3(0.4%)	69(9.6%)	0(0.0%)	4(0.6%)	12(1.7%)	378(52.5%)	3(0.4%)	13(1.8%)	6(0.8%)	0(0.0%)	100
Highest	245(34.1%)	124(17.3%)	1(0.1%)	61(8.5%)	0(0.0%)	7(0.9%)	12(1.5%)	251(34.9%)	2(0.3%)	14(1.9%)	3(0.4%)	0(0.0%)	100
<b>Total</b>	<b>533(14.8%)</b>	<b>453(12.6%)</b>	<b>5(0.1%)</b>	<b>355(9.9%)</b>	<b>3(0.1%)</b>	<b>29(0.8%)</b>	<b>72(2.0%)</b>	<b>2014(56.0%)</b>	<b>20(0.6%)</b>	<b>82(2.3%)</b>	<b>33(0.9%)</b>	<b>1(0.03%)</b>	<b>100</b>
<b>Comparison (Baseline-2012)</b>													
Lowest	3(1.5%)	12(6.1%)	0(0.0%)	1(0.5%)	0(0.0%)	0(0.0%)	0(0.0%)	169(85.8%)	2(1.0%)	7(3.6%)	1(0.5%)	2(1.0%)	100
Second	18(9.2%)	10(5.1%)	0(0.0%)	1(0.5%)	0(0.0%)	0(0.0%)	0(0.0%)	159(81.1%)	0(0.0%)	7(3.6%)	0(0.0%)	1(0.5%)	100
Middle	18(9.1%)	17(8.6%)	0(0.0%)	1(0.5%)	0(0.0%)	0(0.0%)	0(0.0%)	152(77.2%)	0(0.0%)	8(4.1%)	0(0.0%)	1(0.5%)	100
Fourth	29(14.8%)	19(9.7%)	3(1.5%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	134(68.4%)	1(0.5%)	5(2.6%)	3(1.5%)	2(1.0%)	100
Highest	59(30.1%)	30(15.3%)	3(1.5%)	1(0.5%)	0(0.0%)	0(0.0%)	0(0.0%)	97(49.5%)	1(0.5%)	3(1.5%)	2(1.0%)	0(0.0%)	100
<b>Total</b>	<b>127(12.9)</b>	<b>88(9.0%)</b>	<b>6(0.6%)</b>	<b>4(0.4%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>711(72.4%)</b>	<b>4(0.4%)</b>	<b>30(3.1%)</b>	<b>6(0.6%)</b>	<b>6(0.6%)</b>	<b>100</b>
<b>Comparison (End line-2018)</b>													
Lowest	111(15.4%)	54(7.5%)	1(0.1%)	0(0.0%)	12(1.7%)	2(0.3%)	0(0.0%)	518(71.8%)	2(0.3%)	14(1.9%)	8(1.1%)	0(0.0%)	100
Second	131(18.2%)	70(9.7%)	0(0.0%)	0(0.0%)	19(2.6%)	0(0.0%)	0(0.0%)	485(67.4%)	3(0.4%)	10(1.4%)	2(0.3%)	0(0.0%)	100
Middle	150(20.8%)	74(10.3%)	0(0.0%)	0(0.0%)	14(1.9%)	5(0.7%)	0(0.0%)	463(64.2%)	1(0.1%)	11(1.5%)	2(0.3%)	1(0.1%)	100
Fourth	184(25.6%)	86(11.9%)	1(0.1%)	0(0.0%)	20(2.8%)	1(0.1%)	0(0.0%)	416(57.8%)	3(0.4%)	6(0.8%)	3(0.4%)	0(0.0%)	100
Highest	325(45.1%)	101(14.0%)	0(0.0%)	0(0.0%)	21(2.9%)	0(0.0%)	0(0.0%)	263(36.6%)	0(0.0%)	7(0.9%)	2(0.3%)	0(0.0%)	100
<b>Total</b>	<b>901(25.0%)</b>	<b>385(10.7%)</b>	<b>2(0.1%)</b>	<b>0(0.0%)</b>	<b>86(2.4%)</b>	<b>8(0.2%)</b>	<b>0(0.0%)</b>	<b>2145(59.6%)</b>	<b>9(0.3%)</b>	<b>48(1.3%)</b>	<b>17(0.5%)</b>	<b>1(0.03%)</b>	<b>100</b>

Women who were in lowest to middle wealth quintile were more likely to receive delivery care from TBA and less likely to receive care from qualified providers found from baseline and end line data in both intervention and comparison area. On the other hand, women belonging to highest wealth quintile were more likely to receive delivery care from qualified providers and less likely to receive care from TBA and other unqualified providers.

Table 5.4(f): Skilled delivery care provider (Quintile Analysis)

Wealth quintile	Skilled	Unskilled	Total
<b>Intervention (Baseline-2012)</b>			
Lowest	15(7.5%)	185(92.5%)	200(100%)
Second	16(8.0%)	183(92.0%)	199(100%)
Middle	28(14.1%)	171(85.9%)	199(100%)
Fourth	29(14.6%)	170(85.4%)	199(100%)
Highest	45(22.6%)	154(77.4%)	199(100%)
<b>Total</b>	<b>133(13.4%)</b>	<b>863(86.7%)</b>	<b>996(100%)</b>
<b>Intervention (End line-2018)</b>			
Lowest	173(24.0%)	547(76.0%)	720(100%)
Second	202(28.1%)	518(71.9%)	720(100%)
Middle	236(32.8%)	484(67.2%)	720(100%)
Fourth	304(42.2%)	414(57.5%)	720(100%)
Highest	431(59.9%)	288(40.1%)	720(100%)
<b>Total</b>	<b>1346(37.4%)</b>	<b>2253(62.6%)</b>	<b>3600(100%)</b>
<b>Comparison (Baseline-2012)</b>			
Lowest	16(8.1%)	181(91.9%)	197(100%)
Second	27(13.8%)	169(86.2%)	196(100%)
Middle	34(17.3%)	163(82.7%)	197(100%)
Fourth	48(24.5%)	148(75.5%)	196(100%)
Highest	85(43.4%)	111(56.6%)	196(100%)
<b>Total</b>	<b>210(21.4%)</b>	<b>772(78.6%)</b>	<b>982(100%)</b>
<b>Comparison (End line-2018)</b>			
Lowest	166(23.1%)	555(76.9%)	721(100%)
Second	201(27.9%)	519(72.1%)	720(100%)
Middle	224(31.1%)	497(68.9%)	721(100%)
Fourth	271(37.6%)	449(62.4%)	720(100%)
Highest	426(59.2%)	294(40.8%)	720(100%)
<b>Total</b>	<b>1288(35.8%)</b>	<b>2314(64.2%)</b>	<b>3602(100%)</b>

Baseline data showed that women in the lowest wealth quintile (93%) were more likely to receive health care services from unskilled care providers the trend of which decreased at end line (76%). Skilled health care providers are usually chosen by women in highest wealth quintile which showed an increasing trend (23% at baseline VS 60% at end line).

**Table 5.4(g): Delivery complication**

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3600	Baseline-2012 N=982	End line-2018 N=3602
<b>Women suffered from delivery complications</b>				
Did not have any complication	603(60.5%)	2389(66.4%)	627(63.9%)	2317(64.3%)
Had complication	393(39.5%)	1210(33.6%)	355(36.2%)	1285(34.7%)
Total	996(100%)	3600(100%)	982(100%)	3602(100%)
<b>Types of delivery complications women suffered from*</b>				
Excessive bleeding/Hemorrhage	21(2.1%)	101(2.8%)	29(2.9%)	47(1.3%)
Labor lasting more than 12 hours	275(27.6%)	385(10.7%)	213(21.7%)	264(7.3%)
Hand/leg prolapsed/ breach presentation	8(0.8%)	54(1.5%)	12(1.2%)	14(0.4%)
Foul smelling discharge from vagina	5(0.5%)	5(0.1%)	6(0.6%)	2(0.1%)
High fever	-	29(0.8%)	-	8(0.2%)
Retained placenta	8(0.8%)	50(1.4%)	11(1.1%)	37(1.0%)
Convulsion	37(3.7%)	74(2.1%)	27(2.8%)	57(1.6%)
Severe chest pain and rapid breathing	-	22(0.6%)	-	10(0.3%)
Premature rupture of membrane and Labor pain below threshold level	-	587(16.3%)	-	638(17.7%)
Others (Perennial tear, Severe Headache, low pressure, etc.)	114(11.4%)	163(4.5%)	122(12.4%)	397(11.0%)
Did not have any complication	603(60.5%)	2389(66.4%)	627(63.9%)	2317(64.3%)
<b>First contact with healthcare provider for delivery complications</b>				
Contacted to skilled provider	108(27.5%)	630(52.1%)	167(47.0%)	598(46.5%)
Contacted to NGO/Govt. health worker	0(0.0%)	34(2.8%)	0(0.0%)	48(3.7%)
Contacted to unskilled provider	215(54.7%)	460(38.0%)	136(38.3%)	567(44.1%)
Didn't contact with anybody/go anywhere	70(17.8%)	86(7.1%)	52(14.6%)	72(5.6%)

We found decreasing trend of delivery complications in intervention since baseline to end line (from 40% to 34%) whereas in comparison the complications remained almost unchanged (from 36% to 35%). The frequently mentioned delivery complications in end line were prolong labor which has been drastically reduced from baseline to end line (from 28% to 11%). In comparison area, we also found the dramatic reduction of prolong labor from baseline (22%) to end line (7%). Contacting to skilled health care provider in intervention from baseline to end line increased (from 28% to 52%) whereas it remained same in comparison (47%).

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\* Multiple responses

Table 5.4(h): Referral status of delivery complication

	<b>Intervention area</b>	<b>Comparison area</b>
	<b>End line-2018</b>	<b>End line-2018</b>
<b>Treatment provided by 1<sup>st</sup> provider for delivery complications</b>		
Treated by the provider	843(69.7%)	962(74.9%)
Referred to the other provider	281(23.2%)	251(19.5%)
Didn't contact with anybody/go anywhere	86(7.1%)	72(5.6%)
<b>Overall treatment provided by types of provider</b>		
Treated by skilled provider	468(38.7%)	499(38.8%)
Referred by skilled provider	162(13.4%)	99(7.7%)
Treated by NGO/Govt. health worker	19(1.6%)	36(2.8%)
Referred by NGO/Govt. health worker	15(1.2%)	12(0.9%)
Treated by unskilled provider	356(29.4%)	427(33.2%)
Referred by unskilled provider	104(8.6%)	140(10.9%)
Didn't contact with anybody/go anywhere	86(7.1%)	72(5.6%)
<b>Women went to the referred place for taking treatment</b>		
Went to that place referred by skilled provider	145(51.6%)	88(35.1%)
Went to that place referred by NGO/Govt. health worker	12(4.3%)	11(4.4%)
Went to that place referred by unskilled provider	94(33.5%)	135(53.8%)
<b>The place where women took care finally for complications</b>		
At Home	435(36.0%)	472(36.7%)
CC/RD/USC	7(0.6%)	0(0.0%)
UH&FWC	6(0.5%)	8(0.6%)
UHC	138(11.4%)	85(6.6%)
MCWC	12(1.0%)	22(1.7%)
DH	35(2.9%)	89(6.9%)
MCH	186(15.4%)	72(5.6%)
10-30 bed govt. specialized hospital	44(3.6%)	0(0.0%)
NGO health center	21(1.7%)	5(0.4%)
Private clinic	100(8.3%)	376(29.3%)
Doctor's private chamber (MBBS)	22(1.8%)	9(0.7%)
VD/Pharmacist/Homeo doctor	102(8.4%)	65(5.1%)
Other	7(0.6%)	5(0.4%)
Can't remember	9(0.7%)	5(0.4%)
<b>Source of receiving help during referral *</b>		
Qualified doctor (MBBS)	43(15.3%)	44(17.5%)
Nurse/ Midwife/FWV (Govt.)	40(14.2%)	36(14.3%)
SACMO/MA	2(0.7%)	4(1.6%)
Private CSBA	51(18.2%)	0(0.0%)
FWA/HA	2(0.7%)	9(3.6%)
CHCP	1(0.4%)	0(0.0%)
NGO health worker	8(2.9%)	2(0.8%)
Care CHW	5(1.8%)	0(0.0%)
VD/Pharmacist	19(6.8%)	21(8.4%)
Homeo doctor	1(0.4%)	2(0.8%)
TBA	65(23.1%)	115(45.8%)
Relatives/Neighbors	173(61.6%)	148(58.9%)
Others	2(0.7%)	2(0.8%)
Total	(n=281)	(n=251)

\* Multiple responses

Areas of help women received *		
To select the facility and service provider	194(69.0%)	199(79.3%)
Arranged transport to go to health facility	37(13.2%)	47(18.7%)
Took me to the health facility	120(42.7%)	120(47.8%)
Helped to take treatment from the facility	24(8.5%)	46(18.3%)
To communicate with referral facility	19(6.8%)	9(3.6%)
To give money	65(23.1%)	38(15.1%)
Others	5(1.8%)	0(0.0%)
Can't remember	2(0.7%)	0(0.0%)
Total	(n=281)	(n=251)

Respondents reported that when they went to the providers, 70% of them were treated by that providers in the intervention area and 75% were treated in the comparison area. Those who were given treatment, most of them were (39%) in intervention and 39% in comparison were given by the skilled providers. However, those who were referred 52% of them in intervention and 35% in comparison went to that referred places. The place from where they finally received the treatment were home (intervention 36% comparison 36%), medical college hospital (intervention 15% comparison 6%) Upazila health complex (intervention 11% comparison 6%). Most of the respondents reported that they received help from relatives and neighbours (intervention 62% comparison 59%) followed by TBA (intervention 23% comparison 46%). They mostly received help in the area of selecting the facility and provider (intervention 69% comparison 79%), accompanying to the health facility (intervention 43% comparison 49%), arranging money (intervention 23% comparison 15%) etc.

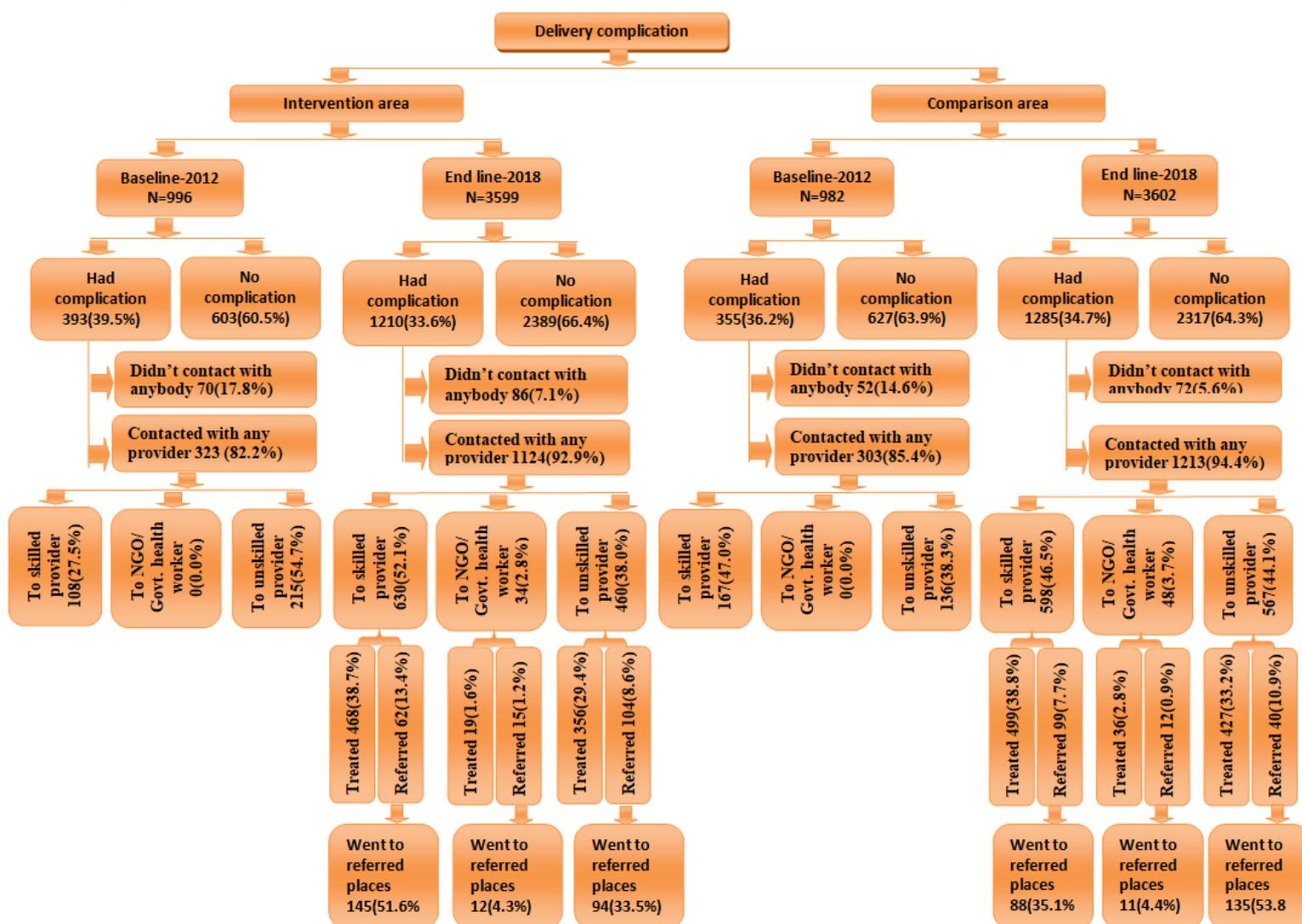


Figure-2: Delivery complications

## Section-5.5: Postnatal care (PNC) practices

Table 5.5(a): Postnatal care coverage

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3600	Baseline-2012 N=982	End line-2018 N=3602
<b>Women received any PNC check-up</b>				
Received	382(38.4%)	1598(44.4%)	307(31.3%)	1202(33.4%)
Didn't receive	614(61.6%)	2001(55.6%)	675(68.7%)	2400(66.6%)
<b>Number of PNC received in last delivery</b>				
1 time	263(26.4%)	846(23.5%)	173(17.6%)	272(7.6%)
2 times	62(6.2%)	210(5.8%)	39(3.9%)	110(3.1%)
3 times	38(3.8%)	131(3.6%)	25(2.6%)	160(4.4%)
4 or more times	18(1.8%)	411(11.4%)	70(7.1%)	660(18.3%)
Don't know	-	-	-	-
Didn't receive	614(61.6%)	2001(55.6%)	675(68.7%)	2400(66.6%)
<b>Type of provider for first PNC within 2 days</b>				
Qualified doctor (MBBS)	64(6.4%)	554(15.4%)	103(10.5%)	518(14.3%)
Nurse/ Midwife/FWV	25(2.5%)	209(5.8%)	40(4.1%)	502(13.9%)
SACMO/MA (Govt.)	3(0.3%)	5(0.1%)	1(0.1%)	4(0.1%)
Private CSBA	-	315(8.8%)	-	-
CHCP	-	2(0.1%)	-	1(0.02%)
CARE CHW	-	5(0.1%)	-	-
FWA/HA	-	1(0.02%)	-	-
NGO health worker	-	18(0.5%)	3(0.3%)	13(0.4%)
VD/Pharmacist/ Homeo doctor	105(10.5%)	110(3.1%)	42(4.3%)	40(1.1%)
TBA	2(0.2%)	2(0.1%)	1(0.1%)	2(0.1%)
Other	6(0.6%)	0(0.0%)	1(0.1%)	0(0.0%)
Don't know	-	0(0.0%)	1(0.1%)	0(0.0%)
Didn't receive any PNC within 2 days	791(79.4%)	2378(66.1%)	790(80.4%)	2520(69.9%)
<b>Women received PNC within 2 days from a medically trained provider</b>	93(9.3%)	1083(30.1%)	144(14.7%)	1024(28.4%)
<b>Women received at least one PNC from Private CSBA</b>	-	352(9.8%)	-	-

Postnatal care is a crucial component of safe motherhood and neonatal health. Postnatal checkups provide an opportunity to assess and treat delivery complications and counsel mothers on how to care for themselves and their newborns. We found women receiving postnatal check up increased to some extent in intervention area from baseline to end line (38% VS 44%) and in comparison area (31% VS 33%). We found 4 or more PNC increased to a great extent from baseline (2%) to end line (11%) in intervention and in comparison area (baseline 7% end line 18%). First postnatal checkups provided by qualified doctor within two days of delivery increased at end line (15%) since baseline (6%) whereas postnatal checkups by VD/Pharmacist decreased (baseline 11% VS end line 3%). Likewise, in the comparison area, qualified provider of first postnatal check up within 2 days also increased a bit (from 11% to 14%). The end line data showed that 9% postnatal checkups were provided by private CSBA.

Table 5.5(b): Type of provider of first postnatal checkup for mother (Within 2 days)

Background Characteristics	Qualified doctor (MBBS)	Nurse/ midwife/ FWV	Private CSBA	SACMO/ MA	HA/ FWA	CHCP	NGO Worker (other)	unqualified provider	CARE CHW	TBA	Other	Don't know	No PNC	Total	Percentage receiving checkup within 2 days from medically trained provider
<b>Intervention (Baseline-2012)</b>															
Lowest	13(6.5%)	0(.0%)	0(0.0%)	0(.0%)	0(0.0%)	0(0.0%)	0(0.0%)	15(7.5%)	0(0.0%)	1(.5%)	3(1.5%)	0(0.0%)	168(84.0%)	100	13(6.5%)
Second	7(3.5%)	8(4.0%)	0(0.0%)	0(.0%)	0(0.0%)	0(0.0%)	0(0.0%)	19(9.5%)	0(0.0%)	0(.0%)	0(.0%)	0(0.0%)	165(82.9%)	100	15(7.5%)
Middle	12(6.0%)	4(2.0%)	0(0.0%)	1(.5%)	0(0.0%)	0(0.0%)	0(0.0%)	30(15.1%)	0(0.0%)	0(.0%)	3(1.5%)	0(0.0%)	149(74.9%)	100	17(8.5%)
Fourth	9(4.5%)	7(3.5%)	0(0.0%)	0(.0%)	0(0.0%)	0(0.0%)	0(0.0%)	21(10.6%)	0(0.0%)	0(.0%)	0(.0%)	0(0.0%)	162(81.4%)	100	16(8.0%)
Highest	24(12.1%)	6(3.0%)	0(0.0%)	2(1.0%)	0(0.0%)	0(0.0%)	0(0.0%)	21(10.6%)	0(0.0%)	1(.5%)	0(.0%)	0(0.0%)	145(72.9%)	100	32(16.1%)
<b>Total</b>	<b>65(6.5%)</b>	<b>25(2.5%)</b>	<b>0(0.0%)</b>	<b>3(.3%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>106(10.6%)</b>	<b>0(0.0%)</b>	<b>2(.2%)</b>	<b>6(.6%)</b>	<b>0(0.0%)</b>	<b>789(79.3%)</b>	<b>100</b>	<b>93(9.3%)</b>
<b>Intervention (End line-2018)</b>															
Lowest	45(6.3%)	30(4.2%)	73(10.1%)	1(0.1%)	0(0.0%)	0(0.0%)	5(0.7%)	25(3.5%)	2(0.3%)	0(0.0%)	0(0.0%)	0(0.0%)	539(75.9%)	100	149(2.7%)
Second	59(8.2%)	31(4.3%)	65(9.0%)	0(0.0%)	0(0.0%)	1(0.1%)	5(0.7%)	28(3.9%)	0(0.0%)	1(0.1%)	0(0.0%)	0(0.0%)	532(73.8%)	100	155(21.5%)
Middle	77(10.7%)	35(4.9%)	60(8.3%)	1(0.1%)	0(0.0%)	1(0.1%)	2(0.3%)	27(3.8%)	3(0.4%)	0(0.0%)	0(0.0%)	0(0.0%)	513(71.3%)	100	173(24.0%)
Fourth	118(16.4%)	48(6.7%)	60(8.3%)	1(0.1%)	19(0.1%)	0(0.0%)	2(0.3%)	13(1.8%)	0(0.0%)	1(0.1%)	0(0.0%)	0(0.0%)	475(66.0%)	100	227(31.5%)
Highest	255(35.4%)	65(9.0%)	57(7.9%)	2(0.3%)	0(0.0%)	0(0.0%)	4(0.6%)	17(2.4%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	319(44.4%)	100	379(52.6%)
<b>Total</b>	<b>554(15.4%)</b>	<b>209(5.8%)</b>	<b>315(8.8%)</b>	<b>5(0.1%)</b>	<b>1(.02%)</b>	<b>2(0.1%)</b>	<b>18(0.5%)</b>	<b>110(3.1%)</b>	<b>5(0.1%)</b>	<b>2(0.1%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>2378(66.1%)</b>	<b>100</b>	<b>1083(30.1%)</b>
<b>Comparison (Baseline-2012)</b>															
Lowest	7(3.6%)	10(5.1%)	0(0.0%)	0(.0%)	0(0.0%)	0(0.0%)	0(.0%)	8(4.1%)	0(0.0%)	0(0.0%)	1(.5%)	0(.0%)	171(86.7%)	100	17(1.7%)
Second	15(7.7%)	4(2.0%)	0(0.0%)	0(.0%)	0(0.0%)	0(0.0%)	0(.0%)	10(5.1%)	0(0.0%)	0(0.0%)	0(.0%)	0(.0%)	167(85.2%)	100	19(1.9%)
Middle	9(4.6%)	11(5.6%)	0(0.0%)	1(.5%)	0(0.0%)	0(0.0%)	2(1.0%)	11(5.6%)	0(0.0%)	0(0.0%)	0(.0%)	0(.0%)	163(82.7%)	100	21(2.1%)
Fourth	26(13.3%)	8(4.1%)	0(0.0%)	0(.0%)	0(0.0%)	0(0.0%)	1(.5%)	8(4.1%)	0(0.0%)	0(0.0%)	1(.5%)	0(.0%)	152(77.5%)	100	34(3.5%)
Highest	46(23.5%)	7(3.6%)	0(0.0%)	0(.0%)	0(0.0%)	0(0.0%)	0(.0%)	5(2.6%)	0(0.0%)	0(0.0%)	0(.0%)	1(.5%)	137(69.8%)	100	53(5.4%)
<b>Total</b>	<b>103(10.5%)</b>	<b>40(4.1%)</b>	<b>0(0.0%)</b>	<b>1(.1%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>3(.3%)</b>	<b>42(4.3%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>2(.2%)</b>	<b>1(.1%)</b>	<b>790(80.4%)</b>	<b>100</b>	<b>144(14.7%)</b>
<b>Comparison (End line-2018)</b>															
Lowest	63(8.7%)	66(9.2%)	0(0.0%)	1(0.1%)	0(0.0%)	0(0.0%)	0(0.0%)	10(1.4%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	581(80.6%)	100	130(18.0%)
Second	78(10.8%)	73(10.1%)	0(0.0%)	0(0.0%)	1(0.1%)	0(0.0%)	0(0.0%)	11(1.5%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	557(77.4%)	100	151(20.9%)
Middle	76(10.5%)	95(13.2%)	0(0.0%)	2(0.3%)	3(0.4%)	0(0.0%)	1(0.1%)	6(0.8%)	0(0.0%)	1(0.1%)	0(0.0%)	0(0.0%)	537(74.5%)	100	173(23.9%)
Fourth	110(15.3%)	99(13.8%)	0(0.0%)	1(0.1%)	2(0.3%)	1(0.1%)	1(0.1%)	9(1.3%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	497(69.0%)	100	210(29.2%)
Highest	191(26.5%)	169(23.5%)	0(0.0%)	0(0.0%)	7(0.9%)	0(0.0%)	0(0.0%)	4(0.6%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	348(48.3%)	100	360(50.0%)
<b>Total</b>	<b>518(14.3%)</b>	<b>502(13.9%)</b>	<b>0(0.0%)</b>	<b>4(0.1%)</b>	<b>13(0.4%)</b>	<b>1(.03%)</b>	<b>2(0.1%)</b>	<b>40(1.1%)</b>	<b>0(0.0%)</b>	<b>2(0.1%)</b>	<b>0(0.0%)</b>	<b>0(0.0%)</b>	<b>2520(69.9%)</b>	<b>100</b>	<b>1024(28.4%)</b>

Percentage of women receiving postnatal checkups within two days by medically trained providers found to be increasing from baseline to end line across wealth quintiles in both intervention and comparison areas. Likewise, the postnatal checkups by unqualified providers found to be decreasing from baseline to end line in intervention area.

Table 5.5(c): At least one Postnatal Care (PNC) Coverage by Private CSBA

	<b>Intervention (End line-2018)</b>	
	<b>N=352</b>	
	<b>Distribution within clients</b>	<b>Coverage by quintile</b>
Lowest	75(21.3%)	75(10.4%)
Second	75(21.3%)	75(10.4%)
Middle	70(19.9%)	70(9.7%)
Fourth	68(19.3%)	68(9.4%)
Highest	64(18.2%)	64(8.9%)
<b>Total</b>	<b>352(100%)</b>	<b>352(9.8%)</b>

At least one postnatal care by private CSBA was found to be a little bit higher than in lowest quintile (21%) in comparison to highest quintile (18%) in end line survey.

Table 5.5(d): Timing of first postnatal check-up for mother

<b>Background Characteristics</b>	<b>Less than 4 hours</b>	<b>4-23 hours</b>	<b>1-2 days</b>	<b>3-6 days</b>	<b>7-42 days</b>	<b>Don't know</b>	<b>No Postnatal checkup</b>	<b>Total</b>
<b>Intervention (Baseline-2014)</b>								
Lowest	17(8.5%)	6(3.0%)	9(4.5%)	9(4.5%)	18(9.0%)	2(1.0%)	139(69.5%)	100
Second	21(10.6%)	7(3.5%)	6(3.0%)	6(3.0%)	22(11.1%)	2(1.0%)	135(67.8%)	100
Middle	32(16.1%)	9(4.5%)	9(4.5%)	12(6.0%)	29(14.6%)	1(0.5%)	107(53.8%)	100
Fourth	21(10.6%)	9(4.5%)	7(3.5%)	11(5.5%)	26(13.1%)	0(0.0%)	125(62.8%)	100
Highest	38(19.1%)	7(3.5%)	9(4.5%)	11(5.5%)	26(13.1%)	0(0.0%)	108(54.3%)	100
<b>Total</b>	<b>129(13.0%)</b>	<b>38(3.8%)</b>	<b>40(4.0%)</b>	<b>49(4.9%)</b>	<b>121(12.1%)</b>	<b>5(0.5%)</b>	<b>614(61.7%)</b>	<b>100</b>
<b>Total</b>	<b>275(15.7%)</b>	<b>109(6.2%)</b>	<b>128(7.3%)</b>	<b>48(2.7%)</b>	<b>120(6.8%)</b>	<b>0(0.0%)</b>	<b>1075(61.3%)</b>	<b>100</b>
<b>Intervention (End line-2018)</b>								
Lowest	119(16.5%)	38(5.3%)	24(3.3%)	34(4.7%)	53(7.4%)	0(0.0%)	452(62.8%)	100
Second	118(16.4%)	37(5.1%)	35(4.9%)	31(4.3%)	62(8.6%)	1(0.1%)	436(60.6%)	100
Middle	120(16.7%)	40(5.6%)	46(6.4%)	25(3.5%)	45(6.3%)	1(0.1%)	442(61.4%)	100
Fourth	154(21.4%)	64(8.9%)	26(3.6%)	17(2.4%)	49(6.8%)	1(0.1%)	408(56.7%)	100
Highest	208(28.9%)	126(17.5%)	67(9.3%)	15(2.1%)	39(5.4%)	1(0.1%)	263(36.6%)	100
<b>Total</b>	<b>719(19.9%)</b>	<b>305(8.5%)</b>	<b>198(5.5%)</b>	<b>122(3.4%)</b>	<b>248(6.9%)</b>	<b>4(0.1%)</b>	<b>2001(55.6%)</b>	<b>100</b>
<b>Comparison (Baseline-2012)</b>								
Lowest	12(6.1%)	5(2.5%)	9(4.6%)	7(3.6%)	10(5.1%)	0(.0%)	154(78.1%)	100
Second	16(8.2%)	5(2.6%)	8(4.1%)	3(1.5%)	21(10.7%)	0(0.0%)	143(72.9%)	100
Middle	19(9.6%)	2(1.0%)	13(6.6%)	9(4.6%)	17(8.6%)	1(.5%)	136(69.1%)	100
Fourth	20(10.2%)	7(3.6%)	17(8.7%)	6(3.1%)	20(10.2%)	0(0.0%)	126(64.1%)	100
Highest	37(18.9%)	10(5.1%)	12(6.1%)	7(3.6%)	14(7.1%)	0(0.0%)	116(59.2%)	100
<b>Total</b>	<b>104(10.6%)</b>	<b>29(3.0%)</b>	<b>59(6.0%)</b>	<b>32(3.3%)</b>	<b>82(8.4%)</b>	<b>1(1.1%)</b>	<b>675(68.6%)</b>	<b>100</b>
<b>Comparison (End line-2012)</b>								
Lowest	72(9.9%)	60(8.3%)	8(1.1%)	6(0.8%)	16(2.2%)	0(0.0%)	559(77.5%)	100
Second	93(12.9%)	56(7.8%)	15(2.1%)	9(1.3%)	10(1.4%)	0(0.0%)	537(74.6%)	100
Middle	104(14.4%)	69(9.6%)	11(1.5%)	8(1.1%)	16(2.2%)	0(0.0%)	513(71.2%)	100
Fourth	140(19.4%)	71(9.9%)	13(1.8%)	10(1.4%)	12(1.7%)	0(0.0%)	474(65.8%)	100
Highest	220(30.6%)	128(17.8%)	24(3.3%)	14(1.9%)	16(2.2%)	0(0.0%)	318(44.2%)	100
<b>Total</b>	<b>629(17.5%)</b>	<b>384(10.7%)</b>	<b>71(1.9%)</b>	<b>47(1.3%)</b>	<b>70(1.9%)</b>	<b>0(0.0%)</b>	<b>2401(66.7%)</b>	<b>100</b>

Timing of first postnatal checkups in less than 4 hours was reported to have increased from 13% to 20% in intervention and 11% to 18% in comparison area. The end line showed that in the lowest wealth quintile first checkups in 4 hours was 16% but in the highest quintile it was 29% in intervention.

Table 5.5(e): Components measured during PNC check-up

Components	End line-2018	
	PNC	
	Intervention area n=1597	Comparison area n=1202
Weight measured	112(7.0%)	23(1.9%)
Anemia checked	884(55.4%)	575(47.8%)
Blood pressure measured	1140(71.4%)	1054(87.7%)
Checked body temperature	804(50.3%)	574(47.8%)
Breast examined	137(8.6%)	21(1.8%)
Checked abdomen	497(31.1%)	476(39.6%)
Checked foul discharge	16(1.0%)	3(0.3%)

Women were asked about how many components the providers checked during postnatal checkups. Women who had postnatal checkups got their weight measured ( intervention 7% V comparison 2%), checked anemia (intervention 55% V comparison 48%), measured blood pressure (intervention 71% V comparison 88%), checked temperature (intervention 50% V comparison 48%) checked abdomen (intervention 31% V comparison 40%).

Table 5.5(f): Components measured during PNC check-up by Private CSBA

Components	End line-2018
	n=352
Weight measured	23(6.5%)
Anemia checked	118(33.5%)
Blood pressure measured	124(35.2%)
Checked body temperature	86(24.4%)
Breast examined	14(3.9%)
Checked abdomen	101(28.7%)
Checked foul discharge	0(0.0%)

Women were asked about how many components the private CSBA checked during postnatal checkups. We found that private CSBA checked anemia (34%), blood pressure (35%) abdomen (29%), temperature (24%), weight (7%).

Table 5.5(g): Postnatal complication

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3600	Baseline-2012 N=982	End line-2018 N=3602
<b>Women suffered from PNC complications</b>				
Did not have any complication	511(51.3%)	2433(67.6%)	705(71.8%)	2889(80.2%)
Have faced complication	485(48.7%)	1166(32.4%)	277(28.2%)	713(19.8%)
Total	996(100%)	3600(100%)	982(100%)	3602(100%)
<b>PNC complications women suffered from*</b>				
Hemorrhage/bleeding	42(4.2%)	144(4.0%)	36(3.7%)	105(2.9%)
Convulsion	30(3.0%)	124(3.4%)	20(2.0%)	56(1.6%)
High fever	111(11.1%)	191(5.3%)	60(6.1%)	85(2.4%)
Foul smelling discharge from vagina	5(0.5%)	10(0.3%)	6(0.6%)	1(0.03%)
Wound infections	-	24(0.7%)	-	35(0.9%)
Inverted nipple	1(0.1%)	3(0.1%)	1(0.1%)	1(0.03%)
Engorged breast	5(0.5%)	21(0.6%)	3(0.3%)	18(0.5%)
Tetanus	5(0.5%)	3(0.1%)	2(0.2%)	1(0.03%)
Severe lower abdominal pain	137(13.8%)	376(10.4%)	109(11.1%)	217(6.0%)
Uterine prolapsed	-	81(2.3%)	-	29(0.8%)
Perennial tear	-	65(1.8%)	-	41(1.1%)
Others (e.g. Physical weakness, Severe chest pain and rapid breathing, Edema, Severe headache, etc)	324(32.5%)	499(13.9%)	137(13.9%)	261(7.3%)
Did not have any complication	511(51.3%)	2433(67.6%)	705(71.8%)	2889(80.2%)
<b>First contact with healthcare provider for PNC complications</b>				
Contacted to skilled provider	136(28.0%)	449(38.5%)	120(24.0%)	279(39.1%)
Contacted to NGO/Govt. health worker	0(0.0%)	9(0.8%)	2(0.4%)	7(1.0%)
Contacted to unskilled provider	296(61.0%)	593(50.9%)	128(25.6%)	352(49.4%)
Didn't contact with anybody/go anywhere	53(10.9%)	115(9.9%)	250(50.0%)	75(10.5%)

We found decreasing trend of postnatal complications in intervention since baseline to end line (from 49% to 32%) and in comparison the complications also reduced from 28% to 20%. The frequently mentioned post delivery complications in end line were severe abdominal pain reduced (from 14% to 19%) in intervention and reduced from 11% to 6% in comparison. The other mentioned postnatal complications in intervention and comparison were convulsion, high fever, foul smelling discharge, etc. Contacting to any health care providers while facing postnatal complications did not increase in intervention area whereas it increased a lot from baseline (50%) to end line (90%) in comparison area. Contacting first with skilled health care providers increased from 28% to 39% in intervention area and in comparison area it increased from 24% to 39%. On the other hand, contacting to the unskilled providers found reducing in both interventions (from 61% to 50%) whereas increased significantly in comparison area from 26% to 49%.

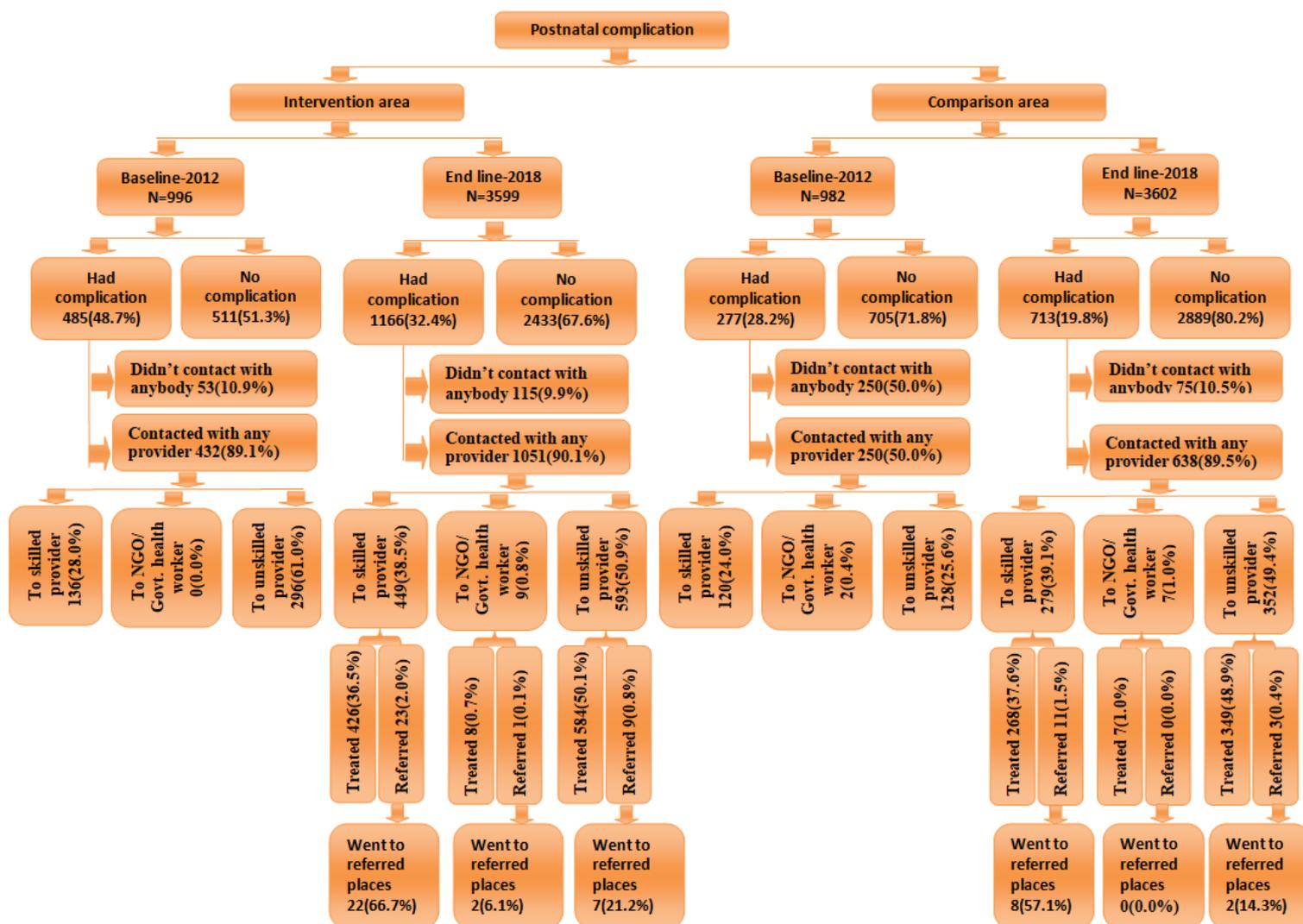
\* Multiple responses

Table 5.5(h): Referral status of Postnatal complication

	<b>Intervention area</b>	<b>Comparison area</b>
	<b>End line-2018</b>	<b>End line-2018</b>
<b>Treatment provided by 1<sup>st</sup> provider for PNC complications</b>		
Treated	1018(87.3%)	624(87.5%)
Referred	33(2.8%)	14(2.0%)
Didn't contact with anybody/go anywhere	115(9.9%)	75(10.5%)
<b>Overall treatment provided by types of provider</b>		
Treated by skilled provider	426(36.5%)	268(37.6%)
Referred by skilled provider	23(2.0%)	11(1.5%)
Treated by NGO/Govt. health worker	8(0.7%)	7(1.0%)
Referred by NGO/Govt. health worker	1(0.1%)	0(0.0%)
Treated by unskilled provider	584(50.1%)	349(48.9%)
Referred by unskilled provider	9(0.8%)	3(0.4%)
Didn't contact with anybody/go anywhere	115(9.9%)	75(10.5%)
<b>Women went to the referred place for taking treatment</b>		
Went to that place referred by skilled provider	22(66.7%)	8(57.1%)
Went to that place referred by NGO/Govt. health worker	2(6.1%)	0(0.0%)
Went to that place referred by unskilled provider	7(21.2%)	2(14.3%)
<b>The place where women took care finally for complications</b>		
At Home	217(18.6%)	149(20.9%)
CC/RD/USC	4(0.3%)	1(0.1%)
UH&FWC	5(0.4%)	2(0.3%)
UHC	75(6.4%)	31(4.4%)
MCWC	6(0.5%)	2(0.3%)
DH	10(0.9%)	36(5.1%)
MCH	74(6.4%)	31(4.4%)
10-30 bed govt. specialized hospital	20(1.7%)	0(0.0%)
NGO health center	8(0.7%)	4(0.6%)
Private clinic	33(2.8%)	116(16.3%)
Doctor's private chamber (MBBS)	180(15.4%)	49(6.9%)
VD/Pharmacist/Homeo doctor	405(34.7%)	208(29.2%)
Other	7(0.6%)	7(1.0%)
Can't remember	7(0.6%)	2(0.3%)
<b>Source of receiving help during referral *</b>		
Qualified doctor (MBBS)	12(36.4%)	6(42.9%)
Nurse/ Midwife/FWV (Govt.)	4(12.1%)	1(7.1%)
SACMO/MA	1(3.0%)	0(0.0%)
Private CSBA	5(15.2%)	0(0.0%)
NGO health worker	1(3.0%)	0(0.0%)
VD/Pharmacist	5(15.2%)	2(14.3%)
Relatives/Neighbors	23(69.7%)	6(42.9%)
Total	(n=33)	(n=14)
<b>Areas of help women received *</b>		
To select the facility and service provider	25(75.8%)	8(57.1%)
Arranged transport to go to health facility	3(9.1%)	3(21.4%)
Took me to the health facility	18(54.6%)	5(35.7%)
Helped to take treatment from the facility	3(9.1%)	4(28.6%)
To communicate with referral facility	5(15.2%)	1(7.1%)
To give money	9(27.3%)	0(0.0%)
Total	(n=33)	(n=14)

Respondents reported that when they went to the providers, 87% of them were treated by that provider in the intervention and comparison area. Those who were given treatment, most of them were (50%) in intervention and 49% in comparison were unskilled providers. However, those who were referred 67% of them in intervention and 57% in comparison went to that referred places. The place from where they finally received the treatment were VD/pharmacist ( intervention 35% comparison 29%), at home (intervention 19% comparison 21%) doctors private

chamber (( intervention 15% comparison 6%). Most of the respondents reported that they received help from relatives and neighbours (intervention 69% comparison 43%) followed by qualified doctor ( intervention 36% comparison 43%). They mostly received help in the area of selecting the facility and provider (intervention 76% comparison 57%), accompanying to the health facility (intervention 55% comparison 36%), arranging money (intervention 27%) etc.



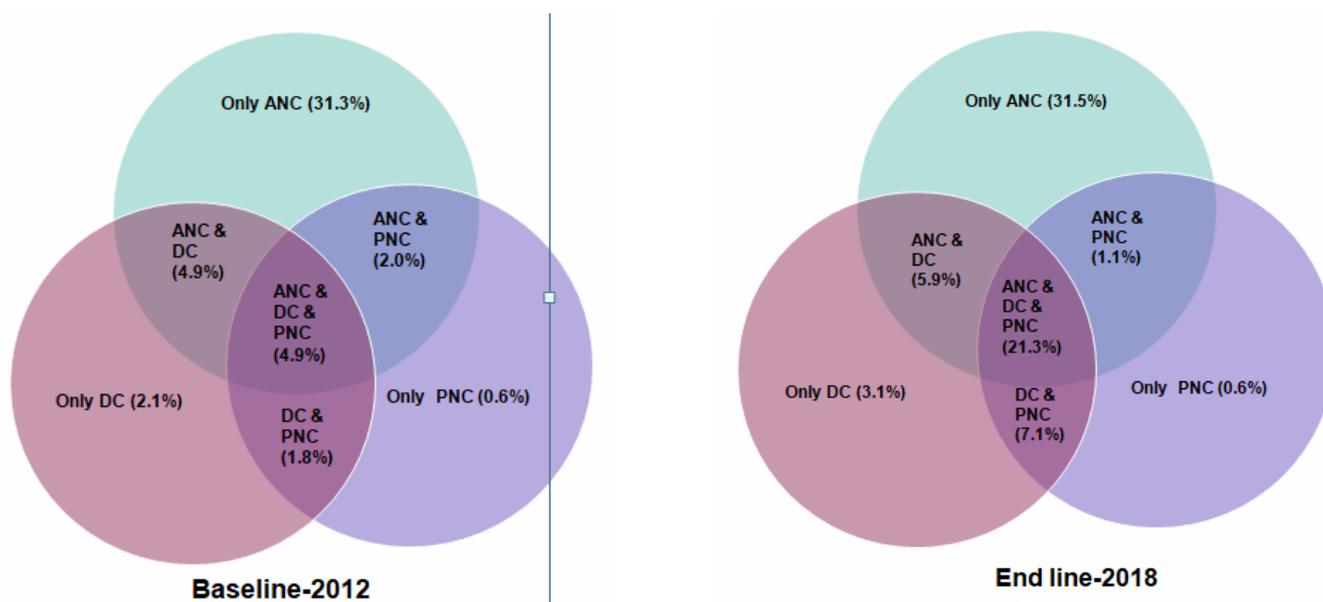
**Figure-3: Postnatal Complication**

**Section-5.6: Completeness of maternal care: Women who received skilled services in all episodes during pregnancy considered as ideal mothers**

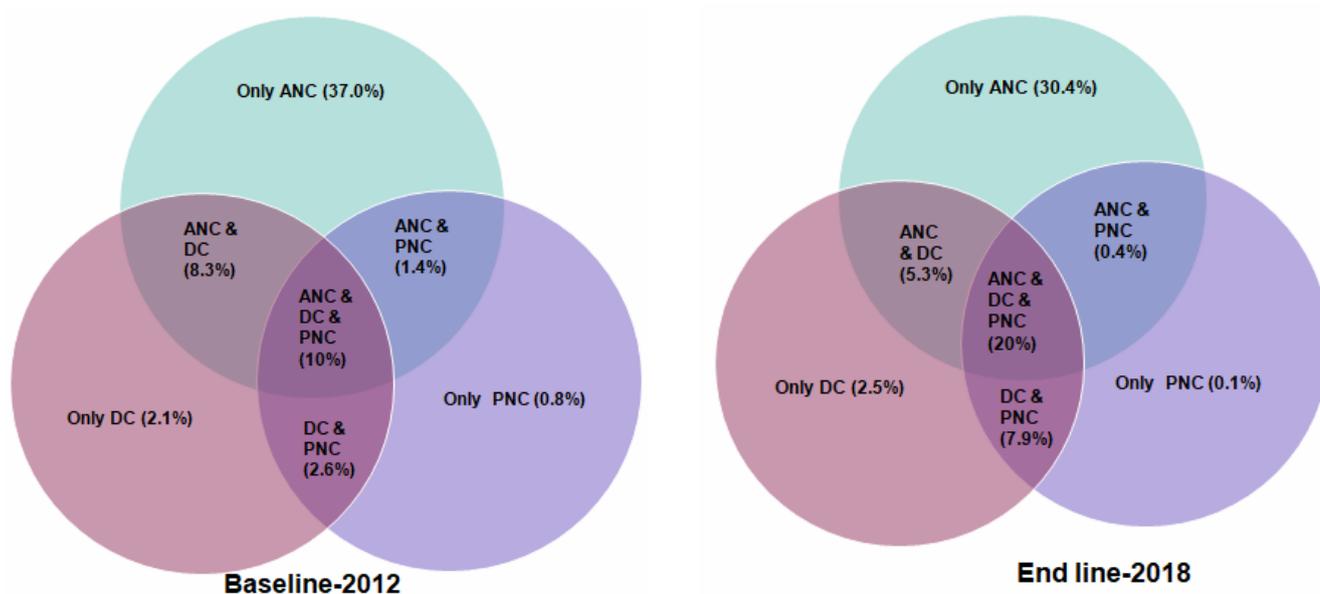
Table 5.6 (a): Status of ideal mothers

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Ideal mothers who received at least one ANC from skilled provider, had delivery by a skilled provider and received PNC from skilled provider within 2 days</b>	48(4.8%)	765(21.3%)	95(9.7%)	720(20.0%)

In intervention area, the percentage of ideal mother increased from 5% to 21% whereas in comparison area, the ideal mothers also increased from baseline to end line (10% to 20%). But it was found that the rate of increase of ideal mother was faster (more than 4 times higher) in intervention area than the comparison (2 times) area.



**Figure-4: Completeness of maternity care (Intervention area)**



**Figure-5: Completeness of maternity care (Comparison area)**

### Section-5.7: Programme effect over the time period (DID)

Table 5.67 (a): Status of programme effect over the time period

Indicators	Coefficient	SE	P-value
Antenatal care (ANC) coverage	0.129	0.020	0.000***
At least 4 ANC	0.091	0.022	0.000***
ANC by skilled provider	0.171	0.025	0.000***
Delivery at health facility	-0.001	0.022	0.969
Delivery by skilled provider	0.108	0.023	0.000***
Post-natal care coverage	0.039	0.024	0.108
PNC by skilled provider	0.059	0.022	0.007***
Pregnancy registration	0.227	0.024	0.000***
Birth preparedness	0.203	0.023	0.000***
Completeness of maternal care	0.06	0.019	0.002***
<b>Inference: *** p&lt;0.01; ** p&lt;0.05; * p&lt;0.1</b>			

For evaluating the effect of a program, we used difference-in-differences (DID) regression. The estimation coefficients for DID regression that examined the question of whether the maternal health care indicators that were changed over time differ by the contribution of private CSBA.

Table 5.7(a) depicts receiving at least one antenatal care in the intervention area is associated with 13% improvement was seen than comparison area due to the contribution of private CSBA over time period (baseline to end line). But delivery at health facility in intervention area little bit decreased (0.1%) than comparison area. However, post-natal care by skilled provider was shown about 6% increase in intervention area compared comparison area since baseline to end line.

## Chapter-6

### Neonatal and Child Health

#### Key Findings

- The practice of bathing the newborn after 72 hours increased from baseline (51%) to end line (71%) in the intervention area and 34% to 50% in the comparison area.
- The practice of giving colostrums to newborn increased from 80% in baseline to 94% in end line in the intervention area and similarly changed from 80% to 95% in the comparison area.
- The trend of giving any food stuff to newborn within three days reduced to a great extent in intervention (baseline 34% Vs end line 21%) where as it changed a bit from 32% to 30% in the comparison area
- According to baseline and end line survey, neonatal mortality decreased from baseline (42) to end line (31) in the intervention area and in the comparison area it reduced from 37 to 29 over the period of 6 to 7 years.
- According to baseline and end line survey, infant mortality decreased from baseline (78) to end line (46) in the intervention area and in the comparison area it reduced from 60 to 36 over the 6 to 7 years.
- According to baseline and end line survey U-5-Child mortality decreased significantly from baseline (97) to end line (52) in the intervention area and in the comparison area it also reduced dramatically from 76 to 40 over the period of 6 to 7 years.

#### Section-6.1: Women's attitudes towards newborn care

Table 6.1(a): **Knowledge** related to essential newborn care (ENC) and danger signs

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Essential newborn care*</b>				
Drying and wrapping	826(82.9%)	3046(84.6%)	819(83.4%)	3016(83.7%)
Breast feeding/colostrums within 1hour	727(72.9%)	2563(71.2%)	683(69.6%)	2096(58.2%)
Cut the cord with clean blade	487(48.9%)	1422(39.5%)	537(54.7%)	1456(40.4%)
Eye Care	12(1.2%)	73(2.0%)	24(2.4%)	91(2.5%)
Keep the cord of the baby dry/cord care	99(9.9%)	335(9.3%)	108(11.0%)	199(5.5%)
Take bath to baby at least after 72 hours	124(12.5%)	251(6.9%)	179(18.2%)	261(7.3%)
Avoid shaving during the first month	15(1.5%)	231(6.4%)	67(6.8%)	165(4.6%)
Take care low birth weight/pre term baby	3(0.3%)	139(3.9%)	21(2.1%)	57(1.6%)
Refer if any complication observed	7(0.7%)	175(4.9%)	8(0.8%)	312(8.9%)
Others	151(15.2%)	515(14.3%)	62(6.3%)	851(23.6%)
Do not know	37(3.7%)	132(3.7%)	23(2.3%)	123(3.4%)
<b>Danger signs of a newborn baby*</b>				
Weak cry	115(11.6%)	106(2.9%)	68(6.9%)	94(2.6%)
Absent cry	45(4.5%)	109(3.0%)	136(13.9%)	71(1.9%)
Unable to suck or breast feed	193(19.4%)	316(8.8%)	236(24.0%)	214(5.9%)
Lethargy	262(26.3%)	82(2.3%)	212(21.6%)	55(1.5%)
Cold hands and feet	269(27.0%)	238(6.6%)	305(31.1%)	103(2.9%)
Rapid breathing	412(41.4%)	951(26.4%)	446(45.4%)	1033(28.7%)
Chest in drawing	323(32.4%)	337(9.4%)	300(30.6%)	531(14.7%)
High temperature	538(54.0%)	2208(61.4%)	518(52.8%)	2529(70.2%)
Convulsion/unconsciousness	78(7.8%)	350(9.7%)	92(9.4%)	269(7.5%)
Umbilical discharge	33(3.3%)	221(6.1%)	54(5.5%)	152(4.2%)
More than 10 skin pustules	61(6.1%)	128(3.6%)	130(13.2%)	376(10.4%)
Red eyes with discharge	14(1.4%)	35(0.9%)	35(3.6%)	47(1.3%)
Jaundice for more than 14 days	27(2.7%)	223(6.2%)	104(10.6%)	618(17.2%)
Reduced body temperature	13(1.3%)	91(2.5%)	9(0.9%)	21(0.6%)
Pneumonia	-	2088(58.0%)	-	2100(58.3%)
Common cold	-	2796(77.7%)	-	3209(89.1%)
Others	235(23.6%)	656(18.2%)	259(26.4%)	1065(29.6%)
Do not know	109(10.9%)	126(3.5%)	37(3.8%)	51(1.4%)

\* Multiple responses  
\* Multiple responses

**Essential newborn care:** The question was a multiple response question. We asked women whether they know about the essential newborn care. Knowledge regarding the overall essential newborn care found to have increased a little bit in intervention and comparison and since baseline to end line. Knowledge to bathe the baby increased both in intervention (from 7 % to 13%) and comparison area (from 7% to 18%). Knowledge to cut the cord with clean blade decreased to some extent in intervention from 49% to 40% and comparison area from 55% to 40%.

**Danger signs of newborn:** In the end line survey, the frequently mentioned newborn danger signs reported were rapid breathing (26%) high temperature (61%), Chest in drawing (9%), unable to suck or breast feed (9%), Convulsion/unconsciousness (10%), more than 10 skin pustules (4%), etc. We found that knowledge of the respondents fluctuated in terms of some indicators from baseline to end line.

Table 6.1(b): Essential newborn care **practices**

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Type of instrument used to cut the umbilical cord for home delivery*</b>				
Blade of delivery kits	99(11.5%)	538(20.9%)	64(8.2%)	260(10.9%)
Blade from other sources	720(84.0%)	1954(75.9%)	704(89.9%)	2018(85.1%)
Bamboo blade	21(2.5%)	26(1.0%)	3(0.4%)	4(0.2%)
Scissors	9(1.1%)	32(1.2%)	6(0.8%)	58(2.4%)
Didn't cut the umbilical cord	0(0.0%)	5(0.2%)	0(0.0%)	1(0.04%)
Other	2(0.2%)	9(0.4%)	1(0.1%)	12(0.5%)
Do not know	6(0.7%)	10(0.4%)	5(0.6%)	19(0.8%)
Total	857(100.0%)	2573(100%)	783(100.0%)	2372(100%)
<b>Percentage of instrument boiled before cutting the umbilical cord</b>				
Yes	660(77.0%)	1703(66.2%)	625(79.8%)	1657(69.9%)
No	81(9.5%)	256(9.9%)	73(9.3%)	319(13.4%)
Don't know	11(1.3%)	57(2.2%)	16(2.0%)	115(4.8%)
Not Applicable	105(12.3%)	557(21.6%)	69(8.8%)	281(11.8%)
Total	857(100.0%)	2573(100%)	714(100.0%)	2016(100%)
<b>Application of material after the umbilical cord was cut *</b>				
Antibiotic powder/ointment	-	545(15.1%)	-	570(15.9%)
Detol/Savlon/Hexisol (Blue colored)	-	839(23.3%)	-	334(9.2%)
Clorohexidine (Red colored)	-	75(2.1%)	-	44(1.2%)
Jenshion Voilet (Blue colored ink)	-	84(2.3%)	-	16(0.4%)
Spirit/Alchole	-	20(0.6%)	-	9(0.3%)
Borik powder	-	222(6.2%)	-	628(17.4%)
Telkom powder	-	6(0.2%)	-	4(0.1%)
Mustard oil with garlic	-	307(8.5%)	-	174(4.8%)
Coconut oil	-	37(1.0%)	-	77(2.1%)
Cucumber juice	-	7(0.2%)	-	7(0.2%)
Cinnabar	-	39(1.1%)	-	83(2.3%)
Ash	-	25(0.7%)	-	89(2.5%)
Goat/Cow dung	-	9(0.3%)	-	29(0.8%)
Burnt soil ink/fire ink	-	42(1.2%)	-	4(0.1%)
Didn't use anything	-	1306(36.3%)	-	1480(41.1%)
Others (Mud, mustard oil, garlic oil etc.)	-	88(2.8%)	-	128(3.6%)
Do not know	-	179(4.9%)	-	140(3.9%)
<b>Timing of drying</b>				
Within 0-4 minutes	257(25.8%)	1694(47.1%)	73(7.4%)	1747(48.5%)
Between 5 to 9 minutes	229(23.0%)	182(5.1%)	370(37.7%)	254(7.1%)
10 minutes or above	372(37.3%)	1264(35.1%)	410(41.8%)	801(22.2%)
Not wiped	49(4.9%)	233(6.5%)	6(6.6%)	338(9.4%)
Don't know	89(8.9%)	227(6.3%)	123(12.5%)	462(12.8%)
Total	996(100.0%)	3600(100%)	982(100.0%)	3602((100%)

\* Only for home delivery  
\* Multiple responses

**Essential newborn care practices:** It was a multiple response question. We asked all women what instrument was used to cut the cord. Most of the women (76%) reported in end line in intervention area that they used blade from other sources to cut the cord which was 84% in baseline. Likewise, we also found the increasing trend of using blades from delivery kits (baseline 12% VS end line 21 while it increased 3% point from 8% to 11% in comparison area. We found a little bit decreasing trend of boiling the instrument used for cutting the umbilical cord in intervention (baseline 77% VS end line 66% ) and comparison area (baseline 80% VS end line 70% ).

Some substances that were applied on the navel of the baby in intervention and comparison area were Detol/Savlon/Hexisol (Blue colored) (23% VS 9%), antibiotic powder/ointment (15% VS 16%), Mustard oil with garlic (9% VS 5%), Borik powder (6% 17%), etc. Other than these, the substances used were Clorohexidine (red coloured), Jension Voilet (Blue colored ink), Cinnabar, spirit, etc in intervention and control area.

Most of the women reported in end line (47%) that the newborn was wiped/dried within four minutes which was much higher than the baseline (26%). Similarly, in comparison area, higher proportion was found (baseline 7% VS end line 49%) that wiped or dried the newborn within the four minutes. Almost 8% women in intervention area and 12 % in comparison area did not know about when their newborn were wiped or dried.

Table 6.1(c): Birth weight and breast feeding practices

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Measured the weight at birth</b>				
Yes	-	1075(29.9%)	-	1173(32.6%)
No	-	2385(66.3%)	-	2365(65.7%)
Can't remember	-	139(3.8%)	-	64(1.7%)
<b>Weight at birth</b>				
Very low birth weight (<1500 gm)	-	17(1.6%)	-	19(1.6%)
Low birth weight (1500-2499gm)	-	163(15.2%)	-	162(13.8%)
Normal (2500 gm or above)	-	632(58.8%)	-	838(71.4%)
Can't remember	-	263(24.5%)	-	154(13.1%)
<b>Time of first bath of the newborn</b>				
Within 0 to 5 hours	359(36.0%)	540(15.1%)	417(42.5%)	840(23.3%)
Between 6 to 11 hours	15(1.5%)	39(1.1%)	49(5.0%)	190(5.3%)
Between 12 hours 23 Hours	3(0.3%)	27(0.8%)	27(2.7%)	117(3.3%)
Between 24 hours to 71 Hours	98(9.8%)	408(11.4%)	146(14.9%)	637(17.7%)
After 72 hours	503(50.5%)	2539(70.7%)	337(34.3%)	1794(49.8%)
Not Bathed	10(1.0%)	23(0.6%)	2(0.2%)	5(0.1%)
Can't remember	8(0.8%)	14(0.4%)	4(0.4%)	18(0.5%)
Total	996(100.0%)	3590(100%)	982(100.0%)	3601(100%)
<b>Time for initiation of breastfeeding</b>				
Started breastfeeding within one hour	828(83.1%)	3039(84.6%)	783(79.7%)	2600(72.2%)
Started breastfeeding within one day	933(93.7%)	3493(97.2%)	924(94.1%)	3465(96.2%)
<b>Colostrums given after birth</b>				
Yes	801(80.4%)	3390(94.3%)	787(80.1%)	3411(94.7%)
No	195(19.6%)	204(5.7%)	195(19.9%)	190(5.3%)
Total	996(100.0%)	3594(100%)	982(100.0%)	3601(100%)
<b>Was anything given in the first three days to baby other than breast milk</b>				
Yes	340(34.1%)	749(20.8%)	316(32.2%)	1074(29.8%)
No	656(65.9%)	2845(79.2%)	666(67.8%)	2527(70.2%)
Total	996(100.0%)	3594(100%)	982(100.0%)	3601(100%)

We asked questions about the weight and breastfeeding practices to community women. Around 30% women in intervention and 33% in comparison area reported that the weight of the babies was measured. Timing of bathing the newborn within five hours drastically reduced in both intervention (baseline 36% VS end line 15%) and comparison area (baseline 43% VS end line 23%). On the other hand, bathing the newborn after 72 hours increased considerably in intervention area (baseline 51% VS end line 71%) and in comparison area (baseline 34% VS end line 50%). Around 94% women reported that they had given colostrums to their newborns in the intervention area which was higher than the baseline (80%). The trend of giving any food stuff to newborn within three days reduced

to a great extent in intervention (baseline 34% VS end line 21%) whereas in comparison area, almost no change was found from baseline 32% to end line 30%.

## Section-6.2: Child Health

Table 6.2(a): Child health care, growth monitoring, nutritional and vaccination status

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Number of babies exclusively breastfed*</b>				
Yes	458(61.4%)	1729(60.0%)	588(76.9%)	1751(63.1%)
No	248(33.2%)	1144(39.7%)	172(22.5%)	1019(36.7%)
Don't know	40(5.4%)	8(0.3%)	4(0.5%)	7(0.3%)
Total	746(100%)	2881(100%)	764(100%)	2777(100%)
<b>Solid/semi solid foods consumed by children in the day or night preceding the interview</b>				
1 to 2 times	-	756(21.0%)	-	528(14.6%)
3 times	-	911(25.3%)	-	1018(28.3%)
4 and above	-	1217(33.8%)	-	1251(34.7%)
Not any more	-	78(2.1%)	-	188(5.2%)
Don't know	-	93(2.6%)	-	58(1.6%)
Did not start yet	-	544(15.1%)	-	559(15.5%)
<b>Intake of micro nutrient</b>				
Yes	-	289(8.0%)	-	273(7.6%)
No	-	3276(91.0%)	-	3324(92.3%)
Not applicable	-	34(0.9%)	-	5(0.1%)
<b>Source of micro nutrient</b>				
NGO health worker	-	80(2.2%)	-	168(4.7%)
Private CSBA	-	38(1.1%)	-	-
CHW	-	5(0.1%)	-	-
CHCP	-	12(0.3%)	-	1(0.02%)
FWA / HA	-	20(0.6%)	-	18(0.5%)
From Pharmacy	-	79(2.2%)	-	59(1.6%)
Don't know	-	7(0.2%)	-	2(0.03%)
Others	-	70(1.9%)	-	30(0.8%)

It was found that exclusive breastfeeding remained almost unchanged from baseline 61% to end line 60% in intervention whereas in comparison area the proportion of exclusive breastfeeding reduced from 77% to 63 at baseline. In response to the questions on how many times the child was given solid or semi solid food in last 24 hours, almost 34% women in both intervention and comparison reported that they had given four or more times. More than 90% women in both intervention and comparison area reported that they did not buy or get micro nutrient for their children.

\* Number of babies who crossed 6 months of their age

### Section-6.3: Early Childhood Mortality

Table 6.3 (a): Early childhood mortality rates for last five years preceding the survey

Mortality rate	Intervention area				Comparison area			
	BMMS-2010 <sup>5</sup>	BDHS-2011 (Sylhet division)	Baseline Survey 2012	End line survey 2018	BMMS <sup>6</sup> -2010	BDHS-2011 (Dhaka division)	Baseline survey2012	End line survey 2018
<b>Neonatal Mortality Rate (NMR)</b>	50	45	42	33	38	36	37	29
<b>Infant Mortality Rate (IMR)</b>	75	59	78	46	56	44	60	36
<b>Under-five Mortality Rate (U-5MR)</b>	91	71	97	52	68	54	76	40

We found a decreasing trend of neonatal mortality from baseline (42) to end line (33) in intervention area. Infant mortality was found to be reducing as well (baseline 78 VS end line 46). The study also found a huge reduction in under-five mortality rate from 97 to 52. We also found reduction in comparison area neonatal mortality (from 37 to 29), infant mortality (from 60 to 36) and under five mortality (from 76 to 40).

<sup>5</sup> Bangladesh District Level Socio-demographic and Health Care Utilization Indicators

<sup>6</sup> Bangladesh District Level Socio-demographic and Health Care Utilization Indicators

## Chapter-7

### Social Support in last pregnancy

#### Key Findings

- More than 7% women in the intervention area could avail the support from community support system in their recent pregnancies while only 1% women received that in the comparison area.
- Women of intervention area (8%) have better exposure to folk song/ street drama compared to women in comparison area (2%).

#### Section-7.1: Support from social group

Table 7.1(a): Existing social group and support received

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Women were aware of any community group in their area working to improve MNCH</b>				
Yes	-	871(24.2%)	-	219(6.1%)
No	-	1473(40.9%)	-	2512(69.7%)
Don't know	-	1253(34.8%)	-	871(24.2%)
<b>Women received any support from any community group in recent pregnancy</b>				
Yes	-	266(7.4%)	-	51(1.4%)
No	-	606(16.8%)	-	168(4.7%)

Women received any support from any community group in recent pregnancy				
End line-2018				
Traits	N/A	Received any support	Didn't receive support	Total
Lowest	550(76.4%)	45(6.3%)	125(17.4%)	720(100%)
Second	547(75.9%)	56(7.8%)	117(16.3%)	720(100%)
Middle	543(75.4%)	56(7.8%)	121(16.8%)	720(100%)
Fourth	551(76.5%)	60(8.3%)	109(15.1%)	720(100%)
Highest	536(74.6%)	49(6.8%)	134(18.6%)	719(100%)
<b>Total</b>	<b>2727(75.8%)</b>	<b>266(7.4%)</b>	<b>606(16.8%)</b>	<b>3600(100%)</b>

Area of help women received *				
Provided information about health facilities	-	118(3.3%)	-	25(0.7%)
Linked with the health service providers	-	14(0.4%)	-	1(0.03%)
Took to the health facility	-	10(0.3%)	-	2(0.1%)
Helped in taking treatment from health facility	-	10(0.3%)	-	1(0.03%)
Arranged transport to go to the health facility	-	2(0.1%)	-	0(0.0%)
provided economic support to receive health services	-	14(0.4%)	-	6(0.2%)
Discussed about birth planning	-	1164(4.5%)	-	28(0.8%)
Linked with Private CSBA	-	44(1.2%)	-	0(0.0%)
Others	-	42(1.2%)	-	17(0.5%)

Twenty four percent women in intervention and 6% in comparison area reported that they knew about the existence of any group (community clinic group or support group of CARE Bangladesh) in area working to improve maternal and child health and about 7% women in intervention and 1% in comparison area received help from these groups in their last pregnancies. Women in lowest to highest wealth quintile received help from these groups. Types of help they received were about the birth planning (5%), information on health facilities (3%), linkage with private CSBA (1%), etc.

Table 7.1(b): Awareness raising activities by CARE Bangladesh

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Women were exposed to any folk song/ street drama</b>				
Yes	-	288(8.0%)	-	88(2.4%)
No	-	3310(91.9%)	-	3514(97.6%)
<b>Learnt from the folk song/ street drama *</b>				
About PCSBA services	-	39(1.1%)	-	0(0.0%)
About the danger signs of pregnancy	-	117(3.3%)	-	28(0.8%)
About the children's danger signs	-	78(2.2%)	-	16(0.4%)
Need for care during pregnancy	-	109(3.0%)	-	30(0.8%)
Need for delivery care with skilled birth attendant	-	8(0.2%)	-	4(0.1%)
Need for post delivery care	-	16(0.4%)	-	2(0.1%)
Nutrition	-	94(2.6%)	-	50(1.4%)
Referral	-	2(0.1%)	-	0(0.0%)
Negative effects of early marriage	-	142(3.9%)	-	38(1.1%)
Family planning	-	70(1.9%)	-	28(0.8%)
CmSS activities	-	-	-	-
Others	-	65(1.8%)	-	26(0.8%)

Eight percent women reported to be exposed to any folk song/ street theatre arranged by CARE Bangladesh in intervention area whereas 2% reported to be exposed from comparison area. From those events in intervention area, they learned about the danger signs of pregnancy (3%), need for care during pregnancy (3%), danger signs of children (2%), negative consequences of early marriage (4%), etc.

## Chapter-8

### Women's empowerment and health care seeking behavior

#### Key Findings

- Women's role as main decision maker to seek health care for their illness remained unchanged from baseline to end line in both areas.
- Interestingly, decision making by women in the household to purchase daily needs increased almost three folds from baseline (4%) to end line (11%) in the intervention area than those in comparison area (11% to 13%)
- Still restriction on women's mobility is an issue; 83% women in the intervention area and 60% women in the comparison area could not move alone to visit relative's houses.

#### Section-8.1: Women's Empowerment

Table 8.1(a): Women's participation in decision making

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Women's own health care</b>				
Herself	62(6.2%)	222(6.2%)	130(13.2%)	487(13.5%)
Husband	500(50.2%)	1934(53.7%)	406(41.3%)	2043(56.7%)
Both husband and herself	268(26.9%)	681(18.9%)	284(28.9%)	565(15.7%)
Father in law	65(6.5%)	178(4.9%)	68(6.9%)	170(4.7%)
Mother in law	53(5.3%)	441(12.3%)	41(4.2%)	228(6.3%)
Mother	4(.4%)	51(1.4%)	10(1.0%)	50(1.4%)
Father	11(1.1%)	23(0.6%)	22(2.2%)	35(0.9%)
Brother in law/ Sister in law	7(.7%)	46(1.3%)	9(.9%)	16(0.4%)
Others	26(2.6%)	22(0.6%)	12(1.2%)	8(0.2%)
Total	996(100.0%)	3598(100%)	982(100.0%)	3602(100%)
<b>Women's child health care</b>				
Herself	62(6.2%)	228(6.3%)	130(13.2%)	530(14.7%)
Husband	500(50.2%)	1855(51.5%)	406(41.3%)	1934(53.7%)
Both husband and herself	268(26.9%)	763(21.2%)	284(28.9%)	638(17.7%)
Father in law	65(6.5%)	172(4.8%)	68(6.9%)	166(4.6%)
Mother in law	53(5.3%)	443(12.3%)	41(4.2%)	233(6.5%)
Mother	4(.4%)	45(1.3%)	10(1.0%)	45(1.3%)
Father	11(1.1%)	25(0.7%)	22(2.2%)	30(0.8%)
Brother in law/ Sister in law	7(.7%)	46(1.3%)	9(.9%)	18(0.5%)
Others	26(2.6%)	21(0.6%)	12(1.2%)	8(0.2%)
Total	996(100.0%)	3598(100%)	982(100.0%)	3602(100%)
<b>Major daily needs/commodities of household purchase</b>				
Herself	42(4.2%)	400(11.1%)	108(11.0%)	465(12.9%)
Husband	626(62.9%)	1615(44.9%)	468(47.7%)	1792(49.8%)
Both husband and herself	182(18.3%)	800(22.2%)	237(24.1%)	705(19.6%)
Father in law	69(6.9%)	165(4.6%)	83(8.5%)	252(7.0%)
Mother in law	22(2.2%)	477(13.3%)	34(3.5%)	271(7.5%)
Mother	4(.4%)	43(1.2%)	10(1.0%)	39(1.1%)
Father	8(.8%)	25(0.7%)	21(2.1%)	39(1.1%)
Brother in law/ Sister in law	8(.8%)	53(1.5%)	10(1.0%)	33(0.9%)
Others	35(3.5%)	20(0.6%)	11(1.1%)	6(0.2%)
Total	996(100.0%)	3598(100%)	982(100.0%)	3602(100%)

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Visits to women's family or relatives house</b>				
Herself	-	147(4.1%)	-	376(10.4%)
Husband	-	1826(50.7%)	-	1926(53.5%)
Both husband and herself	-	754(20.9%)	-	748(20.7%)
Father in law	-	214(5.9%)	-	183(5.1%)
Mother in law	-	557(15.5%)	-	295(8.2%)
Mother	-	40(1.1%)	-	41(1.1%)
Father	-	20(0.6%)	-	17(0.5%)
Brother in law/ Sister in law	-	27(0.8%)	-	12(0.3%)
Others	-	13(0.4%)	-	4(0.1%)
Total	-	3598(100%)	-	3602(100%)

In intervention, only 6% women reported in both baseline and end line that they themselves made decision to seek health care during their illness while decision making by herself in comparison area remained unchanged from baseline to end line (13%). Decision making by husband and wife decreased notably from baseline to end line in intervention (27% VS 19%) and comparison area (29% VS 16%). Decision making in case of child's illness by respondent herself remained the same as baseline (6%) in intervention and increased a bit in comparison (from 13% to 15%). Decision making by respondents herself to purchase daily needs increased from baseline (4%) to end line (11%) in intervention whereas decision making by husband decreased (baseline 63% to end line 45%). The end line data showed that still only 4% women could make decision by herself in case of visiting relatives but in comparison 10% women could make decision by herself in this regard.

## Section-8.2: Women's Freedom of Movement

Table 8.2(a): Freedom of movement

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Go alone or with children to health centre or hospital of women's own health care</b>				
Go alone	-	356(9.9%)	-	661(18.4%)
Take small child with her	-	790(21.9%)	-	902(25.0%)
Cannot go alone	-	2452(68.1%)	-	2039(56.6%)
Total	-	3598(100%)	-	3602(100%)
<b>Go alone or with children to health centre or hospital of women's child health care</b>				
Go alone	-	362(10.1%)	-	556(15.4%)
Take small child with her	-	782(21.7%)	-	1063(29.5%)
Cannot go alone	-	2454(68.2%)	-	1983(55.1%)
Total	-	3598(100%)	-	3602(100%)
<b>Go alone to visit any relative's household</b>				
Yes	-	606(16.8%)	-	1456(40.4%)
No	-	2992(83.1%)	-	2146(59.6%)
Total	-	3598(100%)	-	3602(100%)

Freedom of movement outside the home is also important indicator of women's empowerment. In case of women's freedom of movement in own health care and child's health care comparison area is ahead from intervention area. Similarly, to visit any relative's house the freedom of movement in comparison area is higher than intervention area (40% VS. 17%). Women's of intervention area are more likely to be among those who cannot go to health facility alone or accompanied by their children.

## Chapter-9

### Coverage and entrepreneurship of Private CSBA, and community responsiveness

#### Key Findings

- Almost 77% women reported that the quality of service provided by private CSBA was good and almost 18% regarded it as very good.
- Women in lowest to middle wealth quintile are more likely to receive more services from private CSBA.
- Close proximity was mentioned by majority women (75%) as a reason behind the selection of Private CSBA and this was almost similar (73%) to get services in future too.
- Around 51% women said that Private CSBA took reasonable amount of money to provide services.
- Services purchased from private CSBA other than health services were Iron Folic Acid/Calcium/Vitamin (21%), medicines (10%), etc.

#### Section-9.1: Entrepreneurship of Private CSBA

Table 9.1(a): Women received any maternal services from Private CSBA by wealth quintile (Coverage by quintile)

Traits	End line-2018		
	Received services	Didn't receive services	Total
Lowest	426(59.2%)	294(40.8%)	720(100%)
Second	403(56.0%)	317(44.0%)	720(100%)
Middle	407(56.5%)	313(43.4%)	720(100%)
Fourth	418(58.1%)	302(41.9%)	720(100%)
Highest	355(49.4%)	364(50.6%)	719(100%)
<b>Total</b>	<b>2009(55.8%)</b>	<b>1590(44.2%)</b>	<b>3599(100%)</b>

Table 9.1(b): Women received any maternal services from Private CSBA by wealth (Distribution within clients)

	Intervention (End line-2018) n=2009
Lowest	426(21.2%)
Second	403(20.1%)
Middle	407(20.2%)
Fourth	418(20.8%)
Highest	355(17.7%)
<b>Total</b>	<b>2009(100%)</b>

Traits	End line-2018 N=3599
<b>Perceived quality of service provided by Private CSBA</b>	
Very good	285(17.5%)
Good	1253(76.7%)
Mediocre/ average	66(4.0%)
Bad	25(1.5%)
Very bad	4(0.2%)
<b>Total</b>	<b>1633(100%)</b>
<b>Reasons behind choosing Private CSBA for getting any services *</b>	
Provide service in home/ door to door	1154(75.0%)
Skilled	566(36.8%)
Available	309(15.4%)
Good behavior	735(36.6%)
Known person	271(13.5%)
Listen carefully about the problems and try to solve it	128(6.4%)
Takes reasonable amount of taka/ takes a lesser amount of money	185(9.2%)
Provides good advice	627(31.2%)
Others	37(1.9%)
<b>Total</b>	<b>(N=1538)</b>

\* Multiple responses

Traits	End line-2018 N=3599
<b>Reasons behind not choosing Private CSBA *</b>	
Did not come home	48(50.5%)
Unskilled	20(21.1%)
Not available in crisis situation	19(20.0%)
Bad behavior	11(11.6%)
Did not listen to the problems carefully	9(9.5%)
Always demands money	13(13.7%)
Costly	8(8.4%)
Others	14(14.7%)
Total	(N=95)
<b>Women received any donation from CmSS or UP or anybody in the society to get Private CSBA service</b>	
Yes	25(1.5%)
No	1563(95.4%)
Don't know	51(3.1%)
Total	1639(100%)
<b>Private CSBA received any donation from CMSS or UP or anybody in the society to provide services</b>	
Yes	18(1.1%)
No	1145(69.9%)
Don't know	474(29.0%)
Total	1639(100%)
<b>Women's opinion about the Private CSBA's service charge</b>	
Takes much/costly	150(9.2%)
Reasonable	823(50.5%)
Less	243(14.9%)
No opinion	369(22.6%)
Others	46(2.8%)
Total	1631(100%)
<b>Women purchased any product/ commodity from Private CSBA other than health service</b>	
Regular medicines	169(10.2%)
Nutritional elements	32(1.9%)
Family planning materials	47(2.9%)
Sanitary napkins	1(0.1%)
Iron Folic Acid/Calcium/Vitamin	339(20.6%)
Others	45(2.7%)
Didn't buy anything	1110(67.3%)
Total	(N=1650)

Women who belonged to lowest to middle wealth quintile were more likely to receive more services from private CSBA. About the service quality provided by private CSBA, almost 77% women reported that the quality of service provided by private CSBA was good and almost 18% regarded it as very good. Reasons for selecting the private CSBA mentioned by women were that the private CSBA provided service door to door (75%), private CSBA was skilled (37%), well-behaved (37%), provided quality services (31%), available (15%), etc. The reasons behind not selecting the private CSBA were private CSBA does not come at home (51%), private CSBA is unskilled (21%), private CSBA was not available during crisis moment (20%), private CSBA always demands money (14%), etc. Only 1% women in end line mentioned that CMSS or UP or any other person donated money to Private CSBA to provide service to them or to their family. Services purchased from private CSBA other than health services were Iron Folic Acid/Calcium/Vitamin (21%), medicines (10%), etc. Around 51% women said that Private CSBA took reasonable amount of money for providing services.

Table 9.1(c): Private CSBA service quality

Traits	End line-2018 N=3599
<b>Women are willing to receive services from Private CSBA in future for herself or family</b> Will receive services Will not receive services Not sure Don't know private CSBA Total	2070(57.6%) 590(16.4%) 230(7.24%) 674(18.8%) 3594(100%)
<b>Reasons for future use of Private CSBA services *</b> Provide service in home/ door to door Skilled Available in crisis situation Good behavior Known person Listen carefully about the problems and try to solve it Provide service carefully Takes reasonable amount of taka/ takes a lesser amount of money Provides good advice Examine very carefully Provide service proactively Being Female provider No other service provider available Others Total	1515(73.2%) 505(24.4%) 313(15.1%) 755(36.4%) 386(18.7%) 82(3.9%) 81(3.9%) 198(9.6%) 564(27.3%) 114(5.5%) 53(2.6%) 192(9.3%) 110(5.3%) 23(1.1%) (N=2070)
<b>Reasons for not willing to receive Private CSBA services in future *</b> Do not provide service carefully Expensive service Not available in crisis situation Do not come regularly Do not examine very carefully Do not provide any advice Not well behaved Not skilled enough Available other service provider Others Total	19(3.2%) 75(12.5%) 64(10.8%) 106(17.9%) 16(2.7%) 11(1.9%) 77(13.0%) 45(7.6%) 128(21.6%) 59(10.0%) (N=590)

Almost 58% women asserted that they would receive services from Private CSBA for her and family members in future. As reasons, they mentioned private CSBA provided door to door services (73%), good behaviour of private CSBA (36%), good advice private CSBA provides (27%), skill of private CSBA (24%), takes reasonable amount of money (10%), etc.

\* Multiple responses  
 \* Multiple responses

## Chapter-10

### Knowledge regarding non communicable diseases and its prevalence

#### Key Findings

- Around 67% women in the intervention area reported that their family members ever checked high blood pressure compared to 73% in the comparison.
- Thirty seven percent (37%) adult household members in the intervention area were diagnosed with high blood pressure compared to 30% in the comparison area
- More than 5% adult household members both in the intervention and comparison area were diagnosed with diabetes

### Section-10.1: Women's knowledge regarding non communicable diseases

Table 10.1(a): Prevention of non communicable diseases

	Intervention area		Comparison area
	Midline-2016 N=1755	End line-2018 N=3599	End line-2018 N=3602
<b>Ways to prevent Non communicable diseases? *</b>			
Avoiding excess oil and fatty food/ fast food etc.	618 (35.2%)	1864(51.8%)	2080(57.8%)
Avoiding Tobacco and related stuff	324 (18.5%)	1261(35.0%)	431(11.9%)
Eating lot of vegetables	208 (11.9%)	531(14.8%)	335(9.3%)
Being stress free	248 (14.1%)	518(14.4%)	461(12.8%)
Walking regularly	226 (12.9%)	423(11.8%)	1792(49.8%)
Controlling weight	130 (7.4%)	276(7.7%)	844(23.4%)
Checking blood pressure regularly	110 (6.3%)	265(7.4%)	308(8.6%)
Doing regular physical labor	90 (5.1%)	177(4.9%)	492(13.7%)
Taking adequate salt	63 (3.6%)	147(4.1%)	138(3.8%)
Taking adequate rest	108 (6.2%)	110(3.1%)	521(14.5%)
Checking diabetics regularly	95 (5.4%)	136(3.8%)	330(9.1%)
Others	143 (8.1%)	149(4.1%)	521(14.5%)
Don't know	654 (37.3%)	1039(28.9%)	703(19.5%)

In response to the question on how to prevent non communicable diseases, most of the respondent's knowledge increased from midline to end line in intervention area. Most of the respondents mentioned to avoid excess oil and fatty foods/fast foods in both midline and end line (35% VS. 52%). Likewise, respondents also mentioned to avoid tobacco and related stuff (18% VS. 35%), eat lot of vegetables (12% VS. 15%), remain stress free (14% VS. 14%) while the percentage of did not know how to prevent non communicable diseases decreased from midline to end line (37% VS. 29%). Similarly, in the comparison area, most of the women also reported to avoid excess oil and fatty foods (58%), walk regularly (50%), followed by control weight (23%), etc.

Table 10.1 (b): Adult household members ( $\geq 35$  years) in the women's family suffering from non communicable diseases

	Intervention area		Comparison area
	Midline-2016 N=2307	End line-2018 N=4622	End line-2018 N=4250
<b>Did the family members (<math>\geq 35</math> years) ever check blood pressure</b>			
Yes	1357 (58.8%)	3087 (66.8%)	3127 (73.5%)
No	852 (36.9%)	1344 (29.1%)	952 (22.4%)
Don't know	98 (4.2%)	193 (4.2%)	178 (4.2%)
Total	2307 (100%)	4624 (100%)	4257 (100%)
<b>High blood pressure identified/diagnosed by a doctor or nurse</b>			
Yes	569 (24.7%)	1693 (36.6%)	1296 (30.4%)
No	788 (34.2%)	1380 (29.9%)	1831 (43.0%)
Not applicable	950 (41.2%)	1549 (33.5%)	1130 (26.5%)
Total	2307 (100%)	4622 (100%)	4250 (100%)
<b>Do the family member take any medicine to for high blood pressure</b>			
Yes	479(20.8%)	1467 (31.7%)	1159 (27.2%)
No	90(3.9%)	226 (4.9%)	137 (3.2%)
Not applicable	1738(75.3%)	2929(63.4%)	2961 (69.6%)
Total	2307 (100%)	4622 (100%)	4257 (100%)
<b>High blood pressure checked by Private CSBA</b>			
Yes	-	157 (3.4%)	-
No	-	2930 (63.4%)	-
Not applicable	-	1535 (33.2%)	-
Total	-	4622 (100%)	-
<b>Did the family members (<math>\geq 35</math> years) ever check diabetes</b>			
Yes	-	946 (20.5%)	1111 (26.2%)
No	-	3477 (75.2%)	3010 (70.8%)
Not applicable	-	199 (4.3%)	128 (3.0%)
Total	-	4622 (100%)	4249 (100%)
<b>Diabetes diagnosed by a doctor or nurse</b>			
Yes	125 (5.4%)	254 (5.5%)	240 (5.6%)
No	2076 (90.0%)	692 (15.0%)	871 (20.5%)
Don't know	106 (4.6%)	3676 (79.5%)	3138 (73.9%)
Total	2307 (100%)	4622 (100%)	4249 (100%)
<b>Do the family member take any medicine for diabetes</b>			
Yes	79 (3.4%)	195 (4.2%)	199 (4.7%)
No	46(1.9%)	59 (1.3%)	41 (0.9%)
Not applicable	2182(94.6%)	4368 (94.5%)	4009 (94.4%)
Total	2307 (100%)	4622 (100%)	4249(100%)
<b>Diabetes test done by Private CSBA</b>			
Yes	-	27 (0.6%)	-
No	-	919 (19.9%)	-
Not applicable	-	3676 (79.5%)	-
Total	-	4621 (100%)	-
<b>Do the family member take Tobacco related stuff</b>			
Yes	1801 (78.1%)	3597 (77.9%)	3135 (73.8%)
No	505 (21.8%)	1018 (22.0%)	1108 (26.1%)
Don't know	1 (0.1%)	4 (0.1%)	5 (0.1%)
Total	2307(100%)	4619 (100%)	4248 (100%)
<b>If yes, what kind of Tobacco stuff do you use</b>			
Bidi/ Cigarette	929 (51.6%)	1878 (40.7%)	1442 (34.0%)
Jorda/ Tobacco,	867 (48.1%)	2247 (48.7%)	2094 (23.6%)
Gul	5 (0.3%)	45 (0.5%)	29 (0.3%)
Total	1801(100%)	3597 (100%)	3135 (100%)

In end line, around 67% women reported that their family members checked blood pressure whereas it was 74% in comparison. And then, 37% women in intervention and 31% in comparison area said that their family members

were diagnosed with high blood pressure. Thirty seven percent women in intervention area and 30% in comparison area reported that the high blood pressure was diagnosed by qualified doctor and 3% women reported that the blood pressure was diagnosed by private CSBA in intervention area. Almost 32% of them who were diagnosed with high blood pressure in intervention and 27% in comparison took or were taking medicines to control it.

For diabetes, 21% in intervention and 26% in comparison reported that their family members checked diabetes and 6% in each area were diagnosed with it by doctor or nurses Almost 4% women in intervention and 5% in comparison reported that they took or taking medicines to control diabetes. In this regard, almost 1% women reported that the diabetes was diagnosed by private CSBA. In terms of taking Tobacco related stuff, 78% women in intervention and 74% in comparison mentioned that their family members were using tobacco. In both areas, the frequently mentioned Tobacco stuff were Bidi/ Cigarette (intervention 41%, comparison 34%), Jorda/ Tobacco (intervention 49%, comparison 24%),etc.

## Chapter-11

### Mass media exposure and Utility of Cell phone

#### Key Findings

- Eight percent women read newspaper or magazine which was a bit increase from baseline (2%) in the intervention area and it was changed from 6% to 8% in the comparison area
- Fewer women in the intervention area (22%) watch television compared to comparison area (50%) in end line
- The involvement of women with any micro-credit or community based organization increased to some extent from baseline (27%) to end line (33%) in the intervention area but increased a bit in the comparison area (32% to 41%).

#### Section-11.1: Mass media exposure

Table 11.1(a): Status of mass media exposure

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Do you read newspaper or magazine?</b>				
Yes	22(2.2%)	275(7.7%)	59(6.0%)	291(8.1%)
No	974(97.8%)	3321(92.3%)	923(94.0%)	3310(91.9%)
Total	996(100.0%)	3596(100%)	982(100.0%)	3601(100%)
<b>How often do you read newspaper or magazine?</b>				
Almost every day	2(0.2%)	28(0.8%)	8(0.8%)	55(1.5%)
At least once a week	7(0.7%)	85(2.4%)	37(3.8%)	110(3.1%)
Less than once a week	13(1.3%)	162(4.5%)	14(1.4%)	126(3.5%)
Did not read newspaper	974(97.8%)	3321(92.3%)	923(94%)	3310(91.9%)
<b>Do you watch television?</b>				
Yes	182(18.3%)	811(22.6%)	441(44.9%)	1818(50.5%)
No	814(81.7%)	2785(77.4%)	541(55.1%)	1783(49.5%)
Total	996(100.0%)	3596(100%)	982(100.0%)	3601(100%)
<b>How Often do you watch television?</b>				
Almost every day	114(11.4%)	574(15.9%)	263(26.8%)	1312(36.4%)
At least once a week	50(5%)	164(4.6%)	138(14.1%)	409(11.4%)
Less than once a week	18(1.8%)	73(2.0%)	40(4.1%)	97(2.7%)
Did not watch television	814(81.7%)	2785(77.4%)	541(55.1%)	1783(49.5%)

Around 8% women in intervention and comparison area reported that they read newspaper or magazine which was a bit increase from baseline in both areas. Those who mentioned that they read newspaper 5% of them in intervention and 4% in comparison read less than once in a week. Regarding the watching Television, 23% women in intervention and 51% in comparison reported that they watched Television and of them almost 16% in intervention and 36% in comparison watched almost every day in end line.

Table 11.1(b): Status of NGO/ micro-credit involvement

Traits	Intervention area		Comparison area	
	Baseline-2012 N=996	End line-2018 N=3599	Baseline-2012 N=982	End line-2018 N=3602
<b>Women were involved with any micro-credit or community based organization (CBO)</b>				
Yes	265(26.6%)	1185(33.0%)	314(32.0%)	1476(41.0%)
No	731(73.4%)	2411(67.0%)	668(68.0%)	2125(59.0%)
Total	996(100.0%)	3596(100%)	982(100.0%)	3601(100%)
<b>Name of the organizations?*</b>				
Grameen Bank	117(11.7%)	380(10.6%)	76(7.7%)	331(9.2%)
BRAC	68(6.8%)	518(14.4%)	61(6.2%)	419(11.6%)
BRDB	2(0.2%)	4(0.1%)	4(0.4%)	15(0.1%)
ASHA	78(7.8%)	294(8.2%)	94(9.6%)	526(14.6%)
Proshika	0(0%)	1(0.03%)	2(0.2%)	1(0.03%)
CBO	2(0.2%)	14(0.4%)	2(0.2%)	17(0.5%)
Others (BEAURO Bangladesh, POPY, VARD, FIVDB, etc.)	31(3.1%)	159(4.4%)	97(9.9%)	464(12.9%)

The involvement of women with any micro-credit or community based organization found to have increased to some extent from baseline (27%) to end line (33%) in intervention and in comparison (baseline 32% VS end line 41%). The end line survey showed that most of the women were involved with Grameen Bank (intervention 11% comparison 9%), BRAC (intervention 14% comparison 12%) and ASHA (intervention 8% comparison 15%).

## Chapter-12

### Conclusion

The end line assessment was done to determine the progress of maternal and child health related indicators in the intervention area as well as to compare with baseline and comparison area. The relevant indicators we assessed including knowledge about selected maternal and child cares such as: maternal and child danger signs, requirement of ANC, perception about right delivery place, bathing for newborn, colostrums feeding, etc. Selected maternal and child care practices such as: Pregnancy registration, ANC, Delivery, PNC, Essential Newborn care, colostrums feeding, cord care, etc were assessed. We also looked at role of women in the household decision making, and socio-demographic differences and compared with healthcare practices. We estimated early childhood mortality both in intervention and comparison area at baseline and end line. This end line result is critical to measure the outcome of this CARE-GSK-CHW Initiative, track the progress and prospective scale up. Study found some indicators remarkably increased from baseline to end line. Although knowledge about pregnancy related danger signs have not increased at satisfactory level but for selected signs like severe bleeding, and convulsion we found significant improvement. We found huge increase in birth registration from baseline to end line (33% VS 72%) in the intervention area compare to comparison area (40% VS 56%). A dramatic increase showed in terms of attendance to birth preparedness session from baseline (9%) to end line (50%) in the intervention area compare to comparison area (Baseline 16% VS End line 19%). Eighty four percent respondents received at least one antenatal check-up in last pregnancy which was 60% in baseline for the intervention area where the change was 82% from 71% in the comparison area. Four or more than 4 antenatal care (ANC) visits increased from baseline to end line with a high rate in the intervention area (14.5% to 34%) compare to comparison area (18% to 28%). At least one ANC received from a medically trained increased in the intervention area (43% to 60%) since baseline to end line while it was unchanged in the comparison area (56%). Similar trend was found in the reduction of home delivery in both intervention (86% to 71%) and comparison areas (80% to 66%). Delivery conducted by a skilled provider increased at high rate in the intervention area (13% to 37%) compare to comparison area (21% to 36%) where 10% contribution made by Private CSBA in the intervention area. Overall rate of receiving postnatal care (PNC) was not significantly increased but it was little higher in the intervention area (38% to 44%) than the comparison area (31% to 33%). First PNC provided by a medically trained provider within two days of delivery increased since baseline to end line at high rate in the intervention area (9% to 30%) compare to comparison area (15% to 28%). Good practices regarding newborn and child care also increased over the time. Practice on timing of 1<sup>st</sup> bathing for a newborn not before 72 hours of delivery increased at little high rate in the intervention area (50% to 71%) than comparison area (34% to 50%). Similar trend showed in colostrums feeding and cord care practices. Neonatal mortality decreased over the time in both intervention and comparison areas with little higher rate in the in the intervention area. In the intervention area, neonatal mortality decreased from baseline (42) to end line (31) per 1000 live births where it was 37 to 29 in the comparison area. Similar trend found in infant mortality rate and it was 78 to 48 in the intervention area and 60 to 38 in the comparison area. Consequently, under five mortality rate also reduced since baseline to end line with higher rate in intervention area over the 6-7 years period. For the intervention area, it was 97 % to 49% and in comparison area it was 76 to 45. Seventy seven percent women reported that the quality of service provided by private CSBA was good. Around 51% women said that Private CSBA took reasonable amount of money after providing services. Woman as main decision maker to seek health care for her illness remained unchanged from baseline (6%) to end line (6%) in intervention area.

Despite a little bit slow progress in some indicators almost all indicators related to MNCH improved a lot from baseline to end line over the time. Changes in the intervention area were found higher improvement compare to comparison area where Private CSBA might have contributed significantly. Women's roles in decision making process in the family have not improved where program can think of taking different strategies. Private CSBA could not contribute well in providing health services to adult family members for non communicable diseases where there is huge opportunity to make them viable in the community based healthcare services for their economic sustainability as well. PNC uptake has not been improved that much, program should rethink to increase the coverage of skilled delivery that may influence the PNC uptake. Although all Private CSBAs are from the local community but still there are challenges to improve their viability to the community people. Program should take some actions to improve the motivation of Private CSBAs for increasing regular home visits, to prove quality of the services they provide to community people, strengthen their capacity for crisis management and finally make them available to the community for 24/7 considering the remoteness of the settings. This approach can be scaled up especially in the remote settings with some modifications or adjustment based on programmatic gaps as appropriate to further improve maternal and child health situation in Bangladesh.