

Coverage and Compliance of Chlorhexidine (Kawach) Use and other Components of Community-based Program in Banke, Jumla and Bajhang Districts

Nepal Family Health Program II
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Abbreviations

AHW	Auxiliary Health Worker
ANC	Antenatal Care
ANM	Auxiliary Nurse Mid-wife
ARI	Acute Respiratory Infection
BP	Blood Pressure
BPP	Birth Preparedness Package
CB IMCI	Community-Based Integrated Management of Childhood Illness
CHD	Child Health Division
CHDK	Clean Home Delivery Kit
CHX	Chlorhexidine
CMA	Community Medical Assistance
DoHS	Department of Health Services
EOC	Emergency Obstetric Care
EPI	Expanded Program in Immunization
FCHV	Female Community Health Volunteers
FHD	Family Health Division
FP	Family Planning
HA	Health Assistant
HF	Health Facilities
HP	Health Posts
IMR	Infant Mortality Rate
IYCF	Infant and Young Child Feeding
KAP	Knowledge, Attitude and Practice
MCHW	Maternal Child Health Worker
MDG	Millenium Development Goal
MMR	Maternal Mortality Ratio
MNH	Maternal and Neonatal Health
MNTE	Maternal and Neonatal Tetanus Elimination
MoHP	Ministry of Health and Population
MSC	Matri Suraksha Chakki
NDHS	Nepal Demographic and Health Survey
NFHP	Nepal Family Health Program
NMR	Neonatal Mortality Rate
ORC	Outreach Clinics
PHCC	Primary Health Care Centres
PNC	Postnatal Check
PP	Postpartum Period
PPH	Postpartum Hemorrhage
PPS	Population Proportion to Size
RDW	Recently Delivered Women
SBA	Skilled Birth Attendants
SHP	Sub-Health Posts
SLC	School Leaving Certificate
TT	Tetanus Toxoid
VDA	Vitamin A Deficiency
WHO	World Health Organization

Summary

Introduction

Reduction of the infant mortality rate (IMR) by two-thirds by 2015 still remains goal for Nepal. Nepal Demographic and Health Survey (NDHS) 2011 points out that 72 percent of infant deaths take place during the first month of birth, indicating that preventing neonatal deaths could contribute to a decline in infant and child mortality rates. One of the leading causes of neonatal mortality in developing countries as identified is an infection of the umbilical cord stump (omphalitis). Accordingly, the Department of Health Services (DoHS) has piloted the use of chlorhexidine (CHX) lotion, called *Kawach*, in the umbilical cord stump of newborns in Banke, Jumla and Bajhang as part of essential newborn care programs at the community-level. The program recommends applying the CHX lotion to the newborns' umbilical cord stumps in maternal and neonatal health (MNH) activities through community-level programs. Based on the documented outcome of the effective distribution and application of kawach in the three program districts, this program could be administered successfully on a national scale through community-level programs.

The purpose of this study was to collect information on the coverage and compliance of kawach and other intervention of MNH activities at the community-level in the Banke, Bajhang and Jumla districts. The study was based on multiple-stage sampling, which first identified 30 clusters in each districts. Secondly, based on the number of household settlements, segments were selected where index households were selected using 'spin the bottle' method. The screening form-I was filled in from the index household to determine the presence of married women of reproductive age in each household. The screening-II was administered among women who had given birth in the last two years and, finally, the main questionnaire was administered to the recently delivered women (RDW) who had given birth in the past year. A total of 600 RDW in each districts were interviewed as main respondents with 20 RDW from each cluster.

Results

Background Characteristics of RDW

Higher proportion of RDW belonged to the age group of 20-24 years (39% in Banke, 46% in Jumla and 40% in Bajhang). The frequency of RDW with no education was very high in Jumla (80%) followed by Bajhang (71%) and Banke (53%). Upper caste groups were the predominant groups in the study. Banke displays more diversity of groups than the two other districts. The Dalit population exists in all three districts with the largest percentage of the population made up of Dalits in Jumla (25%).

The study found that 41 percent in Jumla, 31 percent in Bajhang and 17 percent in Banke listened to radio programs that partnered with MNH programs at the community-level to disseminate information on safe motherhood and newborn care practices and other health-related messages.

Regarding household characteristics, the majority of RDW in Banke (69%) were wired with electricity power; while around half in Jumla (52%) and more than four in ten in Bajhang (44%) had solar power in their houses. Given the geographical difference, households in Banke had more means of transport. Mobile phones were a common possession in Banke

(72%) and Jumla (52%), yet low in Bajhang (29%). Majority of the respondents in Jumla (91%) and Bajhang (71%) relied on a public tap or a neighbor's tap for their drinking water source while in Banke, most (67%) relied on a tube well in the yard or their plot of land. A majority of households in Bajhang (70%) followed by Banke (64%) and Jumla (31%) did not have toilet facility.

FCHV Services

Although almost all RDW in the three study districts (>90%) knew Female Community Health Volunteers (FCHVs), comparatively lower percentages of respondents had met FCHVs during their last pregnancy (82% in Banke, 85% in Jumla and 68% in Bajhang). Most of the RDW were fully aware about the service given by FCHV. There were no differences in participating in FCHV services that correlated to age, literacy status or education level of women in all three districts except in Bajhang where a higher proportion of literate RDW had met FCHVs during their pregnancy. Dalits in Banke and the upper castes in Jumla and Bajhang were significantly more likely to meet FCHVs. RDW in the lowest ranking wealth quintiles in Banke and highest in Bajhang were less likely to meet FCHVs than their counterparts in other two districts.

No difference was observed among RDW in attending mothers' group meetings according to age and literacy status in all three districts. Mothers who had completed secondary level education and from upper caste groups showed significantly lower participation in the group meeting in Banke, though no correlation was found between participation and household wealth quintiles. In Jumla, RDW with SLC or above levels of education and those from the highest wealth quintiles were less likely to participate in such meetings, nonetheless no significant variation was found in terms of caste. In Bajhang, none of the background characteristics were significantly associated with attendance of mothers' group meetings.

During the last pregnancy, the majority of the RDW had discussed with FCHV their plans to deliver at a health facility, use a skilled birth attendant, manage finances, manage transport in case of emergency, and identify a source or a place to obtain emergency obstetric care (EOC) services. A higher proportion of RDW were counseled on the danger signs that may appear during delivery, the postpartum period (PP) and the importance of postpartum check ups and the use of family planning (FP). While the access of RDW to FCHV is encouraging, their participation in mothers' group meetings, which disseminate information about MNH issues, is very low at less than half a percent in all three districts.

Antenatal Care

More RDW in Banke and Jumla knew about danger signs during pregnancy and the health facilities (HFs) to go to in the event of those signs appearing. RDW in Bajhang lag behind in terms of knowledge of antenatal care (ANC). The study showed that very few RDW had encountered complications during pregnancy, and among them 20 percent in Bajhang and about 14 percent and 9 percent in Jumla and Banke, respectively, had taken no action to resolve the problems they had encountered in their last pregnancies.

Almost all RDW in Banke and Jumla and nearly nine in ten in Bajhang reported using ANC services at least once. The percentage however declines sharply for the RDW who participated in the recommended four (at the very least) ANC check ups (69% in Banke, 62% in Jumla and 40% in Bajhang). Young RDW (versus the elder RDW), literate (versus the

illiterate RDW), higher level educated (versus their lack of schooling counterparts) and RDW from the highest household wealth quintile were significantly more likely to seek ANC four times in all three districts. Relating to caste/ethnicity, no difference was found in Jumla and Bajhang; however, RDW from upper castes in Banke reported making more frequent ANC visits.

FCHV, Maternal Child Health Worker (MCHW) and Nurse/Auxiliary Nurse Mid-wife (ANM) were the health providers that most RDW had visited for ANC care during their last pregnancies. The proportion of RDW visiting skilled birth attendants (SBA) that includes doctors, nurse or ANM for ANC was over 70 percent in Banke and Jumla and 60 percent in Bajhang. During those check up sessions, a majority of RDW in the three study districts had been provided with six of the eight basic components of ANC care (abdomen examination, iron tablets, de-worming tablets, Tetanus Toxide (TT) vaccine, and measuring weight and blood pressure (BP). Most RDW were also counseled on issues such as the importance of taking the TT vaccine, suitable health facilities to go to for child delivery, danger signs that may appear during pregnancy, and government sponsored maternity delivery plans.

Over 9 in 10 RDW in Banke and Jumla had taken at least one TT shot during their last pregnancy. In Bajhang however less than eight in ten RDW reported taking at least one TT shot during their most recent pregnancy. All background characteristics of RDW i.e. age, literacy status, level of education, caste and wealth quintiles were positively associated with receiving two TT shots in Banke. In Jumla, none of these characteristics were significantly associated. In Bajhang, younger and literate RDW were more likely to receive the full dose of TT vaccine.

Around nine in ten RDW in the Banke and Jumla and eight in ten in Bajhang had taken de-worming tablet in their last pregnancy. The intake of de-worming tablets by RDW in Banke was more likely among the literate, those with higher levels of education, upper caste groups, and among the highest wealth quintile as opposed to their respective counterparts. In Jumla and Bajhang none of the background characteristics were found to be associated with the intake of de-worming tablets except for women's age where a higher proportion of younger RDW had taken the tablets compared with the elder RDW.

More than nine in ten RDW in Banke and Jumla and more than eight in ten in Bajhang had taken iron-folic-acid tablets in their last pregnancy, while only about 40 percent RDW each in Banke and Bajhang districts and about 35 percent in Jumla had taken the entire recommended dose of 180 tablets. In Banke, the intake of iron-folic acid tablets was more likely among literate RDW and RDW of the upper caste group. In Bajhang, it is positively associated with literacy status and level of education of RDW. None of the characteristics of RDW were related with the intake of iron-folic acid tablets in Jumla.

Regarding familial care during the antenatal period, most RDW were accompanied by either one of their family members or friends/neighbors when they visited a health facility for ANC services. The type of familial care provided varies widely across the three districts, and the survey results also indicate that the general level of family support during ANC visits (in terms of accompanying the RDW to the health facility and therefore providing more support and care) was low in all three districts.

Regarding birth preparedness, saving money was the crucial indication of being prepared for birth cited by the majority of RDW in all districts. Arranging for clothes and food were other major preparations reported by more than half RDW in all districts. In Banke and Jumla, one in ten RDW had bought a clean home delivery kit (CHDK) and arranged for transportation beforehand. Further, in Banke, four percent and five percent of RDW had arranged for a blood donor and contacted HW to help with delivery, respectively. On the other hand, this type of preparation was very low in Jumla and Bajhang. About thirty percent in Banke and Jumla and around a quarter in Bajhang had planned to go to the hospital. Nine out of ten RDW had made financial preparations in all districts. Likewise, one third in all districts had arranged for food for that period. Twenty six percent in Bajhang followed by fourteen percent in Banke and six percent in Jumla had identified health facilities for the post partum care of the mother and newborn.

Delivery Care

Regarding knowledge on delivery care, a higher proportion of respondents thought a doctor or a staff nurse should assist during delivery. More respondents in Jumla and Bajhang thought ANM and MCHW were the appropriate persons to provide assistance in delivery. Also, many in the Jumla district cited FCHVs as the person who should assist in delivery. RDW in general were aware that clothes for wrapping the newborn and the mother's clothes should be kept clean during delivery. Moreover, some respondents indicated that the blade, the surface on which the newborn is to be placed and the hands of the person who is handling the delivery should be clean.

The survey finding reveals that mainly the government health facilities (hospital, health post, sub-health post and the primary health care centers) are available in the community for women to go for delivering their babies. Private health facilities (hospitals/clinics/nursing homes) were reported only by RDW from Banke district. In the three-month period preceding the survey, also a substantial proportion of RDW in the study districts had heard about the importance of child delivering in an appropriate health institution through friends/neighbors or some other acquaintances.

In Banke, a higher percentage of births were assisted by a health service provider than in the other districts. Additionally, at least one person (either the parents-in-law, husband, relative or family member) were reported as present outside the delivery room. The utilization of health service providers was significantly higher among younger RDW (except the Jumla district), literate RDW, RDW from Dalit and disadvantaged Janjati, RDW from upper caste groups and from higher wealth quintiles. In the three districts, this scenario is more pronounced in Banke than in Jumla or Bajhang.

Half of the RDW in Banke, 34 percent in Jumla and 29 percent in Bajhang had delivered their last child in a health institution. Institutional delivery was significantly higher among younger (excluding those from the Bajhang district), literate, Dalit, disadvantaged Janjati, and upper caste, as well as RDW from highest wealth quintiles. Among those who delivered in HF, 70 to 90 percent had received cash incentives for having institutional deliveries and the delivery services were provided free of cost in all three districts.

During their most recent delivery, among RDW who received assistance from health workers, less than half in all three districts were injected during labour. Among them majority of RDW in Banke (73%) and Bajhang (57%) knew the purpose of injection was to hasten the delivery

of the baby while many in Jumla (63%) did not know the purpose of the injection given to them. Similarly, 40 percent in Banke, 25 percent in Jumla and 18 percent in Bajhang reported receiving an injection or medicated drip within one hour of delivery of their last child. The percent of RDW delivering by C-section was 9 percent in Banke and less than 3 percent in Jumla and Bajhang.

A high percentage of RDW encountered problems like fainting or dizziness, shivering, fever and nausea. Among the study districts, a higher percentage of RDW in Jumla reported experiencing various problems within six hours of delivery of their last child than those from the Banke or Bajhang districts.

Post Partum Hemorrhage and Misoprostal

Majorities of RDW in all three districts (86% in Banke, 78% in Jumla and 55% in Bajhang) were aware of postpartum hemorrhage (PPH) and that it could result in death. FCHV were the source of information about PPH for more than seven in ten RDW in all three districts. Over half of the RDW had heard that the woman should immediately go to a health facility if PPH was suspected.

Only two-thirds of RDW in Banke, little over one half in Jumla and four in ten in Bajhang had received information about misoprostal called '*matri suraksha chakki*' (MSC). The percentage of RDW who had received tablets from the FCHV was even lower (56% in Banke and 37% each in Jumla and Bajhang).

Among the RDW who had received MSC, more than 80 percent in all three study districts were aware that MSC tablets were provided for preventing PPH among women and that the correct timing for taking the MSC tablets is 'after delivery of baby but before delivery of placenta.' Nearly all RDW knew that a single dose of three MSC tablets should be taken by the women.

More than 80 percent of RDW in the all study districts, among those who had received MSC, were aware that these tablets should not be taken during pregnancy period. Amongst them, majority in Bajhang (97%), Banke (94%) and Jumla (88%) thought that if bleeding persists, even after taking MSC tablets, the woman should immediately visit a health facility. More than 82 percent of RDW in all districts were advised by FCHVs not to take MSC during pregnancy and that taking MSC during delivery is dangerous.

No difference was observed in Jumla correlating to any of the background characteristics of RDW that would indicate the likelihood of receiving MSC tablets, while in Banke RDW from upper castes and those in the highest wealth quintiles were less likely to receive MSC tablets. However, in Bajhang, a higher proportion of literate RDW and those from higher wealth quintiles had received the tablets.

Among the RDW who received MSC tablets, just over half in Banke and over three-quarters each in Jumla and Bajhang had consumed the tablets and most of them had taken a single dose of all three tablets. Only a few respondents in the study districts had consumed less than three tablets of MSC after the delivery of the last child for reasons like 'fear of side-effect', 'thought not necessary, thought three tablets is a lot,' 'tablets being expired,' 'forgot to take' and 'as placenta came out before taking MSC.' In general, among those who had not consumed the MSC despite receiving, more than 83 percent each in Banke and Jumla and 55

percent in Bajhang went to a HF for delivery. More than 90 percent of RDW among those who had consumed the MSC given to them in all three districts had met the compliance i.e. taken all the three tablets immediately after birth of the child.

Post Partum Care

More RDW in Jumla (74%) and Banke (62%) had at least one visit by the FCHV at their home during their most recent postpartum periods than in Bajhang (47%). The percent of RDW having second and third visits from FCHVs is considerably low. Advice and counseling on mother and newborn issues from the FCHVs included advice on the necessity of taking iron-folic tablets, resting, eating a balanced diet, the importance of breastfeeding and other newborn issues and danger signs that may appear in the mother and the newborn.

While over 95 percent of RDW in Banke and Jumla received a post-partum check up by a health worker after an institutional delivery, the frequency of postpartum check ups in Bajhang following institutional deliveries is much lower. In the case of home deliveries however, the percentage of RDW reporting postpartum check ups after the delivery by health worker was very low in all three study districts. A majority of RDW from the study districts reported receiving physical examinations and counseling on childcare and family planning.

The percent of RDW who had taken the iron-folic acid tablets during the postpartum period was high in all three study districts (70% in Banke, 74% in Jumla and 54% in Bajhang) yet only around three in ten RDW each in Banke and Jumla and around two in ten in Bajhang had met the compliance i.e. taken all the recommended 42 tablets during six weeks period following delivery. Compliance with the entire dose of iron-folic acid tablets during the postpartum period was significantly higher among literate RDW and among RDW with higher levels of education in all three districts. Regarding caste/ethnicity, a higher proportion of RDW in the upper caste group and in the higher wealth quintiles in Banke and Bajhang had complied with the correct dosage, and a higher proportion of RDW in the highest wealth quintile in Banke and Jumla had taken the prescribed dosage of iron-folic acid tablets.

The Vitamin A intake within six weeks of delivery was highest in Jumla (72%) followed by Banke (63%) and Bajhang (56%). Intake of vitamin A in the postpartum period was significantly higher among literate RDW and among those with higher levels of education in Banke and Bajhang, yet no difference was observed in Jumla based on educational status of RDW. RDW in upper caste groups in Banke and Jumla, and among the highest wealth quintiles in Banke were more likely to take vitamin A.

RDW were also found to be aware of danger signs during the postpartum period and cited 'excessive bleeding' and 'high fever/coughing' as the danger signs that call for immediate health care. Also, 'pain in lower abdomen' or 'foul smelling vaginal discharge,' 'severe headache,' and 'convulsion' were cited by RDW as serious danger signs. Seventy percent and more RDW identified the hospital as the place where a woman should go to in case of such danger signs.

On familial care during the PP, more RDW in Banke (81%) and Jumla (61%) reported eating more food than usual while only four in ten RDW in Bajhang reported doing so. Likewise, more RDW in Banke (86%) and Jumla (70%) versus only 40 percent in Bajhang reported getting more care and support from the family members such as being advised to rest more,

being given more nutritious food to eat or having heavy work loads reduced during the first six weeks following the delivery.

Some RDW in all three districts had faced life threatening danger signs, which included fevers, foul smelling vaginal discharge, lower abdominal pain, excessive bleeding, convulsion and severe headaches during their last postpartum period. However, as many as 69 percent in Bajhang and 43 percent in Jumla did not take any action to resolve the problem they had encountered, which is high compared to the 21 percent in Banke who did the same.

Postpartum Family Planning and Birth Spacing

The percentage of RDW (among those who had their last child above six months of age) using family planning (FP) methods after their most recent delivery is higher in Banke at 35 percent compared to 27 percent in Jumla and 25 percent in Bajhang. The type of FP most frequently cited by RDW in all three districts was condom use followed by Depo Provera. A substantial percentage of RDW were advised by FCHV to use FP in less than a week of delivery (74% in Banke, 49% in Bajhang and 34% in Jumla). In Banke, RDW were getting FP related advice sooner from health workers than in the other districts. In Jumla, FCHVs were more active in distributing condoms and pills than in other districts. Referral by FCHV for FP services was common in all three districts.

Nearly 25 percent in Jumla were aware of the fact that breastfeeding reduces the chance of pregnancy, but only 12 percent in Banke and 11 percent in Bajhang knew that. A majority of RDW expressed that a period of 2 to 3 yrs or (25 to 36 months) is the ideal spacing between births.

Immediate Newborn Care

The survey showed poor practice of using a CHDK as well as boiled new instruments in Bajhang compared to the other two districts. Also, the practice of cutting the cord of a newborn by sickle (*hasiya* and *chulesi*) was common in Bajhang and Jumla, and the practice of not boiling the instrument among those who did not use a CHDK or new/unused blade is also high. Wooden tools were most commonly used to cut the umbilical cord in Bajhang. They were used almost as frequently in Jumla. While two-thirds in Banke and Jumla reported that the person assisting the delivery had washed their hands with soap; 43 percent in Bajhang reported the person handling the newborn did not wash their hands with soap.

A high proportion of RDW who had a home delivery in Bajhang (34%) and Jumla (24%) reported that they had not applied anything on their newborn's umbilical cord stump compared to the number of RDW in Banke (9%) who reported the same. Yet, a majority of RDW in all three districts reported that something was applied to the cord stump of the newborn. A large portion reported applying Kawach to their child's cord stump followed by other substances. In Banke and Bajhang, after Kawach, oil was the second most frequently used substance on a child's umbilical cord stump. The practice of using turmeric powder was common in Jumla. In Bajhang, around a quarter reported applying ghee or butter (*nauni*) to the cord stump.

Fifty-two percent of the RDW in Banke, 40 percent in Jumla and 38 percent in Bajhang had received Kawach during the pregnancy period. A majority of RDW who had received Kawach in all districts had received all the pieces of advice including wash hands with soap

and water before applying Kawach (> 90% in all districts), spread Kawach by finger (> 90% in all three districts), keep the cord stump untouched by clothes for some time after applying Kawach (almost 90% in all three districts), and do not apply anything on the stump other than Kawach while keeping it clean and dry (>90% in all districts).

Sixty-seven percent of RDW in Banke, 58 percent in Jumla and 47 percent in Bajhang confirmed Kawach was used on their newborns umbilical cord stump after showing the tube of Kawach. In Banke, mostly health workers (47%) followed by FCHVs (26%) had applied the Kawach. In Jumla mostly FHCV (46%) followed by HW (24%) had applied Kawach, while in Bajhang, RDW themselves (44%) had applied Kawach followed by HW (35%). Regarding the communication about the application of Kawach (among cases where Kawach was applied by people who were not family members), almost nine in ten RDW in all three districts confirmed that they were notified that Kawach was applied to their newborn.

Kawach use was consistent across RDW of all age groups in all three districts except that fewer women who were 35-49 years old compared to their younger counterparts in Banke and Bajhang had used Kawach. A significantly higher proportion of illiterate RDW had used Kawach in Banke and in Jumla compared to their literate counterparts, while in Bajhang a higher proportion of literate RDW had used it. Furthermore, RDW with higher levels of education (SLC and above) were less likely to use Kawach in Banke and Jumla than RDW with no education. Kawach use was lowest among Dalits in all three districts compared to other caste groups. A lower proportion of RDW in highest wealth quintiles in Banke and Jumla had applied Kawach, while in the case of Bajhang a higher proportion of RDW in the highest wealth quintile had applied it. Regarding the location of the delivery, three-quarters in Banke and two-thirds in Jumla reported using Kawach in home delivery cases, while Bajhang shows a higher use of Kawach in institutional deliveries.

Among the RDW who reported Kawach application to their newborn, almost nine in ten in all three districts reported applying it within two hours of cutting the cord. In most cases, in all the three districts, it was applied on both the cord stump and the surrounding area. Almost eight in ten RDW in all three districts reported the application of the whole content of the tube, and nine in ten RDW in all three districts reported a single time application. More than 80 percent RDW reported further that the cord stump was left untouched for sometime after applying Kawach.

Among those who had applied Kawach to their newborn in Banke and Bajhan, around seven in ten RDW had met the compliance of Kawach application (68% and 70%, respectively) while this rate was slightly higher in Jumla where a little over three-quarters (77%) had met the compliance. There was no difference in compliance of Kawach correlating to age, literacy status or education level of RDW in all three districts except in Banke where a higher proportion of illiterate RDW and RDW with no education or some primary education had complied. In Jumla, the upper caste group showed a significantly higher compliance rate. In Banke, households belonging to the lowest quintile showed higher compliance than their highest quintile counterparts (78% vs. 60%). A higher proportion of RDW who had delivered the child at home in Banke and who had delivered in health institution in Jumla had satisfied the compliance requirements; whereas, in Bajhang, there was no difference based on where the delivery took place.

Compared to the beginning six months of the program implementation, coverage has improved in the later six months of the intervention from 65 to 70 percent in Banke; from 53

to 61 percent in Jumla and from 42 to 51 percent in Bajhang. Similarly, the compliance had also slightly improved in the later six months in Banke and Bajhang compared to the earlier months of program implementation, although no significant difference was observed (66% vs 71% in Banke and 68% vs 71% in Bajhang). There was, however, no change in compliance over the two periods of time in the case of Jumla.

Very few children above one month of age were reported occurrence of a problem in their cord stump (17% in Banke, 12% in Jumla and 8% in Bajhang). Among those who had problems, infection of the cord stump was cited frequently. Furthermore, seven and nine RDW from Banke and Jumla, respectively, reported delayed falling of the cord. When faced with these umbilical cord stump-related problems, most of the RDW resorted to home remedies.

Newborn Care during First Month

More than 90 percent RDW in all three districts were aware of some danger signs in a newborn that require immediate health care, such as 'fever,' 'poor suckling,' 'fast breathing,' 'chest in-drawing,' 'skin infection' and 'diarrhea.' Three-fourths of RDW in Banke and Jumla had a HW or FCHVs check on their child's health within the first month of birth. Slightly more than half of the RDW in Bajhang confirmed a newborn check up within the first month. While more than 60 percent neonates in both Banke and Jumla had received their first check up on their date of birth, in Bajhang, only 26 percent were checked the same day as they were born.

In Banke, a staff nurse or ANM were among the most commonly cited (41%) HWs who checked a child's health conditions. In Jumla, 42 percent cited FCHVs and, in Bajhang, more than 46 percent cited community medical assistance (CMA) as the health workers who checked their newborns. About four-fifths of RDW reported no health problems were encountered by the newborn; but the remaining children faced some health issues like fever, redness around their cord, persistent vomiting, feeding problems, fast breathing, etc. Nearly half in Bajhang did nothing about the problems that occurred in neonates and the remaining were employing home remedies.

Most of the RDW in all three districts said that their children were weighed at least once at any time following birth and the place where they were weighed was their own house followed by hospitals, SHP, HP and PHCC. Three-fourths of the children in all districts weighed between two and four kilograms. Less than 5 percent in all districts weighed below 2 kgs. Based on the RDW's perception, 13 percent in Banke, 14 percent in Jumla and 12 percent in Bajhang said that their child was smaller than average or very small. Because the babies were small, most RDW said that they received the advice from HWs to breastfeed the newborn frequently and continuously, to keep the baby warm, and to increase skin-to-skin contact with the baby by keeping it against the mother's body. Some newborns were also referred to HF by HWs due to their small weight, but the percentage of RDW actually taking the newborns to HF as advised was very small in all districts.

Infant and Young Child Feeding Practices

The initiation of breastfeeding to the child within one hour of birth was reported by only just over two-thirds of RDW in Banke, six in ten in Jumla and around seven in ten in Bajhang. Nonetheless, almost all children were breastfed within one day of birth and almost all were fed the colostrums. Further, the initiation of breastfeeding within one hour of birth in Banke was most likely among children whose mothers were young, literate, higher educated, from the upper caste group, from the highest household wealth quintiles and among those who had delivered in a health facility compared to their respective counterparts. On the other hand, in Jumla and Bajhang, none of these characteristics were associated with early initiation of breastfeeding except in Jumla where literate RDW were more likely to give babies with breast milk within the recommended time.

The exclusive breastfeeding practice in all three districts was significantly higher among children younger than two months old, while it decreased as the age of the child increased. Moreover, in Banke, male children, mothers with no schooling, children from illiterate mothers, from the Dalit caste group and from lower wealth quintiles were more likely to receive exclusively breast milk than compared to their respective counterparts. However, these characteristics were not correlated to breastfeeding practices in Jumla and Bajhang.

In Banke, a higher proportion of children age 6-8 months from the highest wealth quintiles, from the disadvantaged Janajati caste and those born in a health facility had received the appropriate amount of food. In Jumla, none of the demographic characteristics of the mother were associated with this statistics except that more male children received adequate amounts of food than female children. On the other hand, in Bajhang, more children from the upper caste group did receive an appropriate amount of food.

Regarding dietary diversity amongst children aged 6-11 months, only 12 percent in Banke, nine percent in Jumla and one percent in Bajhang had received the recommended minimum dietary diversity. The percentage of children who had received the minimum dietary diversity in Banke was significantly higher among young, literate and higher educated RDW and also among female children, while none of the background characteristics were associated with this indicator in case of Jumla and Bajhang.

The study revealed that almost seven in ten breastfed children aged 6-8 months in Banke and Bajhang and around nine in ten in Jumla had received at least the recommended two meals of solid/semi-solid food in the day preceding the survey. Likewise, around seven in ten breastfeeding children age 9-11 months in Banke and Bajhang and eight in ten in Jumla had received it three times. Regarding meal types, almost all children age 10-11 months had received food made from grain in the preceding day in all districts. The consumption of food made from roots and tubers (7% in Banke, 15% in Jumla and 5% in Bajhang) and legumes and nuts (22% in Banke, 22% in Jumla and 9% in Bajhang) is very low. Likewise, very few children in all the districts among all age groups had consumed vitamin A rich fruits and vegetables, other fruits and vegetables and meat products.

Among the children who were 6 months and above, around nine in ten in Jumla and Bajhang had received vitamin A in the last distribution. This rate is slightly lower in Banke where 86 percent of children were supplied with vitamin A supplements in the most recent mass distribution.

Chapter 1: Introduction

1.1 Background

Pushing for better maternal and neonatal healthcare is crucial for the achievement of Millennium Development Goal 4 (MDG 4), to reduce the maternal mortality ratio (MMR) by three-quarters by 2015; and the Millennium Development Goal 5 (MDG 5), to reduce the under five year old mortality rate by two-thirds by 2015. The analyses in Nepal have shown that an increasing number of both newborn children and mothers are being saved from life-threatening conditions surrounding the time of birth (Pant et. al., 2008). This claim is complemented by the fact that maternal mortality ratio (MMR) has reduced from 539 to 281 deaths per 100,000 live births from 1996 to 2006 (Ministry of Health and Population, New ERA and Macro International Inc., 2006)¹; the neonatal mortality rate (NMR) has reduced from 50 (in 1996) to 33 (in 2011) per 1,000 live births; and, more notably, the infant mortality rate (IMR) has reduced to 46 from 79 per 1,000 live births within the same period (Ministry of Health and Population, New ERA and Macro International Inc., 2011)². However, this is still inadequate to achieve the targets set by MDG 4 and 5. Thus, the next steps should focus on further reducing these mortality rates and pushing for better maternal health care service use and availability. Moreover, neonates account for more than 70 percent of infant mortalities in Nepal³ indicating that infant care should focus also on care for neonates.

The NMR continues to remain a challenge in Nepal, especially in rural areas, owing to the persistent unhygienic and unhealthy practices and behaviors. Nepal Demographic and Health Survey (NDHS) 2011 reported 72 percent of total deliveries in Nepal take place at home without any assistance from health care providers. Furthermore NDHS 2006 also reported that placentas are not handled hygienically and an umbilical cord is cut with any tool (*hasiya, chulesi*, etc.) that is readily available, most of which are unhygienic and/or inappropriate instruments. In addition the traditional ways of treating freshly cut cord stumps with mustard oil, turmeric powder, breast milk, ashes, cow dung, etc seriously augments the chance of newborn infections. NDHS 2006 documented that such practices are most common in the Far-Western Development Region (91% home delivery) followed by the Mid-Western Development Region (86% home delivery). A report by New ERA further pointed out that unhygienic ways of handling deliveries are most common among the Dalits and Janjati groups of Jumla, Rolpa and Banke of Mid-West⁴. Thus, the neonates and the new mothers from these regions and groups appear more vulnerable to a high risk of infection due to such high prevalence of unequipped home deliveries and unhygienic practices when handling newborns.

The attempts to tackle the challenges of reducing MMR and NMR in rural Nepal face a number of barriers such as geographical isolation, technical inadequacies and lack of service/providers. Moreover, people show reluctance to use the care that is available due to

¹MoHP, New ERA and Macro International Inc., 2007, Nepal Demographic and Health Survey (NDHS).

²MoHP, New ERA and Macro International Inc., 2011, Nepal Demographic and Health Survey 2011 Preliminary Report.

³ibid.

⁴ Barriers and Enabling Factors Influencing the Use of Skilled Birth Attendants among Marginalized population in the Mid-Western Region of Nepal, Oct 2007

various socio-cultural and economic factors produced by poverty, lack of education and deeply-rooted belief systems. For instance, a New ERA study in 2007 reported that the marginalized population of the Dalits in Jumla delivered babies in a cow-shed 'goth'. According to local beliefs, it is a culturally prescribed practice that not only has a symbolic significance that provides sacredness and purification, but it also prevents the house from being impure and messy⁵. The problem is also compounded with women's 'tameness' in seeking necessary check up services, the lack of awareness about the potential threat of tetanus and other infections and ignorance about the importance of light and ventilation in the delivery room.

These conditions of lack of hygiene during the delivery; malpractices when handling placentas and freshly cut cord stumps; lack of knowledge and awareness about potential risks of infection; lack of health service/providers being involved in the pregnancy and adhering to traditional but unhealthy birthing practices put both mother and newborn at a high risk of infection; for, they are exposed to pathogens through hands, clothes, instruments and substances used on cord stumps. Such exposures may cause serious illnesses or even death in the mother and the new born.

1.2 Interventions of Nepal Family Health Program (NFHP) II

For a holistic improvement in maternal and neonatal health (MNH), NFHP II implemented a number of national and sub-national programs. These include the Expanded Program in Immunization (EPI), Antenatal Checkups (ANC) Birth Preparedness Package (BPP), Postnatal Check ups (PNC), promotion of Skilled Birth Attendants (SBA), Family Planning (FP) services, Maternal and Neonatal Tetanus Elimination (MNTE) and Community-Based Integrated Management of Childhood Illness (CB IMCI).

The 'MNH activities at community level' program in particular focuses on behavioral changes by increasing awareness among pregnant women and their family members on the danger signs during antenatal, delivery and postnatal period. The program also imparts knowledge on the importance of planning and preparing for delivery and postnatal care, and it seeks to increase a demand for and use of antenatal, delivery-related and postnatal health services.⁶

The 'MNH activities at community level' focus on strengthening programs such as 'iron intensification' and the 'Birth Preparedness Package.' In addition to combating high MMR, NFHP II promotes the use of oral misoprostal '*matri surakshya chakki*' (MSC) through FCHVs to prevent post partum hemorrhage (PPH), which has been a primary cause of high MMR in Nepal⁷.

Regarding newborn care, NFHP promote and disseminate information about the use of safe delivery kits, cord cutting practices, drying and bathing newborns and other health care services. Community-based health programs specifically focus on essential newborn household care practices immediately after birth and during the first month following birth. The program emphasizes using clean materials and hand washing with soap before and during handling of the newborn and treating the umbilical cord. Also, they teach about appropriate handling of newborns and underweight babies and about infant and young child

⁵ Barriers and Enabling Factors Influencing the Use of Skilled Birth Attendants among Marginalized population in the Mid-Western Region of Nepal, Oct 2007.

⁶ Ibid

⁷ Ibid

feeding (IYCF) practices. As a preventive measure, the program accentuates recognizing and seeking prompt care when danger signs appear in neonates. Children with low weight are provided with special, intensive follow-up care after they are identified⁸.

The community-based program also consists of the following: contacting pregnant women and paying them household visits, encouraging mothers to seek specific antenatal services from FCHVs or other health workers; emphasizing the need for a skilled birth attendant or Emergency Obstetric Care (EOC) and financial and emergency transportation planning; recognizing and seeking immediate care when danger signs appear; promoting immunizations and postpartum family planning and informing FCHVs soon after deliveries to ensure an early postpartum home visit, assessment of danger signs and referrals, as necessary; counseling/negotiation on essential newborn care and breastfeeding; recognition of danger signs in a newborn and seeking subsequent care. The program also dispenses iron-folic acid tablets to pregnant and postpartum women and Vitamin A to postpartum women through FCHVs.

Chlorhexidine (CHX): An Intervention Focusing on Prevention of Umbilical Cord Infection

Several recent studies have identified an infection of umbilical cord stump (Omphalitis) as one of the leading causes of neonatal mortality in developing countries. Chlorhexidine (CHX), which is widely used in health facilities during childbirth for vaginal cleansing and wiping down a newborn has been extensively researched to use in the umbilical cord of the newborn. The application of CHX to the umbilical area of neonates by trained staff is found to be directly associated with a significant decrease in NMR (Mullany et.al.)⁹. So, use of 4% chlorhexidine (CHX) for cord stump care could be a simple intervention to reduce neonatal mortality rate (NMR). Department of Health Services (DoHS) thus has piloted the use of CHX lotion in the umbilical cord stump of the newborn in Banke, Jumla and Bajhang districts as part of essential newborn care program at community level.

Use of CHX for cord stump care started as randomized non-inferiority clinical trial of use of CHX lotion over liquid for cord stump care. The study was evaluated through the microbial colonization on the cord stump after 24 hour of application. The result showed that lotion was non-inferior to liquid preparation of CHX (Hodgins et. al., 2010)¹⁰. The study was followed by a community level acceptability study in two village development committees of Banke district. In this study, liquid and lotion preparation of CHX was distributed to pregnant mothers and preference for the preparation was accessed through focus group discussion and key informant interviews after completion of the study period. The community showed preference for “lotion” formulation over “liquid”. Then the use of CHX for cord care was integrated with the ongoing Maternal Newborn Health (MNH) interventions at community level and expanded to all villages of Banke district as pilot study for coverage and compliance. Later, the pilot study was extended to Jumla and Bajhang districts. In this pilot

⁸ Barriers and Enabling Factors Influencing the Use of Skilled Birth Attendants among Marginalized population in the Mid-Western Region of Nepal, Oct 2007.

⁹ Mullany et. al. 2006, Topical applications of chlorhexidine to the umbilical cord for prevention of omphalitis and neonatal mortality in southern Nepal: a community-based, cluster-randomised trial. National Institute of Health. Lancet. 367(9514): 910–918.

¹⁰ Hodgins et. al., 2010. Chlorhexidine gel versus aqueous for preventive use on umbilical stump: a randomized noninferiority trial. *Pediatr Infect Dis J.* 2009(11):999-1003.

study, CHX was distributed to pregnant mothers during the late pregnancy (8-9 months) by Female Community Health Volunteers (FCHVs). The mothers or family members were counseled about the CHX and method of application. The CHX was also used for the newborns born at health facility and referral hospital in the district by health workers. In this pilot study, 4% Chlorhexidine (CHX) was named as “kawach” for easy understanding at the community level.

1.4 Objectives of the Survey

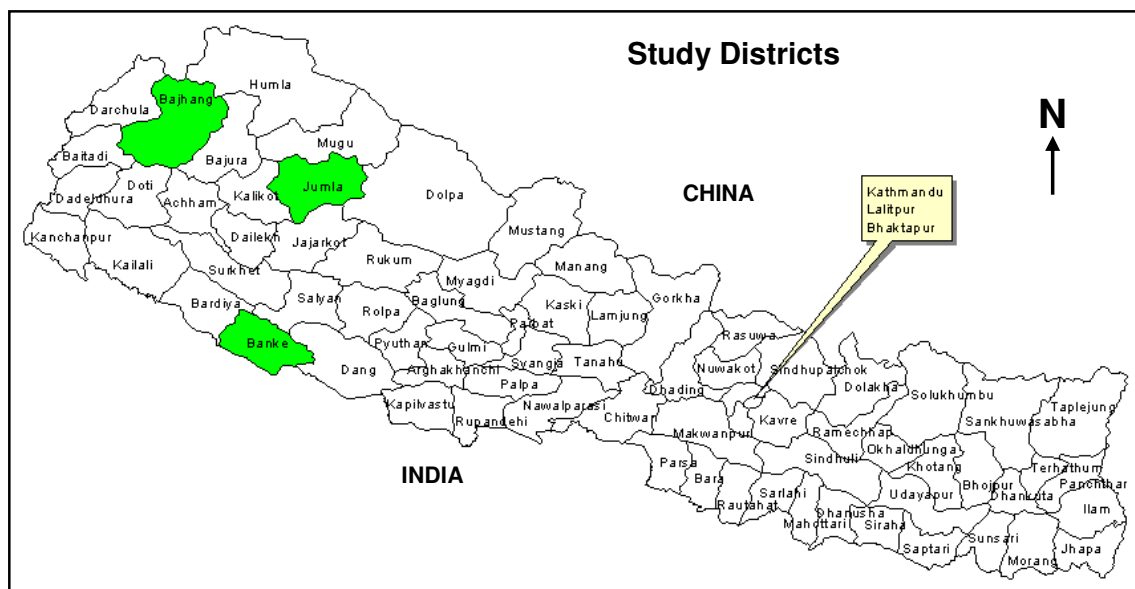
The overall objective of the study is to assess the coverage and compliance of Kawach and other MNH care activities at the community level in Banke, Bajhang and Jumla districts. More specifically, the study attempted to assess the following areas of interests.

- i. Use of Kawach on the umbilical cord of newborn in the three pilot districts.
- ii. Compliance with the prescribed application of Kawach.
- iii. Perceptions of mothers/caretakers on the topical application of Kawach on the freshly cut cord stump.
- iv. Knowledge, attitude and practice (KAP) of mothers/caretakers regarding Kawach application on the freshly cut cord stump.
- v. Knowledge of recently delivered women (RDW) on maternal and newborn danger signs.
- vi. Current practice of receiving ANC, delivery and PNC services.
- vii. Use of misoprostal in home deliveries in the absence of a SBA.
- viii. Current practices relating to management of the newborn at home.
- ix. Current practices of preparing for birth among RDW.
- x. Use of family planning methods by postpartum women.

Chapter 2: Methodology and Data Collection

2.1 Study Site

The survey was conducted in three districts: Banke, Jumla and Bajhang. A cross sectional study was designed and households study was carried out in those districts. Banke is a flat land district where as Jumla is hilly district and Bajhang is the mountain district of Nepal. Banke was the district where accessibility study for CHX was done and the program was implemented first. The program was expanded later in other two districts. So, Banke had more than one year implementation of CHX program and other two districts had one year implementation of CHX program.



2.2 Study Population

The survey collected quantitative information from these three districts on maternal and neonatal health from a recently delivered woman (RDW) living in the household as primary respondents. The RDW were confined to women who had been or were currently married who had given birth to a living baby or had delivered a still born (that had been in the gestation period for at least 28 weeks) in the year preceding the survey.

2.3 Sample Size Estimation

A total of 600 RDW in each district were interviewed to gather the data. The sample size of 600 RDW in each district was calculated assuming an anticipated rate of 50 percent, with a margin error of 5 percent, confidence level at 95 percent and design effect of 1.5 percent.

The following formula was used to determine the sample size incorporating the above mentioned criteria:

$$n = \frac{t^2 \times p(1-P)}{m^2} \times df$$

Where,

n = required sample size

t = confidence level at 95% (standard value of 1.96)

p = estimated, predicted rate for the given indicator in the project area at 50% (standard value of 0.5)

m = margin of error at 5% (standard value of 0.05)

df = design effect

Therefore, using the parameters mentioned above, the required sample size (n) came to 576. Rounding up the value, the sample size in a stratum became 600.

2.4 Sample Design

The sample design included a stratified two-stage cluster sampling with selection of households through random sampling at the final stage, providing a population-based sample of households. The entire VDCs of each of the three districts were included in the sampling frame to ensure a representative result in each district. First, the clusters were identified following the 'population proportion to size (PPS) method. The identified clusters were then segmented (3 to 5) by mapping. Finally, the required number of RDW were recruited from segments in each cluster.

2.4.1 First Stage: Selection of Clusters

The first stage of the sampling design included the selection of clusters. Wards being the smallest administrative unit in Nepal were taken as cluster units. All wards of each Village Development Committees (VDCs) of each district were listed following the Population Proportion to Size (PPS) method and 30 wards were selected from each district. For this a cumulative household population column was prepared using the recent census data from the Central Bureau of Statistics (CBS, 2001)¹¹. Twenty RDW were recruited from 90 clusters to make a total of 1800 samples from three districts.

Based on New ERA's past experiences conducting studies with similar sampling methods, it was determined that at least 6 households needed to be visited to locate one RDW in the Western Terai (6.2) as well as in the Western Mountains (6.1)¹². Thus, it was required to visit 120-150 households in a cluster in each stratum, and it was mandatory that each cluster had at least 150 households. The wards that had less than 150 households were combined with their adjoining wards and treated as single clusters. For this, household size in each ward was thoroughly reviewed, and clusters of a minimum of 150 households were formed. Subsequently, the required number of 30 clusters from each stratum was selected following this method.

¹¹ Central Bureau of Statistics (CBS) [Nepal]. 2003. Population monograph of Nepal Vol. I Kathmandu, Nepal: Central Bureau of Statistics.

¹² A recent survey of RDW by New ERA for MI in Banke shows that 6.2 households should be visited to locate a RDW. Similarly, NDHS (2006) showed 72 RDWs were present in 437 sample households in Western Mountain Regions, making the proportion of household visit of 6.1.

2.4.2 Second Stage: Selection of Households

In order to begin household selection, the field team consulted FCHVs and local key informants prior to data collection to prepare a map. The map laid out public places, rivers, forests, temples, farmland and so on to locate settlements. The cluster was divided into 3-5 segments with the estimated number of households in each segment. The first segment was chosen randomly from the list of segments to start the data collection.

i. Selection of Index Household

The index of households to interview within the selected segment was identified using the 'Spin the Bottle' method. For this, a stick or a pen was spined in the center of the sample segment and. Following this, the field team walked in the direction that the stick/pen pointed and assigned a number to each of the houses until they reached the edge of the settlement, working their way to the right until the all households were assigned numbers. An index household was randomly chosen from a number between one and the total number of houses in each segment.

ii. Selection of the Main Respondent (RDW)

After selecting the index household, a screening questionnaire was administered to the head of the household or a knowledgeable person in the household to identify the women in the households between the ages of 15-49 years and whether or not they were pregnant in the past two years. If such women were available, a second set of screening questionnaires were administered to each eligible women present in the house. From those eligible women, women who had given birth in the past year (RDW) were chosen, and a structured questionnaire was administered, making the RDW the main respondent. In cases where there was more than one eligible RDW, a random selection procedure was followed to select one respondent from each household.

iii. Selection of the Required Sample Households

The possible number of RDW in each segment was determined through household screenings (using Screening Form 1). To recruit 20 RDW, the team members filled the screening 1 starting with the index household and ending with the last household in the segment. If a segment had less than 20 RDW, the process was repeated in second and third segments and so on, until the 20 RDW were recruited from the cluster.

Screening 1 was administered in 3,968 households in Banke, 3,119 households in Jumla and 2,859 households in Bajhang with the purpose of listing availability of women aged 15-49 years. A total of 40 households in Banke refused to participate in the survey, and one household in Jumla and two in Bajhang could not be reached, as none of the family members were available for interviewing. Screening 2 was administered to all women in each household who were pregnant in the past two years based on the information provided by the household head. From these women, 621 in Banke, 607 in Jumla and 617 in Bajhang were found eligible as they had delivered within a year preceding the survey and 600 from this pool were selected for the main questionnaire from each district.

Sample Household Visited and Proportion of RDW

	Banke	Jumla	Bajhang
No. of clusters visited	30	30	30
No. of households visited	3968	3119	2859
No. of women who had given birth in last two years	1030	919	922
No. of RDW screened	621	607	617
Proportion of households with RDW	6.4	5.1	4.6
No. of RDW recruited	600	600	600

2.5 Methods of Data Collection and Survey Instruments

New ERA reviewed the draft instruments developed by NFHP II. There were two sets of screening questionnaires and a set of structured questionnaire designed for the RDW. The first screening questionnaire was administered to the head of the household or a knowledgeable person in the household in order to determine the existence of women in the household who were 15-49 year old and whether or not they were pregnant in the past two years. The second set of screening questionnaire was administered to each eligible woman (age 15-49 yrs and had delivered a baby or had pregnancy loss in the previous two years) for further confirmation of her age, date of delivery and the number of children she had.

After screening and confirming the existence and availability of RDW (women who had given live births in the preceding year or had a still born after a 28 weeks or more gestation period) in the household, the main questionnaire was administered to her. Though the information on coverage and compliance of Kawach was applicable to RDW with live births only, RDW with still born were also recruited for the survey in order to assess other component on maternal health including awareness on danger signs during antenatal, delivery and postpartum periods, coverage of ANC and PNC services, birth preparedness practice and complications readiness.

In the case of more than one eligible RDW in a household, one RDW was selected randomly. The main household questionnaire included the background characteristics of the respondents as well as their knowledge, attitude on and practice of various aspects of maternal and neonatal health, coverage and compliance of Kawach, level of acceptance and perception on Kawach use and other information directly related to the study objectives.

2.6 Field-test of the Survey Instruments

In order to familiarize the field enumerator with the survey procedures and to identify the necessary changes required to the survey instruments, a pre test was done in Alau VDC of the Parsa district, where Plan Nepal was implementing the CHX pilot study along with community based newborn care program. The pre-test assisted in improving the field procedures and familiarized the rest of the team member with potential survey cases. Based on pre-test, the questionnaires were again reviewed and modified. Also, experiences were shared amongst all team members so that the necessary information could be collected in an efficient manner. The pre-test examined the adequacy of the questions, the clarity/wording of questions, the adequacy of possible responses (pre-coded), the sequence/flow of questions, the skip patterns and questionnaire administration techniques.

2.7 Implementation of Survey

2.7.1 Field Survey Team Selection

The household data collection for the study was carried out by 11 field supervisors and 24 enumerators. There were a total of 11 teams of 12 males and 23 females. Each team consisted of one supervisor and two to three enumerators, depending on the geographical constraints of the districts. All the field staffs were selected from the pool of New ERA field researchers who have already worked on other similar surveys. The essential requirement for selecting field staff was that they possess relevant work experience in a similar area, work experience in rural communities, academic qualifications, languages known/spoken, and rapport-building capacities.

2.7.2 Training for the Field Survey Team

Training commenced immediately after the selection of field staff from 5th to 15th April 2011 that consisted of the standard activities used in New ERA field staff training. The training was conducted by core survey team members. Officials from NFHP II and other stakeholders were also invited to give detailed orientation about the pilot program and the technical insights to the field teams. The training included:

- Objectives of the survey;
- Reason for using a multi-stage cluster survey and a description of how to execute it;
- Eligibility criteria when filling out the initial screening form;
- Selection of households;
- Rapport-building and how to gather consent;
- The structure of the household questionnaire and how to ask questions correctly;
- The purpose of each item included in the questionnaire;
- Data recording;
- Roles and responsibilities of the field team members;
- An orientation on maternal health;
- An orientation on neonatal and child health;
- Mock interviews; and
- Sharing experiences

2.7.3 Fieldwork

Each team consisting of three to four members carried out the fieldwork. Each team was assigned to certain number of clusters depending on the geographical constraints. Each field team was provided with the tentative field schedule before their departure to the assigned districts, which was updated after contacting them again once they arrived in the cluster. On arriving to the sampled district, the team contacted the concerned authorities and stakeholders in the districts and then moved to the assigned clusters. The fieldwork commenced on April 18th and continued until June 5th, 2011.

2.8 Quality Control

Various measures were taken into consideration during the data collection to ensure validity and reliability of data such as:

- Making sure about the correct identification of the RDW
- Ensuring each questionnaire was filled in correctly by checking it before terminating each interview.
- The Field Supervisor checking questionnaires for consistency and errors.
- Interviewers wrote their names on the questionnaires, making it possible for clarification if certain information was not clear during the data coding and entry period.

Apart from this, to further strengthen the field work process and to maintain quality in the data collection process, field supervision was done by New ERA core study team members to Banke from 26th - 29th April and to Jumla from 7th - 12th May 2011.

The filled questionnaires were edited at two levels - first, by the field supervisors in the field and, second, by the staff at New ERA who checked the questionnaires thoroughly before they were sent to the data entry department.

2.9 Research Ethics

The survey procedure was designed to protect participants' privacy, allowing for anonymous and voluntary participation. Prior to the interview, a letter from the MoHP/FHD and NFHP II was presented and the purpose of the study was explained to each participants. The respondents were given the opportunity to ask questions regarding the survey and to decide whether or not to participate in the survey. Prior to interview an informed consent was obtained from each respondent.

2.10 Data Entry, Cleaning and Analysis

Immediately after mobilising the field teams, a software package for data entry was developed by Data Programmer. The computer programming for data entry and analysis were based on questionnaires and expected outputs. A number of quality-check mechanisms, such as range checks and skip instructions, were developed to detect errors during the data entry stage. New ERA started processing and entering the data soon after receiving them from the field. Data entry was done directly from the questionnaires and a double entry process was used for the better accuracy. Before entering data into the computer, all completed questionnaires were thoroughly checked. In addition, a data programmer closely monitored the data entry activities. Data coding and entry was done by trained New ERA employees.

Data was computerized using the SPSS statistical package and descriptive statistics were used to calculate data. The chi-square test was used to compare differences in case of categorical variables and a 95 percent confidence interval was calculated for the main indicators. All the analyses and calculations were carried out in consultation with and under guidance of NFHP II.

Chapter 3: Characteristics of Respondents

This chapter provides a demographic and socio-economic picture of the study population. The information was collected by household surveys carried out in three districts, viz. Banke, Jumla and Bajhang, through interviews to recently delivered women (RDW). A total of 600 RDW, who had birthed a live infant or a stillborn after at least a 28-week gestation period were enumerated in 30 clusters from each of the three districts.

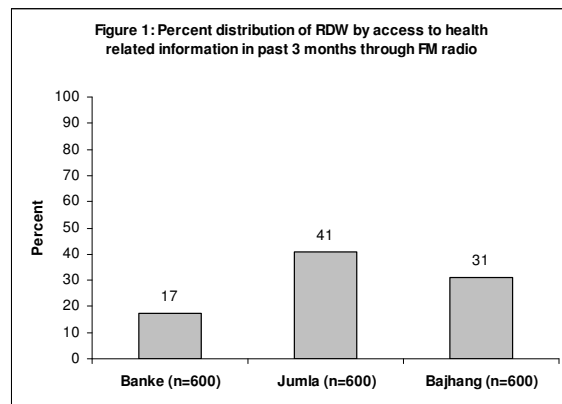
3.1 Socio-Demographic Characteristics of the Respondents

Table 3.1 presents background characteristics of the respondents. Higher proportion of RDW belonged to the age group of 20-24 years (39% in Banke, 46% in Jumla and 40% in Bajhang). The proportion of younger mothers aged 15-19 years was higher in Jumla compared to the two other districts. Likewise, the literacy status shows that Jumla had the smallest proportion of literate RDW (20%) compared to Bajhang (29%) and Banke (47%). The level of schooling shows wide variation amongst the three districts, and Jumla and Bajhang both share the highest proportion of RDW with no schooling at 78 percent. Although, Banke also shows low education attainments, it was slightly better than the other two districts, as 20 percent RDW had some secondary level education and 13 percent had an SLC or higher level of education. The RDW of the upper caste group were the predominant ethnic group in the study. While the distribution in Jumla and Bajhang included mostly upper castes (75% and 82% respectively) and Dalits (25% and 18% respectively) only; Banke displayed more heterogeneity in terms of castes/ethnicity with 24 percent of respondents coming from the disadvantaged Janjati group, 19 percent from the disadvantaged non-Dalit group, 13 percent Dalits and 12 percent from religious minority groups.

Characteristics	Banke	Jumla	Bajhang
Age			
15-19 Yrs	15.2	18.8	10.2
20-24	39.0	46.0	40.0
25-29	29.5	21.3	25.5
30-34	10.2	8.7	14.3
35-49	6.2	5.2	10.0
Median age	24.0 yrs	22.0 yrs	24.0 yrs
Literacy status			
Literate ¹	46.7	19.7	28.8
Illiterate ²	53.3	80.3	71.2
Education Level³			
No education ⁴	47.5	78.2	77.5
Primary ⁵	20.0	11.0	8.7
Secondary ⁶	20.0	5.2	5.5
SLC and above	12.5	5.7	8.3
Caste/Ethnicity			
Dalit	13.3	24.5	18.2
Disadvantage Janjati	23.8	0.2	
Disadvantage non-Dalit (Tarai)	18.7		
Religious minority	11.8		
Upper caste ⁷	32.3	75.3	81.8
Total (n)	600	600	600
¹ Includes those who have attended secondary school or higher or who can read a whole sentence ² Includes those who have never been to school or who can't read whole sentence or can't read at all ³ Includes those who have attended school and completed the highest level ⁴ Includes those who have never attended school ⁵ Includes those who have completed 0-4 years of school ⁶ Includes those who have completed 5-9 years of school ⁷ Includes 17 advantaged Janajati merged in upper caste in Banke			

3.2 Exposure to Specific Radio Program

The MNH program at the community level partnered with local radios to disseminate MNH information. To measure the size of the listening audience, RDW were asked if they had heard health related information from their local FM program in past 3 months. Figure 1 shows that there were more radio program listeners in Jumla (41%) compared to Bajhang (31%) and Banke (17%).



Those who confirmed having heard about health related information were asked more about the type of information that was broadcast. In response, a majority cited hearing newborn care-focused messages. Information on safe motherhood was the second most common topic heard on the radio. Information regarding diarrhea and family planning were also heard frequently by RDW in all three districts (Table 3.2).

Health Message from Local Radio [#]	Banke	Jumla	Bajhang
Newborn care	48.5	72.5	70.6
ARI pneumonia	20.4	35.7	36.9
Diarrhea	48.5	48.0	40.6
Family planning	39.8	39.3	30.5
Safe motherhood	28.2	64.8	66.8
Others	1.0	2.0	3.7
Total (n)¹	103	244	187

¹Total includes only those RDW who have heard health message from local FM radio in the past 3 months.
[#]Multiple responses.

3.3 Socio-economic Characteristics of the Household

The physical characteristics of the house denote the well-being and social status of the household. While seven in ten households in Banke reported having electric power, many households in Jumla (52%) and Bajhang (44%) had solar power energy in their homes. Therefore, more RDW in Banke (42%) than in the two other districts reported having television as well. As expected because of the geographical differences, more households of RDW in Banke possessed bicycles/rickshaws (81%), animal drawn carts (18%) and motorcycles (9%) than households of RDW in Jumla or Bajhang. The possession of a landline telephone is below nine percent in all districts. Just about seven in ten in Banke, almost half in Jumla and around three in ten in Bajhang had mobile phones (Table 3.3).

Household Assets [#]	Banke	Jumla	Bajhang
Electricity	69.0	29.0	17.3
Solar power	7.3	51.5	43.7
Bicycle/Rickshaw	81.2	0.0	0.0
Motorcycle	9.0	0.3	0.7
Animal drawn cart	17.5	0.5	0.3
Mobile phone	71.8	52.2	29.3
Telephone	7.7	6.8	8.8
Television	41.7	9.7	2.8
Radio	37.5	31.2	40.3
Total (n)	600	600	600

[#]Multiple responses.

The source of drinking water and type of toilet were crucial sanitation and health indicators. Thus, the RDW inquired about households' main source of drinking water and the type of toilets used in their households.

Table 3.4 shows the data on household's drinking water sources. A large proportion of households in Jumla (91%) and Bajhang (71%) used public or neighbors' taps (piped-water) as their main sources of drinking water. Whereas, in Banke, almost all reported well/tube well that were either public or on their own premises. A little over two in ten in Bajhang, however, depended on surface water such as springs, dug-well 'kuwa', rivers, streams, ponds or lakes for drinking water.

	Banke	Jumla	Bajhang
Piped into house/yard/plot	1.0	1.5	6.7
Public/neighbor's tap	0.7	91.3	70.8
Well/Tube well in house/yard/plot	68.5	0.0	0.2
Public/neighbor's well/Tube well	29.8	0.0	0.3
Surface water ¹	0.0	3.8	21.3
Stone tap/dhara	0.0	3.3	0.7
Total (n)	600	600	600
¹ Surface water includes spring, kuwa, river, stream, pond and lake			

Table 3.5 presents the distribution of types of toilets used by households. Higher proportion of households in Bajhang (70%) and Banke (64%) do not have toilet facilities. Comparatively, this rate is low in Jumla where three in ten households do not have any toilet facility. Some households in Banke (12%) and Bajhang (5%) however have flush toilets. Jumla, on the other hand, had traditional pit latrines (31%) and improved, ventilated pit latrines (39%).

	Banke	Jumla	Bajhang
Flush toilet	11.7	0.0	4.5
Traditional pit latrine	10.5	30.8	7.2
Ventilated improved pit latrine	14.2	38.5	18.2
No facility /bush/field	63.7	30.7	70.2
Total (n)	600	600	600

3.4 Household Wealth Quintiles

The wealth quintile is constructed using household asset data including ownership of a number of consumer items as well as dwelling characteristics (types of materials used for flooring, roofing and external walls), source of drinking water, and possession of sanitation facilities. Each asset was assigned a weight (factor score) generated throughout principle components analysis, and the resulting asset scores were standardized in relation to a normal distribution with a mean of zero and standard deviation of one (Gwatkin et., al., 2000). Each household was then assigned a score for each asset and the scores were summed for each household. The sample was then divided into quintiles from lowest to five (highest). A single asset index was developed for each district (Table 3.6).

Wealth Quintile	Banke	Jumla	Bajhang
Lowest	20.0	21.0	19.8
Second	20.0	18.0	20.2
Third	20.0	20.3	20.2
Fourth	20.0	21.2	19.8
Highest	20.0	19.5	20.0
Total (n)	600	600	600

Chapter 4: FCHV Services

The Female Community Health Volunteer (FCHV) Program initiated in 1988 was designed to enhance Nepal's primary health care network through community participation and expanded outreach by local women working voluntarily. Across Nepal's 75 districts, 48,500 FCHVs are currently assisting with primary health care activities and acting as a bridge between government health programs and the local community. Since the inception, FCHVs have served as frontline local health resource persons who provide community-based health education and services in rural areas with a special focus on maternal, newborn and child health, and family planning issues. Primarily they have been mobilized for counseling the pregnant women on ANC, delivery care, PNC and newborn care. In this context, information related to various aspects of FCHV services including respondent's utilization of their services in the last pregnancy were collected in the survey. This chapter presents general findings of the survey regarding these issues.

4.1 Knowledge and Exposure of RDW on FCHVs and their Services

The survey results indicated that nearly all RDW in the three study districts knew the FCHVs working in their community (Figure 2). Even if, they are familiar with the FCHVs in their community, many women (15% to 32%) do not seek advice or counseling from them during pregnancy. Overall, around eight in ten RDW in Banke and in Jumla met with a FCHV during their last pregnancy while in Bajhang only about two-thirds of the RDW met with a FCHV in their last pregnancy.

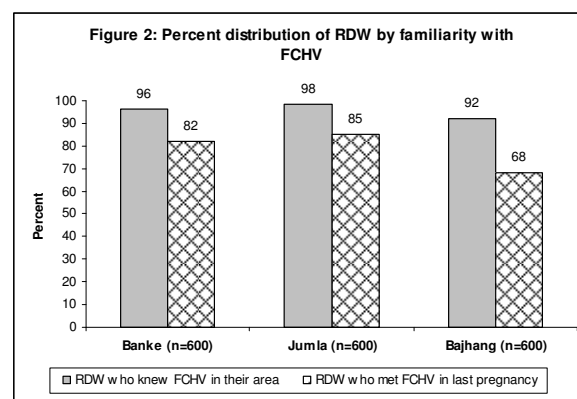


Table 4.1 shows the proportion of RDW who met FCHVs at least once during their last pregnancy categorized by selected background characteristics. There was no difference in meeting FCHVs for taking service or advice according to age, literacy status or education level of women in all three districts except in Bajhang where a higher proportion of literate RDW had met FCHVs during their pregnancy. The Dalit caste in Banke and the upper castes in Jumla and Bajhang were significantly more likely to meet with FCHVs. RDW in the lowest ranking household wealth quintile in Banke and the highest in Bajhang were more likely to meet FCHVs than their counterparts. However, no significant variation was found among RDW in various wealth quintiles in Jumla.

Background characteristics	Banke	Jumla	Bajhang
Age	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19	75.8	82.3	65.6
20-24	82.5	84.4	67.9
25-29	83.6	87.5	69.9
30-34	83.6	88.5	64.0
35-49	83.8	87.1	73.3
Literacy status	<i>ns</i>	<i>ns</i>	*
Literate	80.4	79.7	75.7
Illiterate	83.4	86.5	65.1
Education level	<i>ns</i>	<i>ns</i>	<i>ns</i>
No schooling	83.9	85.3	67.1
Primary	83.3	84.9	73.1
Some secondary	80.8	87.1	66.7
SLC and above	74.7	73.5	74.0
Caste/Ethnicity	*	*	*
Dalit	86.3	76.2	57.8
Disadvantage Janjati	85.3	~	
Disadvantage non-Dalit (Tarai)	85.7		
Religious minority	84.5		
Upper caste	74.7	88.3	70.5
Wealth quintile	*	<i>ns</i>	*
Lowest	81.7	88.9	55.5
Second	85.8	84.3	66.9
Third	90.0	89.3	71.9
Fourth	85.0	82.7	74.8
Highest	67.5	80.3	71.7
Total (%)	82.0	85.2	68.2
Total (n)	600	600	600
95% confidence interval	73.8-88.0	76.9-90.8	61.2-74.4
*Significance at <0.05 level <i>ns</i> = not significant ~sub-sample is too small for statistical calculation			

Regarding the type of services provided, majority of RDW in all three districts knew that FCHVs distribute Vitamin A for mothers and children, advise pregnant and postpartum women and provides advice on newborn care. Relatively lower percentages of RDW in all three districts reported knowing other types of advice or information on child health provides by FCHVs, such as information about diarrhea, acute respiratory infection (ARI), and other health-related information including information on mothers' groups. In particular, the percentage of RDW who reported that FCHVs also provide information on HIV/AIDS/STIs was very low (<50%) in all three study districts (Table 4.2).

Type of help / advices / services provided by FCHV#	Banke	Jumla	Bajhang
Distributing vitamin A for mother/child	97.6	98.8	93.5
Advice to pregnant women	93.4	96.1	89.5
Advice to post-partum mother	85.4	93.1	82.2
Advice regarding newborn	83.4	91.4	75.9
Advice & treatment regarding children's diarrhea	75.2	87.8	73.2
Health information including mothers groups	71.4	63.2	64.1
Advice & treatment regarding child's ARI/ Pneumonia	67.9	89.0	65.0
Supplying condoms and pills	64.5	72.9	57.4
Providing HIV/AIDS/STI information	35.7	46.9	40.6
Total (n)¹	577	590	552
#Multiple responses.			
¹ Total includes only those RDW who met FCHV in last pregnancy.			

4.2 Utilization of Services Provided by FCHVs by RDW during Last Pregnancy

The familiarity with FCHVs is most significant when community women seek FCHVs' services in times of need. Therefore, it is essential for a pregnant woman to meet a FCHV in order to seek counseling or advice on various issues related to pregnancy and delivery.

During their last pregnancy RDW also reported having discussed specific plans when they had met with a FCHV. A majority of the RDW had discussed their plans to deliver at a health facility, use a skilled birth attendant, manage finances, manage transport in case of an emergency, and find a source or a place for getting Emergency Obstetric Care (EOC) services. The survey results however, shows that the proportion of RDW discussing these plans in Bajhang is consistently lower than the percentage of RDW in Banke and Jumla districts (Table 4.3).

Plans discussed with FCHV[#]	Banke	Jumla	Bajhang
Delivering at a health facility	95.9	98.6	93.6
Identifying/using a skilled birth attendant	76.2	84.5	56.2
About emergency transport for delivery	65.9	79.1	50.1
Managing finances for delivery care	82.1	94.1	62.6
About source/place of emergency obstetric care	75.6	89.2	74.3
Identifying/ managing person to accompany mother in emergency	49.8	64.4	48.9
Total (n)¹	492	511	409

[#]Multiple responses.
¹Total includes only those RDW who had discussed regarding delivery plans with FCHV.

Among those RDW who had met with FCHVs during their last pregnancy an assortment of questions were asked to record the types of advice or counseling received. Nearly all RDW in the three study districts were advised on various aspects of ANC care, such as the necessity of getting care from a health worker, the importance of resting and avoiding heavy work, the importance of a balanced diet and avoiding alcohol and smoking. The RDW were also advised on the importance of getting the TT vaccine, and taking iron tablets and de-worming tablets (Table 4.4).

Similarly, the respondents were also advised/counseled by FCHVs on the importance of preparing finances, emergency transport and a clean delivery kit. Furthermore, RDW were also instructed on the danger signs that may appear during delivery and the postpartum period and the importance of going to postpartum check ups and employing FP practices. However one notable observation is that a comparatively lower percentage of RDW in Bajhang were counseled on these issues than those in the Jumla or Banke districts (Table 4.4).

In addition, RDW had also received advice/counseling from FCHVs on several important aspects of newborn care such as the importance of hand washing with soap before touching the newborn; wrapping the newborn in a clean and dry cloth immediately after delivery; and not bathing the newborn before the first 24 hours after delivery. Large proportions of RDW were also counseled by the FCHVs on the importance of applying Kawach on the cord stump of the newborn after delivery (84% in Banke, 80% in Bajhang 72% in Jumla). Similarly, the RDW were also advised on breastfeeding, maintaining the personal hygiene of mothers and were the government's maternity incentive plan (Table 4.4).

Received advices from FCHV	Banke	Jumla	Bajhang
Pregnancy care#	98.0	99.6	96.8
Seek ANC from health worker	95.9	99.2	94.6
Take rest and avoid heavy work	93.9	98.4	93.2
Take proper, balanced diet	78.7	86.1	88.3
Avoid alcohol and smoking during pregnancy	98.4	99.0	97.1
Tetanus Toxoid vaccination	98.6	99.4	99.0
Obtain iron tablets	95.9	97.7	93.9
Obtain de-worming tablets	98.0	99.6	96.8
Delivery preparation/ Precautions#			
Financial preparation for your delivery	83.3	94.1	62.3
Identifying emergency transport options	64.6	77.9	49.9
Danger signs for pregnant woman	83.9	92.4	62.6
Use clean home delivery kit	70.7	73.8	53.1
Deliver in clean, light surface/room	76.4	83.2	61.9
Danger signs during delivery	78.5	90.2	61.4
Make post-natal visit to a health facility or outreach clinic	72.0	64.6	59.4
Danger signs for postpartum period	77.6	82.2	63.8
Use family planning following delivery	66.5	67.9	56.0
Newborn care#			
Hand wash with soap and water before touching a newborn	74.8	82.6	73.3
Wrap the newborn in a clean and dry cloth right after delivery	82.9	87.3	76.8
Not bathing the newborn within 24 hours	86.2	86.7	81.2
Apply Kawach on cord stump of newborn after delivery	83.7	80.2	72.4
Breastfeed the newborn within 1 hour after birth	88.2	92.2	76.8
Continue exclusive breastfeeding for 6 months	76.8	87.7	76.0
Danger signs in newborn	71.5	84.9	63.1
Skin to skin contact	76.8	78.1	66.3
Personal hygiene of mother	79.5	91.2	68.7
Maternal incentive scheme	87.8	96.9	85.6
Total (n)¹	492	511	409

#Multiple responses.
¹Total includes only those RDW who met FCHV during last pregnancy.

4.3 Participation in Mothers' Groups

Mothers' Groups are regarded as an important forum for imparting information to pregnant woman on maternal and neonatal health care in the community. Knowledge about the presence of mothers groups and participation in meetings is the most effective way to give women access to important health information. Given this, RDW knowledge about the existence of mothers' groups in the community and the extent of their participation in the group's meetings were also collected in the survey. Overall, the survey results show that the RDW's knowledge on the existence of and participation in the mothers' group meetings is low in the study districts. Only about half of the RDW in Banke and Bajhang and 60 percent in Jumla reported that mothers' groups existed in their community. A total of two in ten RDW in Banke and a quarter in Jumla and Bajhang reported ever attending the group's meeting during the last pregnancy (Figure 3).

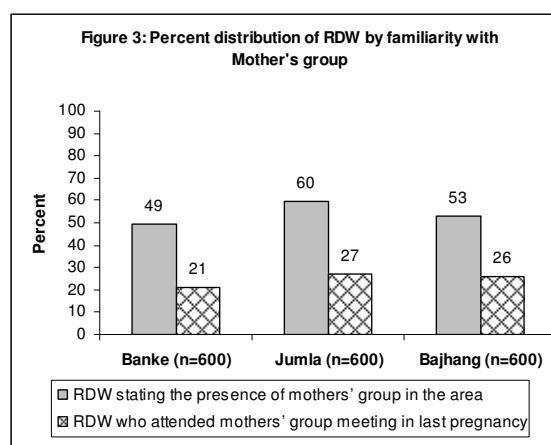


Table 4.5 shows the proportion of RDW who attended mothers' group meetings at least once during their last pregnancy organized by selected background characteristics. There was no difference on attending mother's group meetings according to age and literacy status of the women in all three districts except in Banke where a higher proportion of illiterate RDW had participated at least once in a meeting during their pregnancy periods. Mothers who had completed a secondary level of education and were from the upper caste group showed significantly lower participation in the group meetings in Banke, though no association was found in terms of household wealth quintiles. Similarly, in Jumla, RDW with an SLC or above level of education and from the highest wealth quintiles were less likely to participate in such meetings, although no significant variation was found in terms of caste group. In Bhajhang, however, none of the background characteristics were found significantly associated with attendance of mothers' group meetings.

	Banke	Jumla	Bajhang
Age	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19 Yrs	12.1	17.7	18.0
20-24	20.5	28.3	25.4
25-29	20.9	28.9	28.8
30-34	27.9	34.6	20.9
35-49	32.4	35.5	38.3
Literacy status	*	<i>ns</i>	<i>ns</i>
Literate	15.0	29.7	29.5
Illiterate	25.9	26.8	24.8
Education level	*	*	<i>ns</i>
No schooling	26.3	25.6	26.9
Primary	17.5	37.9	25.0
Some secondary	16.7	45.2	21.2
SLC and above	12.0	14.7	24.0
Caste/Ethnicity	*	<i>ns</i>	<i>ns</i>
Dalit	23.8	22.4	20.2
Disadvantage Janjati	18.2	~	
Disadvantage non-Dalit (Tarai)	34.8		
Religious minority	21.1		
Upper caste	13.4	29.0	27.5
Wealth quintile	<i>ns</i>	*	<i>ns</i>
Lowest	25.0	30.2	20.2
Second	18.3	25.0	24.8
Third	26.7	35.2	31.4
Fourth	20.0	29.9	22.7
Highest	14.2	15.4	31.7
Total (%)	20.8	27.3	26.2
Total (n)	600	600	600
95% confidence interval	14.6-28.8	18.0-39.2	19.3-34.4
*Significance at <0.05 level <i>ns</i> = not significant ~sub-sample is too small for statistical calculation			

Chapter 5: Antenatal Care

Antenatal care is an essential component of maternal and newborn care. Antenatal care is crucial for preventing complications that may occur during pregnancy, delivery and after delivery. The state protocol recommends that expectant mothers have at least four ANC check-ups during the span of their pregnancy by health personnel in order to ensure the health of both the mother and the fetus. The recommended four checkups are at four months, six months, eight months and nine months of pregnancy, Information on various aspects of ANC care including RDW's knowledge on ANC and ANC service-seeking behavior was collected in the survey. This chapter presents general findings of the survey regarding these issues.

5.1 Knowledge about Danger Signs and Service Seeking Behavior during Pregnancy

Table 5.1 presents the knowledge RDW regarding danger signs during pregnancy. More than seven in ten RDW in Banke and Jumla and about half in Bajhang regarded 'vaginal bleeding' as one of the danger signs that may appear during pregnancy which require immediate medical attention. Similarly, over two-thirds of the RDW (66% to 74%) in the three study districts also knew 'severe lower abdominal pain' among pregnant women was one danger sign. About three-quarters of the RDW in Bajhang also mentioned 'severe headache' as a danger sign during pregnancy. A comparatively lower percentage of RDW in all three study districts regarded 'convulsion' and 'blurred vision and swelling of hands and face' as danger signs that may appear during pregnancy (Table 5.1).

	Banke	Jumla	Bajhang
Signs during pregnancy that require attention[#]			
Vaginal bleeding	71.2	72.4	49.1
Severe lower abdominal pain	65.8	69.1	74.0
Severe headache	39.3	43.8	75.5
Convulsion	17.3	31.6	21.9
Blurred vision and swelling of hands & face	16.7	23.9	16.0
Other	0.8	0.7	0.7
Fever	3.8	1.0	2.7
Do not know	8.3	4.7	5.0
Others ¹	10.1	6.7	7.8
Total (n)²	600	598	599
Places to go in case of danger signs[#]			
Hospital	76.6	68.8	43.0
Health post	42.6	41.0	48.3
Sub-health post	30.9	50.8	40.3
PHCC	11.9	8.8	19.7
Outreach clinic/immunization center	9.5	4.2	2.3
Private hospital/Clinic/Nursing home	35.3	5.5	1.3
FCHV	0.5	0.5	0.5
Medical shop	0.5	0.2	0.2
Do not know	0.3	0.3	0.7
Total (n)³	598	600	600
[#] Multiple responses.			
¹ Other includes dizziness, White discharge, fetus complication, Vomiting tendency, Back pain, Anemia			
² Two cases from Jumla and one from Bajhang missing.			
³ Two cases from Banke missing.			

Government health facilities, especially hospitals, were identified by more than two-thirds of the RDW in Banke and Jumla districts and by four in ten in Bajhang as the place a pregnant woman should go if such danger signs occur. Health Posts (HP) and Sub-Health Posts (SHP) were also named by a sizeable proportion of RDW in the three districts as the places to visit if danger signs appeared. A relatively lower percentage of RDW cited other health facilities, such as a Primary Health Care Centres (PHCC) or Outreach Clinics (ORC) as places to visit. Notably, private health facilities were cited by a higher percentage of RDW in Banke (35%) than in Jumla or Bajhang (Table 5.1).

5.2 Problems Encountered During Pregnancy and Management of the Problems

Only the RDW who had live births the last time they gave birth were asked about the type of problems they had faced during the pregnancy, if any, and the action they had taken in order to resolve the problems. The responses are displayed in Table 5.2. Overall, nearly half of the RDW in Jumla, over four in ten in Banke and about one third in Bajhang had encountered problems during their last pregnancy. Though the proportion varies by study districts, the RDW had mainly encountered the following four types of problems: severe lower abdominal pain, blurred vision, severe headaches, and the swelling of limbs, body or face. Within the three districts, a high percentage of RDW in Bajhang also reported encountering convulsions (45%) during their last pregnancy compared with the RDW in Jumla (13%) and Banke (6%). Around six percent RDW in all three districts reported vaginal spotting or bleeding during their last pregnancy (Table 5.2).

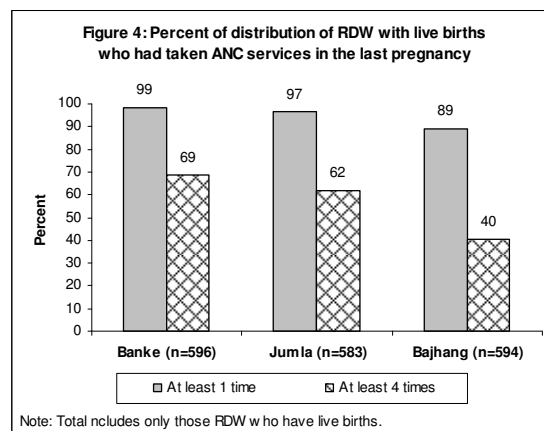
	Banke	Jumla	Bajhang
Encountered any Problem during Pregnancy			
Yes	43.3	47.9	33.5
No	56.7	52.1	66.5
Total (n)¹	596	583	594
Types of Problem			
Severe lower abdominal pain	52.3	51.3	54.8
Blurred vision	35.3	65.9	49.7
Severe headache	29.8	36.2	51.3
Swelling of the limbs, body or face	29.1	17.9	31.2
Convulsion	6.6	12.5	45.2
Any vaginal spotting or bleeding	5.8	6.1	6.0
Total (n)²	258	279	199
Action Taken to Solve the problems[#]			
Did nothing	19.8	29.5	59.8
PHCC/HP/SHP	39.1	48.2	24.1
Private Hospital/Clinic/Nursing home	19.0	1.8	0.5
Hospital	14.7	10.1	10.6
Traditional treatment at home	5.8	7.2	2.5
Bought medicine from pharmacy	4.3	0.0	1.5
Consulted/treated by FCHV	3.9	9.7	2.0
Consulted/treated by MCHW	2.7	1.4	0.0
Taken medicine at home	0.8	3.6	1.5
Consulted and treated by other HW	0.8	0.0	0.0
Consulted relative/neighbor/friend	0.8	1.4	0.5
Treated by dhami/jhankri	0.0	0.4	0.0
Total (n)³	258	278	199

#Multiple responses.
¹Total includes only those RDW who have live birth.
²Total includes only those RDW with live birth who have encountered problem during last pregnancy.
³One case from Jumla missing.

The survey result further shows that almost 60 percent, 30 percent and 20 percent of RDW in Bajhang, Jumla and Banke, respectively, who encountered problems in their last pregnancies took no action to resolve the problems they encountered. Among those who took some action, a higher proportion visited PHCCs/HPs/SHPs or the government hospital seeking cure. A considerable proportion of the RDW in Banke (19%) also visited private health facilities (Table 5.2).

5.3 Antenatal Care Service Utilization

The survey results indicate that ANC services-seeking behavior is almost universal in the study districts, where almost all RDW in Banke and Jumla and about nine in ten RDW in Bajhang sought ANC services at least once during their last pregnancy. The proportion of RDW who attended at least four ANC check ups during the entire pregnancy period, however, declines sharply in all districts. For example, in Banke only about seven in ten RDW and in Jumla only about six in ten RDW completed the



recommended four ANC checkups. This rate for Bajhang is even lower at around 40 percent (Figure 4).

The recommended number of ANC check-ups is at least 4 times during pregnancy, and the RDW reported average for going to antenatal check-ups was 4 times in Banke, 3.5 times in Jumla and 2.8 times in Bajhang districts (Table 5.3).

Table 5.3: Percent distribution of RDW with live birth by month of pregnancy when received the first ANC through health workers during last pregnancy

Month of pregnancy when sought first ANC	Banke	Jumla	Bajhang
Didn't sought for ANC from health workers	2.3	4.1	17.2
1-3 months	29.0	15.4	11.0
4 months	46.3	50.6	37.9
5-10 months	22.3	28.8	33.7
Do not know	0.0	1.0	0.2
Average month of pregnancy when sought first ANC	4.0	4.4	4.8
Mean number of ANC visits during the entire pregnancy period	4.0	3.5	2.8
Total (n)^{1,2}	596	583	593

¹Total includes only those RDW who have live birth.
²One case from Bajhang missing.

Table 5.4 illustrates the proportion of RDW who received ANC services at least four times during their last pregnancy as correlates to selected background characteristics. Young RDW versus older, literate versus illiterate, higher level educated versus those with no schooling and those from the highest household wealth quintile versus the lowest were significantly more likely to seek ANC the recommended four times across all three districts. There is no difference related to caste/ethnicity in Jumla and Bajhang, while RDW from the upper castes show more frequent ANC visits in Banke.

Table 5.4: Percent distribution of RDW among live births who had at least 4 ANC Visit during last pregnancy by their background characteristics

Background characteristics	Banke	Jumla	Bajhang
Age	*	*	*
15-19 Yrs	76.7	64.3	55.0
20-24	76.7	68.0	48.5
25-29	62.7	56.8	31.8
30-34	62.3	45.1	31.0
35-49	36.1	44.8	27.1
Literacy status	*	*	*
Literate	82.1	72.2	53.8
Illiterate	56.8	59.2	34.8
Education level	*	ns	*
No schooling	56.9	59.7	35.7
Primary	72.3	66.7	47.1
Some secondary	77.5	63.3	48.5
SLC and above	93.2	78.8	70.0
Caste/Ethnicity	*	ns	ns
Dalit	65.8	65.3	40.4
Disadvantage Janjati	68.3	~	
Disadvantage non-Dalit (Tarai)	66.7		
Religious minority	46.5		
Upper caste	79.3	60.5	40.3
Wealth quintile	*	*	*
Lowest	56.8	50.0	42.2
Second	68.1	53.8	25.6
Third	60.8	59.7	40.3
Fourth	79.2	65.9	39.8
Highest	78.2	80.0	53.8
Total (%)	68.6	61.7	40.3
Total (n)^{1,2}	596	583	593
95% confidence interval	62.3-74.3	54.7-68.3	32.9-48.2

*Significance at <0.05 level ns= not significant
~sub-sample is too small for statistical calculation
¹Total includes only those RDW who have live birth.
²One case from Bajhang missing.

The survey results further shows that FCHVs, Maternal and Child Health Workers (MCHWs) and Nurse/Auxiliary Nurse Midwives (ANMs) were the health providers that most RDW visited for ANC care in their last pregnancy. A higher percentage of RDW, especially those in Jumla, had also sought ANC from Health Assistants (HAs)/Auxiliary Health Workers (AHWs). The proportion of RDW visiting SBA (doctors, nurse or ANM) for ANC was over 70 percent in Banke and Jumla and 60 percent in Bajhang (Table 5.5).

Table 5.5: Percent distribution of RDW by the type of health provider sought during ANC check up in last pregnancy, by RDW with live birth

Type of health provider [#]	Banke	Jumla	Bajhang
No ANC visit	1.5	3.3	10.9
Doctor	21.2	5.3	5.4
Nurse/ANM	55.1	64.8	51.5
HA/AHW	18.2	28.4	10.6
MCHW	56.3	52.4	33.2
VHW	12.1	2.8	6.2
FCHV	58.0	62.6	45.1
TBA	0.0	0.0	0.5
SBA ¹	76.3	70.2	56.9
Total (n)^{2, 3}	595	580	594

[#]Multiple responses.
¹SBA includes Doctor, Nurse and ANM.
²Total includes only those RDW who have live birth.
³One case from Banke and three cases from Jumla missing.

A high percentage of RDW in the three study districts had received their last ANC services in community health facilities e.g., HP/SHP/PHC and from the outreach clinics. Among the other health facilities, a comparatively higher percentage of RDW in Jumla and Bajhang had sought ANC services in government hospitals, while many RDW in Banke had received these services in private health facilities including private hospitals (Table 5.6).

Table 5.6: Percent distribution of RDW with live birth by place of ANC visit during last delivery

ANC check ups	Banke	Jumla	Bajhang
Place of last ANC check up			
No ANC visit	1.5	3.3	10.9
Sub-health post	26.7	45.6	23.2
Health post	23.7	21.3	21.4
Outreach clinic/Immunization center	18.6	4.3	4.9
Private Hospital/Clinic/Nursing home	11.7	1.2	0.7
PHCC	8.9	5.1	12.1
Hospital	7.0	17.7	10.9
FCHV	1.2	0.9	15.8
Pharmacy	0.7	0.2	0.0
MCHW's home	0.0	0.3	0.0
Do not know	0.0	0.2	0.0
Total (n)¹	596	583	594

¹Total includes only those RDW who have live birth.

5.4 Types of Services and Counseling Received During ANC

The antenatal check up is composed of several components each with a distinct significance. Among many other things that must be considered during the pregnancy, particular services given by ANC health workers are considered a prerequisite for the safe delivery and good health of both the mother and child.

Overall, a strong majority of RDW in the three study districts were been provided with six of the eight basic components of ANC care when they received ANC services during their last pregnancy (abdomen examination, iron tablets, de-worming tablets, TT vaccine, weight measurement and BP measurement). Comparatively, a lower proportion of RDW in all the three study districts reported that blood and urine tests were also performed during ANC visits (Table 5.7). This could be because of the limited service sites providing these services.

Table 5.7: Percent distribution of RDW with live birth by services received during antenatal check ups

Types of ANC services received [#]	Banke	Jumla	Bajhang
Not visited for ANC	1.5	3.3	10.9
Abdomen examination	95.8	94.5	70.4
Receive iron tablets	96.6	87.0	85.0
Receive de-worming tablets	92.3	84.9	80.3
Receive TT vaccination	95.0	92.8	78.5
Weight measurement	87.4	80.4	67.3
Blood pressure measurement	88.9	62.1	61.3
Blood test	38.8	11.8	12.6
Urine test	45.5	23.7	17.2
Total (n)¹	596	583	594

[#]Multiple responses.
¹Total includes only those RDW who have live birth.

Apart from the physical examination the RDW were also counseled on different aspects of pregnancy care by the health providers. As shown in Table 5.8, most RDW were counseled

on issues such as the importance of taking the TT vaccine, a suitable health facility to go to for child delivery, danger signs that may appear during pregnancy, and government maternity delivery plans including the cash incentives. In addition the RDW were also counseled on issues related to birth preparations and newborn care such as the use of a CHDK, breastfeeding and appropriate handling of a newborn baby during an ANC visit in their last pregnancy.

Table 5.8: Percent distribution of RDW with live birth by types of counseling received during ANC check ups

Types of ANC counseling received [#]	Banke	Jumla	Bajhang
Financial preparation for delivery	61.1	81.3	44.1
Identifying emergency transport options	47.5	55.0	30.5
Arranging for blood in case of emergency	35.4	32.3	25.1
About tetanus toxoid vaccination	90.3	91.9	80.0
About danger signs during pregnancy	67.6	82.3	51.7
Delivering in a suitable health facility	82.7	89.7	68.4
About maternal incentive scheme	76.0	86.3	66.8
Use of clean home delivery kit	50.3	61.5	38.9
Hand wash with soap water before touching newborn	56.0	67.7	53.9
Immediate drying & wrapping of baby	60.9	70.8	53.7
Breastfeeding within 1 hour of birth	62.1	77.1	57.9
Proper care of the newborn	57.6	74.6	53.2
Total (n)¹	587	564	529

[#]Multiple responses.
¹Total includes only those RDW who have live birth and went for ANC checkups.

5.5 Tetanus Toxide Immunization

Through routine immunization of pregnant women with tetanus toxoid (TT), neonatal tetanus cases could be decreased substantially. Tetanus toxoid vaccine is therefore given to every pregnant woman when she visits the EPI clinic.

The survey results show that over nine in ten RDW in Banke and Jumla had taken at least one TT shot during their last pregnancy. In Bajhang, however, less than eight in ten RDW reported taking at least one TT shot during their last pregnancy. Regarding the total number of shots taken, the survey results illustrate that higher proportion of RDW in Jumla (84%) had taken the prescribed dose of two shots of TT vaccine followed by Bajhang (67%) and Banke (57%) (Figure 5).

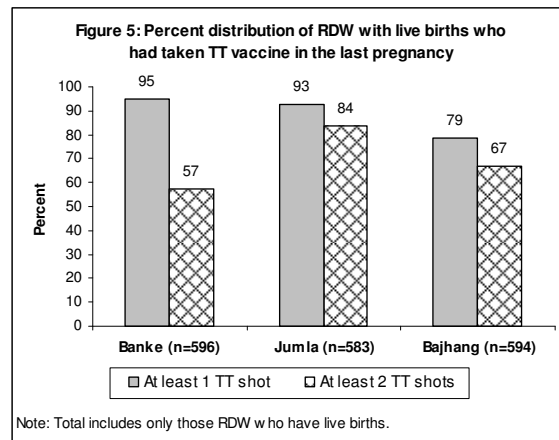


Table 5.9 shows the proportion of RDW who had received the recommended dosage of TT vaccines during the pregnancy as correlates to various background characteristics. All the background characteristics of RDW i.e. age, literacy status, level of education, caste and wealth quintiles was positively associated with receiving two TT shots in Banke. On the other hand, in Jumla none of these characteristics were significantly associated. Yet, in Bajhang, younger and literate RDW were more likely to receive the full dose of TT vaccine than their elder, illiterate counterparts. The correlation with education level, caste group and wealth quintiles is, however, not observed in Bajhang.

Background characteristics	Banke	Jumla	Bajhang
Age (Years)	*	<i>ns</i>	*
15-19	83.3	83.9	80.0
20-24	69.0	85.3	72.9
25-29	42.9	83.2	62.9
30-34	27.9	78.4	53.6
35-49	36.1	79.3	59.3
Literacy status	*	<i>ns</i>	*
Literate	77.1	89.6	75.6
Illiterate	39.7	82.3	63.5
Education level	*	<i>ns</i>	<i>ns</i>
No schooling	43.5	81.7	64.1
Primary	53.8	90.9	72.5
Some secondary	75.0	83.3	75.8
SLC and above	86.5	97.0	82.0
Caste/Ethnicity	*	<i>ns</i>	<i>ns</i>
Dalit	55.7	81.9	62.4
Disadvantage Janjati	69.0	~	
Disadvantage non-Dalit (Tarai)	33.3		
Religious minority	43.7		
Upper caste	67.9	84.2	68.0
Wealth quintile	*	<i>ns</i>	<i>ns</i>
Lowest	32.2	79.8	65.5
Second	52.1	82.7	59.5
Third	55.0	82.4	66.7
Fourth	69.2	84.1	73.7
Highest	77.3	90.0	69.7
Total (%)	57.2	83.7	67.0
Total (n)¹	596	583	594
95% confidence interval	47.9-66.1	78.4-87.9	60.4-73.0
*Significance at <0.05 level <i>ns</i> = not significant			
~sub-sample is too small for statistical calculation			
¹ Total includes only those RDW who have live birth.			

5.6 Intake of De-worming Tablets

A single dose of de-worming tablets (Albendazole 400 mg) is recommended for pregnant women at the second trimester of pregnancy to reduce the intestinal worms infestation of among pregnant women in the country. To measure the coverage of this in our study population, the respondents were asked about their ingestion of de-worming tablets. The survey results show that over nine in ten RDW in the Banke district had taken de-worming tablets in their last pregnancy. Compared to Banke, the percentage of RDW taking these tablets during their last pregnancy was slightly lower both in the Jumla (88%) and Bajhang (80%) districts (Table 5.10).

Table 5.10 further demonstrates the differences of the intake of de-worming tablets by RDW during their last pregnancies according to selected background characteristics. In Banke, the intake of de-worming tablets was more common among literate women, women with a higher level of education, those in the upper caste group and RDW in the highest wealth quintile than their respective counterparts. Age of the RDW was, however, not significantly associated with taking the tablets in Banke. On the other hand, in Jumla and Bajhang none of the characteristics were found to be associated with the ingestion of de-worming tablets except women's age; a higher proportion of younger RDW had taken the tablets compared to the elder RDW.

Background characteristics	Banke	Jumla	Bajhang
Age (Years)	<i>ns</i>	*	*
15-19	88.9	90.2	85.0
20-24	94.8	90.9	85.0
25-29	93.8	83.2	76.2
30-34	86.9	78.4	71.4
35-49	80.6	89.7	75.9
Literacy status	*	<i>ns</i>	<i>ns</i>
Literate	96.8	93.0	86.0
Illiterate	87.6	86.8	77.4
Education level	*	<i>ns</i>	<i>ns</i>
No schooling	87.9	86.3	77.3
Primary	93.2	92.4	84.3
Some secondary	95.8	96.7	84.8
SLC and above	98.6	93.8	96.0
Caste/Ethnicity	*	<i>ns</i>	<i>ns</i>
Dalit	89.9	90.3	79.8
Disadvantage Janjati	93.0	~	
Disadvantage non-Dalit (Tarai)	93.6		
Religious minority	81.7		
Upper caste	94.8	87.2	80.0
Wealth quintile	*	<i>ns</i>	<i>ns</i>
Lowest	83.9	83.9	79.3
Second	91.5	88.5	70.8
Third	92.5	83.2	80.0
Fourth	97.5	89.7	83.9
Highest	94.1	95.4	85.7
Total (%)	91.9	88.0	79.9
Total (n)^{1,2}	593	582	593
95% confidence interval	88.8-94.2	82.6-91.9	74.1-84.7

*Significance at <0.05 level *ns*= not significant
~sub-sample is too small for statistical calculation
¹Total includes only those RDW who have live birth.
²Three cases from Banke, one from Jumla and one from Bajhang missing.

5.7 Intake of Iron-folic Acid Tablets

Consumption of iron-folic-acid tablets during pregnancy is very important for pregnant women especially to prevent anemia. The survey result shows that more than nine in ten RDW in Banke and Jumla and more than eight in ten in Bajhang had taken iron-folic acid tablets in their last pregnancy (Figure 6). Though the intake of the tablets is very high in all three districts, it should however be noted that only about four in ten RDW in Banke and Bajhang districts each and slightly higher than one third in Jumla district had taken the entire recommended dose of 180 tablets in the last pregnancy period.

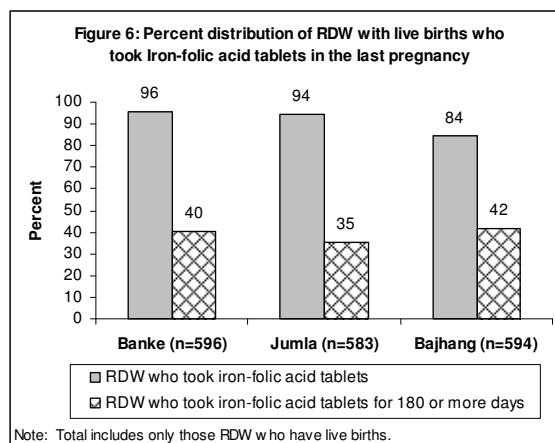


Table 5.11 shows the proportion of RDW with live birth who had consumed iron-folic acid tablets during their last pregnancy by various background characteristics. In Banke the intake of iron-folic acid tablets was more likely among literate RDW and RDW of upper caste group. Likewise in Bajhang it is positively associated with literacy status and level of education. In Jumla however none of the characteristics of RDW were related with the intake of iron-folic acid tablets.

Regarding the source of tablets, majority in all study districts obtained it from FCHV (75% in Jumla, 66% in Banke and 60% in Bajhang) followed by HP and SHP. A Small proportion of RDW had obtained this tablet from ORC/immunization Centre, PHCC, hospital and other health facilities (Table 5.12). A total of 16 percent of RDW in Bajhang, six percent in Jumla and four percent in Banke however mentioned that they had not received iron-folic acid tablets during last pregnancy.

Background characteristics	Banke	Jumla	Bajhang
Age	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19 Yrs	93.3	93.8	91.7
20-24	97.0	94.0	86.7
25-29	95.5	95.2	82.8
30-34	98.4	86.3	76.2
35-49	86.1	82.2	81.4
Literacy status	*	<i>ns</i>	*
Literate	98.6	95.7	91.3
Illiterate	92.7	92.3	81.3
Education level	<i>ns</i>	<i>ns</i>	*
No schooling	93.3	91.8	81.1
Primary	95.8	97.0	92.2
Some secondary	97.5	93.3	93.9
SLC and above	100.0	100.0	98.0
Caste/Ethnicity	*	<i>ns</i>	<i>ns</i>
Dalit	93.7	92.3	79.8
Disadvantage Janjati	97.2	~	
Disadvantage non-Dalit (Tarai)	94.6		
Religious minority	88.7		
Upper caste	97.9	93.2	85.2
Wealth quintile	<i>ns</i>	<i>ns</i>	<i>ns</i>
Lowest	90.7	92.7	82.8
Second	96.6	92.2	80.2
Third	95.0	90.8	80.8
Fourth	97.5	91.3	88.1
Highest	97.5	98.2	89.1
Total (%)	95.5	93.0	84.2
Total (n)¹	596	583	594
95% confidence interval	92.4-97.3	90.0-95.1	78.4-88.6

*Significance at <0.05 level *ns*= not significant
~sub-sample is too small for statistical calculation
¹Total includes only those RDW who have live birth.

Source of iron folic acid tablets	Banke	Jumla	Bajhang
Tablets obtained from*			
Not received iron folic acid tablets	4.2	5.8	15.8
FCHV	66.3	75.0	60.3
Health post	29.2	20.4	23.4
Sub-health post	27.9	36.7	26.9
Outreach clinic/Immunization center	14.6	3.9	6.2
PHCC	8.2	5.5	9.3
Private hospital/Clinic/Nurshing home	6.5	0.3	0.2
Hospital	3.9	18.7	11.6
Pharmacy	2.0	0.5	0.3
Husband	0.0	0.2	0.0
Mean no. of days tablets taken	131.3	127.0	111.9
Total (n)¹	596	583	594

*Multiple responses.
¹Total includes only those RDW who have live birth.

5.8 Care and Support from Family Members during Antenatal Period

Apart from medical care and the services from health workers, pregnant women are expected to receive more care and support in this period of their life, especially from their family members. Proper care from family members during pregnancy and through the delivery and postpartum period ensures the good health of both the mother and the newborn by reducing chances of morbidity and mortality.

The survey results show that either one of the family members or a friend/neighbor accompanied the RDW when they had ANC service appointments (Table 5.13). In Banke, a relatively higher percentage of RDW were accompanied by both their husbands and one of their friends/neighbors. Similarly, RDW were also accompanied by other family members during their ANC visits in the study districts; especially in Jumla where more than half of the RDW (59%) were accompanied by

ANC check ups	Banke	Jumla	Bajhang
Person accompanied ANC[#]			
No one	29.8	24.7	41.9
Husband	27.4	7.9	20.6
Mother-in-law	12.5	1.7	3.6
Father-in-law	1.5	0.2	1.1
Mother	3.0	0.3	0.7
Other family member	21.8	14.5	6.0
Friend/Neighbor	22.7	60.4	29.0
FCHV	0.8	4.3	4.7
Other	0.2	0.3	0.0
Do not know	0.0	0.2	0.2
Total (n)¹	591	579	534

[#]Multiple responses.
¹Total includes only those RDW who took ANC services during last pregnancy.

friends/neighbors during their last pregnancies. Traveling to ANC service appointments alone is also common in all three districts (30% in Banke, 25% in Jumla and 42% in Bajhang).

Additionally, more than two-thirds of the RDW in Banke and more than half in Jumla reported that they had received more than usual level of care and support from their family members during their last pregnancy. Comparatively, the familial care in Bajhang is less than the other two districts, where less than one-third reported that they had received more than the usual level of care and support from their family members during their last pregnancy (Table 5.14). Regarding the types of care and support received from family, a higher percentage of RDW in Bajhang (78%) than those in Banke (53%) and Jumla (47%) reported that their

Care and support from the family members	Banke	Jumla	Bajhang
Less than usual	1.5	0.8	0.0
Same as usual	29.3	43.0	68.8
More than as usual	69.0	55.2	31.2
Do not know	0.2	1.0	0.0
Total (n)	600	600	600
Type of support/ care received from family member[#]			
Given more food to eat	52.9	46.5	77.5
Given more nutritious food to eat	68.4	52.3	69.0
Advised for more rest	81.9	61.3	69.0
Reduced heavy load	81.9	64.7	77.0
Advised/accompanied for physical check-up	26.6	39.3	39.0
Total (n)¹	414	331	187
Eating habit during last pregnancy			
Less than usual	21.7	20.3	28.2
Same as usual	32.8	48.0	53.3
More than as usual	45.5	31.2	18.5
Do not know	0.0	0.5	0.0
Total (n)	600	600	600

[#]Multiple responses.
¹Total includes only those RDW who have received care and support more than usual from family members.

families provided them more food than usual. Though the responses vary widely across the three districts, the overall results show that a high percentage of RDW were provided with other types of care and support by their families, such as being given more nutritious food to eat, advised to rest more and having a heavy work load reduced in their last pregnancy.

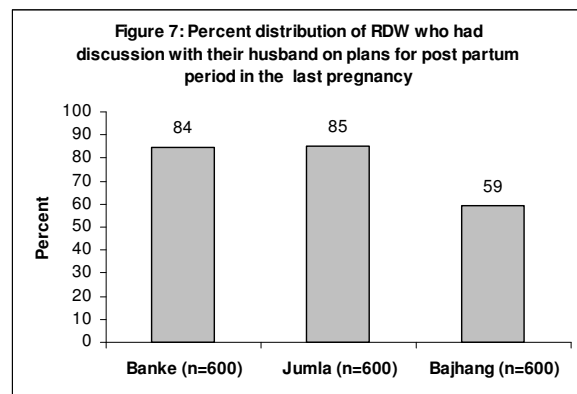
Regarding the eating habits in their last pregnancy period, a high percentage of RDW reported that they either had less than usual or the same as usual amount of food. Less than half RDW in Banke, about three in ten in Jumla and two in ten in Bajhang reported eating more than the usual amount of food during their last pregnancy (Table 5.14).

5.9 Birth Preparedness

The birth preparedness plan refers to the specific preparations that must be made before a pregnancy in order to prevent the mother and child from the potential risk of death due to complications. These preparations include planning for emergency situations, identification of nearby health facilities, organizing transportation, finding out the blood donor, and saving money in advance for mother and child's care.

5.9.1 Birth Preparedness Plans and Communication with Husband

The respondents were also asked whether or not they had discussed birth preparations with their husbands. The survey results showed that more than four in five RDW both in Banke and Jumla had discussed about birth preparedness in their last pregnancy with husband. The percentage of RDW who did the same with their husband during their last pregnancy was much lower in Bajhang (60%) (Figure 7).



The study showed that out of the total respondents, a majority had made some type of birth preparedness plan. A higher proportion of RDW in Banke had anticipated selecting a place to deliver (76%) followed by Jumla (48%). This practice is comparatively very low in Bajhang (37%). Almost six in ten RDW in Banke and around half RDW in Jumla had prepared for newborn care and postpartum care. This rate is, again, low in Bajhang (35%). Furthermore, around two-thirds of RDW in Banke and Jumla had received a birth preparedness plan card, while only 46 percent of RDW in Bajhang reported receiving the birth preparedness plan card (Table 5.15).

Table 5.15: Percent distribution of RDW with birth preparedness plans

	Banke	Jumla	Bajhang
RDW making some plans for the delivery	89.2	84.3	70.2
RDW having specific plan regarding place of delivery	75.5	65.2	37.3
RDW preparing for mother and child care in first month of delivery	60.8	47.7	34.7
RDW receiving BPP card in last pregnancy	64.5	68.8	46.2
Total (n)¹	600	600	599

¹One case from Bajhang missing.

5.9.2 Types of Birth Preparedness Plans made for Delivery

Table 5.16 illustrates types of preparations made by RDW for the delivery and after delivery. Around one, two and three in ten in Banke, Jumla and Bajhang, respectively, however, had not made any plans for the delivery. Saving money was the most common preparation cited by the majority of RDW in all districts. Arranging for clothes and food were other major preparations reported by more than half the RDW in all districts. In Banke and Jumla, one in ten RDW had bought a CHDK and arranged for transportation beforehand. Moreover, in Banke, four percent each had arranged for a blood donor and contacted HW to help with delivery. This type of preparation is, on the other hand, very low in Jumla and Bajhang.

Types of preparations made for delivery [#]	Banke	Jumla	Bajhang
Nothing	10.8	15.7	29.8
Saved money	85.3	81.7	55.7
Arranged transport	15.7	9.2	3.0
Found blood donor	3.7	1.0	0.7
Contacted with HW to help with delivery	5.3	1.2	1.3
Bought clean home delivery kit	9.0	13.2	1.5
Arranged food	58.0	64.3	62.5
Arranged clothes	61.8	52.5	49.8
Blade	0.5	0.7	1.3
Thread	0.5	0.7	1.0
Identified HF to go for delivery	0.0	0.2	0.5
Other ¹	0.3	0.8	0.0
Total (n)	600	600	600

[#]Multiple responses.
¹Others includes room, soap, Kawach, friend.

5.9.3 Types of Places Planned for Deliveries

Among RDW who had planned to deliver in a specific place, three in ten in Banke, two in ten in Jumla and a little over one in ten in Bajhang had planned to deliver at home. Around thirty percent in Banke and Jumla and around a quarter in Bajhang had planned to go to the hospital. Other commonly cited places for planning a delivery were private health facilities, SHPs, and PHCCs (Table 6.17).

Planned place of delivery	Banke	Jumla	Bajhang
Hospital	29.4	31.5	25.4
Primary health care center	7.9	5.6	17.4
Health post	12.6	24.6	37.1
Sub-health post	2.0	17.6	5.8
Private Hospital/Clinic/Nursing home	18.3	0.3	1.8
At home	29.8	20.5	12.5
Total (n)¹	453	391	224

¹Total includes only those RDW who made the delivery plans before hand.

5.9.4 Types of Preparation made for Newborn and Mother Care in First Month

Regarding the preparation for the care of both the mother and child during the first month of delivery, nine out of ten RDW had made financial preparations in all districts. Similarly, one-third of RDW in all districts had arranged for food for that period. Further, 26 percent in Bajhang followed by 14 percent in Banke and six percent in Jumla said they had identified a health facility for the postpartum care of the mother and newborn (Table 5.18).

Types of Preparation	Banke	Jumla	Bajhang
Financial	90.1	97.6	88.0
Identification of health worker	3.8	0.3	4.3
Identification of facility	14.0	5.6	26.4
Blood	3.3	1.0	0.5
Arrange food	32.1	36.0	34.1
Identified TBA	0.8	0.3	0.5
Arranged clothes	6.3	10.8	3.8
Arranged helper	2.7	0.3	0.5
Medicine	0.0	3.1	0.5
Total (n)¹	365	286	208

[#]Multiple responses.
¹Total includes only those RDW who made specific plans for delivery before hand.

Chapter 6: Delivery Care

Proper planning and precautions during delivery are crucial to preventing the mother and the newborn from contracting infections and reducing the risk of complications that can result in serious illness or even death. The Nepal government widely encourages delivery under the supervision of a health professional and emphasizes the importance of a clean and safe environment/room for delivery. Given this background, information on the knowledge and practices associated with delivery and the post-delivery period among women in the study districts was collected in the survey. This chapter presents the survey's general findings on these issues.

6.1 Knowledge on Delivery Care

In the survey, RDW were asked for their opinion on who the appropriate people are to assist deliveries. Though the responses varied across the districts, a high percentage of respondents thought doctors or staff nurses should assist during delivery. More than half of the RDW in Jumla thought ANMs were suitable for assisting deliveries. Similarly, MCHWs were also cited by a around 30 percent of RDW in Jumla and Bajhang as appropriate people. A relatively high percentage of RDW in Jumla district (47%) think FCHVs are the appropriate persons to assist in delivery. Similarly, a high percentage of RDW in Banke (47%) thought relatives/friends were appropriate people to assist in the delivery (Table 6.1). This finding calls for necessity of conducting awareness programs in the community on the importance of having assistance from a trained health service provider during delivery.

Person to assist during delivery [#]	Banke	Jumla	Bajhang
Doctor	69.7	44.3	47.5
Staff nurse	73.0	54.8	49.7
Relative/Friend	46.5	26.3	33.7
FCHV	28.2	46.8	28.7
ANM	16.7	51.3	36.2
MCHW	10.3	29.7	28.2
TBA	7.0	3.7	9.2
HA/AHW/CMA	3.2	11.5	2.8
Family member	7.3	4.2	5.5
VHW	0.7	0.2	0.8
Others ¹	0.0	0.3	0.5
Total (n)	600	600	600

[#]Multiple responses.
¹Others includes traditional healers/HF peons.

The opinion of RDW regarding various items/things that need to be kept clean at the time of delivery was also collected in the survey. Regarding this, a majority of the RDW in the study districts said that clothes for wrapping the newborn and the mother's clothes should be kept clean during delivery. The other things that were mentioned by the RDW were: blade, surface on which the newborn is to be placed and hands of the person who is handling the delivery (Table 6.2).

Opinion regarding the things to be kept clean during childbirth [#]	Banke	Jumla	Bajhang
Clothes for wrapping baby	75.5	71.2	65.3
Mother's clothes	60.3	63.2	63.2
Blade	42.5	39.5	25.8
Surface on which newborn is placed	35.7	45.7	23.0
Hands of the person handling delivery	28.8	34.0	42.3
Mother's Perineum	27.5	11.5	16.2
Thread	19.2	24.8	24.8
Surface/coin where the cord is cut	13.5	15.0	9.5
Nails of the person handling delivery	7.0	6.7	30.3
Sickle (<i>Hasiya</i>)	0.0	0.0	3.8
Others	4.5	3.5	0.2
Don't know	5.0	7.2	7.2
Total (n)	600	600	600

[#]Multiple responses.
 Note: Others include body, room, bed.

The survey finding reveals that mainly the government health facilities (hospitals, HP, SHP and the PHCCs) are available in the community for women to go for delivery. Private health facilities (hospitals/clinics/nursing homes) for women to go for delivering their babies were reported only by RDW in the Banke district (Table 6.3).

Health Facility in the community for delivery	Banke	Jumla	Bajhang
Pvt Hospital/Clinic/Nursing Home	28.2	0.0	0.0
Health post	26.8	34.3	42.7
Hospital	25.3	23.3	15.3
PHCC	13.8	6.7	17.8
Sub-health post	5.5	35.0	23.8
ORC	0.2	0.2	0.2
Don't know	0.2	0.5	0.2
Total (n)	600	600	600

6.2 Knowledge of Danger Signs during Delivery and Source of Knowledge

All the respondents included in the survey were also asked about their knowledge of the signs and symptoms that may appear during labor that may require immediate medical attention. The survey results show that most RDW in Jumla (84%) and Bajhang (74%) and a slightly low percentage in Banke (56%) regarded prolongation of labor for over eight hours as one of the danger signs during labor. A high percentage of RDW also regarded excessive bleeding before or after delivery as a danger sign that may be fatal for the delivering mother. The other danger signs mentioned by a sizeable percentage of RDW in the study districts included: 'appearance of baby's hand first', 'appearance of baby's leg first' and 'appearance of placenta first' (Table 6.4).

Danger signs and symptoms during labor	Banke	Jumla	Bajhang
One case from Jumla district	55.8	84.3	73.7
Appearance of baby's hand first	40.7	21.7	49.2
Appearance of baby's leg first	43.7	30.9	54.0
Appearance of placenta first	22.3	16.4	21.5
Excessive bleeding before or after delivery	66.8	72.1	39.2
Convulsion	11.3	23.9	13.2
Others ¹	5.7	1.3	3.0
Do not know	6.5	1.5	4.3

The Government of Nepal has been conducting campaigns through various media to disseminate messages on various aspects of maternal health care including the importance of delivering in an appropriate health facility. So, in order to assess the sources of information on maternal health issues, all RDW were asked about the source of their knowledge about the importance of delivering a child in an appropriate health facility. In the interview, first the respondents were asked to describe the source of information without any aid or probing, but if the respondent could not recall or understand the question, then they were further prompted from the list of sources mentioned in questionnaire. The survey results explained that the RDW had received information from both mass media channels and at the community level.

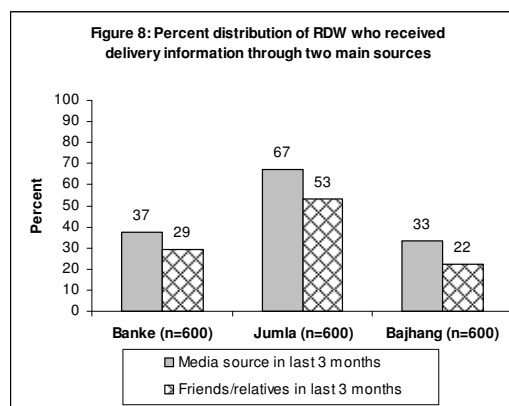
At the community level, a majority of the RDW (when unaided and aided responses were combined) in the three districts had received information mainly through two sources: FCHVs and the health workers at the health facilities (Table 6.5). In the case of mass media channels, radio appeared as the main source of information for a majority of RDW in the study districts. Apart from radio, TV also was an important source of information for RDW in the Banke district, as about one-half (unaided and aided responses combined) responded that they got this information from the TV. A fairly small percentage of RDW mentioned getting this information from other media sources, such as posters/pamphlets/leaflets and newspaper/magazines (Table 6.5).

Table 6.5: Percent distribution of RDW reporting sources from where they got information about the importance of delivering in a suitable health facility

Sources of Information	Banke		Jumla		Bajhang	
	Spontaneous	Prompted	Spontaneous	Prompted	Spontaneous	Prompted
Flipchart of FCHV	8.5	15.2	7.4	26.5	2.5	20.1
FCHV	46.6	19.7	87.4	6.7	63.3	21.1
TBA	0.4	3.1	0.2	9.4	1.0	7.5
Health worker at health facility	43.5	21.1	52.5	29.0	43.7	32.7
Community groups	1.3	9.0	7.9	20.3	15.1	26.6
Posters/pamphlets/leaflets	7.2	18.4	3.2	23.3	1.5	27.1
Newspaper/magazines	9.0	9.9	1.0	4.5	2.5	7.5
Radio	41.7	5.8	30.7	18.1	67.8	16.1
Television	39.9	9.4	8.7	10.4	4.0	5.0
Others ¹	10.3		19.3		2.5	
Total (n)²	223		404		199	

¹Others include Relatives, Neighbors, Friend.
²Total includes only those RDW who got information about delivering health facilities.

Overall, in the last three-month period, a sizeable proportion of RDW in the study districts had heard about the importance of child delivery in an appropriate health institution. Similarly, at the community level, the friends/neighbors or some other acquaintances of the RDW had also talked about this issue in the last two-month period preceding the survey's administration (Figure 8).



6.3 Assistance during Delivery

The RDW were also surveyed about the people who were present outside the delivery room at the time of the delivery of their last child. The overall response to this question indicates that usually one or more of following three categories of people were present outside the delivery room: parents-in-law, husband, and relative and/or family members. It should, however, be noted that a sizeable proportion of RDW, especially those from Jumla (21%) and Bajhang (31%), reported that no one waited for them outside the delivery room (Table 6.6).

Persons present [#]	Banke	Jumla	Bajhang
Nobody	6.8	20.7	31.0
TBA	1.0	0.2	0.2
FCHV	3.7	4.3	2.2
Friends/Neighbors	12.3	11.8	19.2
Parents-in-law	54.2	32.2	22.3
Husband	61.5	48.0	28.5
Mother/father	15.0	6.2	1.7
Relative/ family members	64.2	38.0	28.0
Traditional healer	0.2	0.3	0.0
Don't know/cannot remember	1.3	5.5	9.0
Total (n)	600	600	600

[#]Multiple responses.

Delivery under the supervision of a health service provider is deemed critical for the reduction of maternal and neonatal morbidity and mortality. Among the study districts, especially in Banke, a higher percentage of births were assisted by a health service provider (staff nurse, doctor, and ANM) than in the other two districts. Assistance in delivery by a relative/friend/neighbor and family members was also reported frequently by RDW in the study districts (Table 6.7).

Persons assisted during delivery [#]	Banke	Jumla	Bajhang
Doctor	18.1	5.8	5.4
Staff Nurse	39.6	17.0	14.5
ANM	12.6	19.4	16.0
MCHW	5.4	9.8	3.5
HA	0.8	1.5	1.0
AHW/CMA	3.9	6.0	5.7
VHW	0.0	0.0	0.3
TBA	7.7	5.0	6.4
FCHV	10.7	31.4	7.7
Others ¹	70.8	65.7	77.6
No one	0.8	4.5	11.3
Total (n)²	596	583	594

[#]Multiple responses.
¹Other persons include relative, friend, neighbor, family members, traditional healers and HP peons
²Total includes only those RDW who have live birth.

Nearly half of the deliveries in Banke, about one-third in Jumla and round a quarter in Bajhang were assisted by SBAs (Table 6.8). Table 6.8 further presents differences in the use of SBAs at the time of delivery of the last child. Overall, the study finding shows that the utilization of SBAs is more likely among younger RDW (except the Jumla district), among literate, among higher educated, and among highest wealth quintiles of RDW than their respective counterparts. According to caste group, in Banke, more RDW from the upper caste, and in Bajhang and Jumla, more RDW from the Dalit caste group had frequently used the SBA during delivery.

Background characteristics	Assistance Received from SBA		
	Banke	Jumla	Bajhang
Age	*	<i>ns</i>	*
15-19	65.6	40.2	36.7
20-24	54.3	34.2	32.5
25-29	39.5	23.2	15.9
30-34	41.0	27.5	22.6
35-49	25.0	31.0	22.0
Literacy status	*	*	*
Literate	71.1	48.7	38.4
Illiterate	28.7	28.2	21.3
Education level	*	*	*
No schooling	28.3	28.9	21.7
Primary	42.9	40.9	21.6
Some secondary	75.0	30.0	48.5
SLC and above	91.9	63.6	58.0
Caste/Ethnicity	*	*	*
Dalit	54.4	45.8	34.9
Disadvantage Janjati	49.3	~	
Disadvantage non-Dalit (Tarai)	22.5		
Religious minority	25.4		
Upper caste	68.9	27.6	24.3
Wealth quintile	*	*	*
Lowest	21.2	22.6	19.0
Second	42.0	29.8	21.5
Third	40.0	31.9	26.7
Fourth	60.0	35.7	27.1
Highest	79.0	41.8	37.0
Total (%)	48.5	32.2	26.3
Total (n)²	596	583	594
95% confidence interval	39.0-58.1	22.9-43.3	19.9-33.8

*Significance at <0.05 level *ns*= not significant ~sub-sample is too small for statistical calculation
¹SBA includes Doctor, Staff Nurse, and ANM.
²Total includes only those RDW who have live birth.

6.4 Place of Delivery

A majority of the RDW delivered their last child in their own home. A higher proportion of RDW in Banke had delivered their child in private health institutions (private hospital, nursing home, or clinic) than compared to the other two districts (Table 6.9). In all three districts, the percentage of births taking place in a health facility is still low (50% in Banke, 34% in Jumla and 29% in Bajhang) (Figure 9). Yet, the study findings on place of delivery are highly encouraging since the practice of institutional delivery in the study districts was much higher than the national average of 28 percent in 2011.

Table 6.10 further shows the proportional differences of RDW who delivered their last child in a health facility or at home according to their socio-demographic characteristics. Institutional delivery is significantly higher among younger, literate, higher educated, and higher wealth quintile RDW in all districts; whereas, home delivery is significantly higher among elder, illiterate, no education, and the lowest wealth quintile groups of RDW. According to caste group, RDW from upper caste in Banke and RDW from Dalit caste groups in Jumla and Bajhang show a higher rate of institutional delivery.

Table 6.9: Percent distribution of RDW by place of delivery among RDW with live birth

Place of Delivery	Banke	Jumla	Bajhang
Hospital	18.8	16.5	9.8
PHCC	4.2	1.5	5.4
HP	7.9	7.5	11.6
SHP	1.5	7.4	1.9
Private hospital/clinic/nursing home	17.4	0.7	0.5
Own home	48.3	60.9	68.9
Others home	0.7	0.5	0.7
Others ¹	1.2	5.0	1.3
Total (n)²	596	583	594

¹Others include on the way to hospital, cowshed and jungle
²Total includes only those RDW who have live birth.

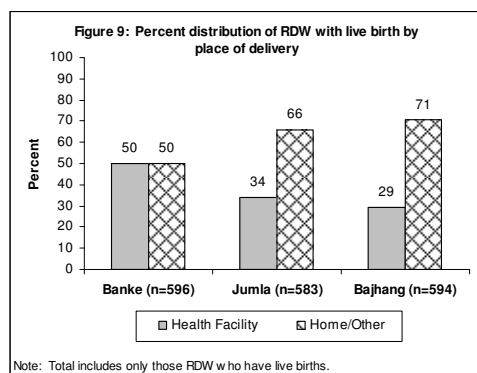
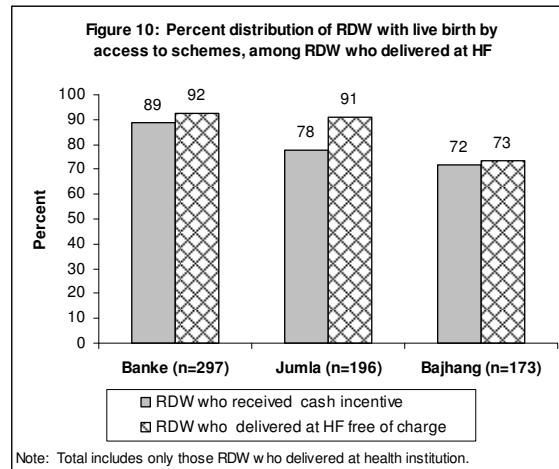


Table 6.10: Percent distribution of RDW with live birth by place of delivery by background characteristics

Background Characteristics	Banke		Jumla		Bajhang	
	Health Facility	Home/other	Health Facility	Home/other	Health Facility	Home/other
Age	*		*		*	
15-19	65.5	34.4	42.0	58.0	38.3	61.7
20-24	56.0	44.0	36.1	63.9	35.5	64.5
25-29	41.2	58.8	24.0	76.0	19.2	80.8
30-34	41.0	59.0	27.5	72.5	26.2	73.8
35-49	27.8	72.2	31.0	69.0	23.7	76.3
Literacy status	*		*		*	
Literate	72.1	27.9	51.3	48.7	41.2	58.8
Illiterate	30.2	69.8	29.3	70.7	24.2	75.8
Education level	*		*		*	
No schooling	29.7	70.3	30.0	70.0	24.3	75.7
Primary	44.5	55.5	42.4	57.6	25.5	74.5
Some secondary	76.7	23.3	30.0	70.0	54.5	45.5
SLC and above	91.9	8.1	69.7	30.3	60.0	40.0
Caste/Ethnicity	*		*		*	
Dalit	49.4	50.6	46.5	53.5	36.7	63.3
Disadvantage Janjati	55.6	44.4	~			
Disadvantage non-Dalit (Tarai)	23.4	76.6				
Religious minority	25.4	74.6				
Upper caste	70.0	30.0	29.2	70.8	27.2	72.8
Wealth quintile	*		*		*	
Lowest	25.4	74.6	23.4	76.6	21.6	78.4
Second	44.5	55.5	29.8	70.2	24.8	75.2
Third	38.3	61.7	31.9	68.1	29.2	70.8
Fourth	60.0	40.0	37.3	62.7	29.7	70.3
Highest	80.7	19.3	46.3	53.7	40.3	59.7
Total (%)	49.8	50.2	33.6	66.4	29.1	70.9
Total (n)¹	596		583		594	
95% confidence interval	40.5-59.2	40.8-59.5	24.2-44.5	55.5-75.8	21.6-38.0	62.0-78.4

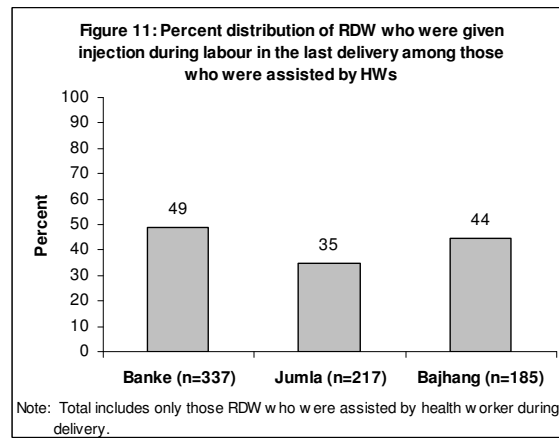
*Significance at <0.05 level ns= not significant ~sub-sample is too small for statistical calculation
¹Total includes only those RDW who have live birth.

All RDW who delivered their last child in an institution were also asked whether they received the amount of money they were entitled to under the government's 'cash incentive scheme' for participating in an institutional delivery and whether the delivery was free of cost or not. The survey results show that about nine in ten RDW in Banke, over three-quarters in Jumla and seven in ten in Bajhang had received the cash incentive for having an institutional delivery. Similarly, over 90 percent RDW in Banke and Jumla and 73 percent in Bajhang had received the delivery services at a health institution free of cost (Figure 10).



6.5 Access to Services during Delivery

The respondents who delivered with an assistance from health workers were asked if they were injected during the labor. In response, nearly half of the RDW in Banke, more than one-third in Jumla and over four in ten in Bajhang gave affirmative responses (Figure 11).



Among those who had received the injection during labor, almost three-quarters of RDW in Banke and slightly more than half in Bajhang were aware that the purpose of the injection was to hasten the delivery. However, comparatively low percentages of RDW in Jumla (37%) were aware of the purpose of the injection (Table 6.11).

Table 6.11: Percent distribution of RDW by their knowledge of purpose of injection given during labor, by RDW who received injection

Purpose of injection	Banke	Jumla	Bajhang
To hasten the delivery of the baby	72.6	36.8	57.3
To prevent infection	0.6	0.0	0.0
To numb the pain	7.3	0.0	2.4
Don't know	20.7	63.2	40.2
Total (n)¹	164	76	82

¹Total includes only those RDW who were injected during labor.

6.6 Experienced Danger Signs During and After Delivery of the Last Child

At the time of the delivery of the last child some RDW had experienced complications. Of the RDW experiencing complications, many in all three districts had 'excessive bleeding' and a 'prolonged labor of more than 12 hours.' The percentage of RDW who experienced 'convulsions' was much higher in Bajhang (11%) and Jumla

Table 6.12: Percent distribution of RDW experiencing complications during the delivery of their last child

Types of complication experienced	Banke	Jumla	Bajhang
Excessive bleeding to the extent that RDW feared death	10.8	15.7	14.8
Convulsion	4.7	8.7	10.5
Prolonged labor of more than 12 hrs	18.8	14.2	10.5
The baby's hand, leg or cord coming out first	1.2	3.2	1.2
Total (n)	600	600	600

(9%) than in Banke (5%). In some cases, RDW had also experienced 'baby's hand, leg or cord coming out first' (Table 6.12).

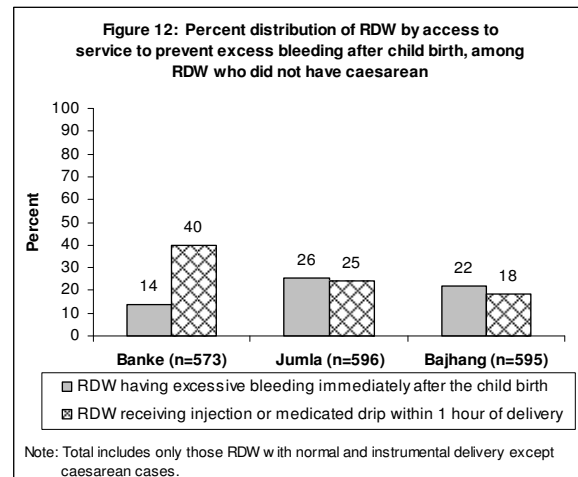
The types of problems RDW experienced within six hours of delivery of their last child are presented in Table 6.13. The overall result of the survey shows that the most common four types of problems - feeling faint or dizzy, shivering, fever and nausea - were experienced by a high percentage of RDW. Within the study districts, a higher percentage of RDW in Jumla reported experiencing various problems within six hours of delivery of their last child than those from the Banke or Bajhang districts.

Table 6.13: Percent distribution of RDW by problems experienced within first 6 hours of delivery, by RDW who had normal delivery

Problems experienced within 6 hours after delivery of last child	Banke	Jumla	Bajhang
Felt Faint or dizziness	19.7	28.5	16.3
Actually fainted or lost consciousness	5.4	12.1	4.0
Experienced shivering	18.8	29.0	17.6
Felt nausea	6.1	11.7	9.9
Experienced fever	8.6	18.5	12.8
Had diarrhea	2.6	7.7	4.7
Total (n)¹	573	596	595

¹Total includes only those RDW with normal and instrumental delivery except caesarean cases.

RDW who had a normal or instrumental delivery (those who had caesarean sections were excluded) were asked about the complications experienced during the delivery or during the post-delivery period. About 14 percent in Banke, 22 percent in Bajhang and 26 percent in Jumla had experienced excessive bleeding immediately after childbirth. Four in ten RDW in Banke, a quarter in Jumla and about two in ten in Bajhang reported receiving injections or a medicated drip within one hour of delivery of their last child (Figure 12). The survey results show that 9 percent of RDW in Banke delivered their last child via C-section. Comparatively, the amount of C-section cases were low in Bajhang (3%) and Jumla (2%) districts. Similarly, in the survey, 16 cases of instrumental delivery were reported by RDW in Banke while six cases were reported in Jumla and only one case in Bajhang (Table not shown).

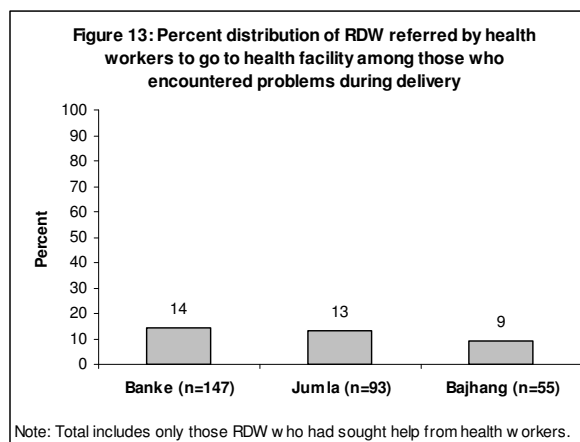


The respondents who had encountered problems during the delivery of their last child were also asked about where they went or who they consulted to resolve the problem. Among them, around six in ten RDW in Bajhang, four in ten in Jumla and one in ten in Banke reported doing nothing and/or seeking no treatment at all. Slightly more than a quarter in Banke (27%) and just one percent in Jumla visited private health facilities. Apart from these, RDW from the study districts mostly visited government health facilities. A fairly high percentage of RDW in Banke had also consulted FCHVs and health workers in the community (7% each). Nearly 10 percent RDW in Jumla had also consulted a FCHV about the problem. Some RDW had either received traditional treatments at home or consulted a relative/friend or neighbor in order to solve the problem (Table 6.14).

Places visited or persons consulted [#]	Banke	Jumla	Bajhang
Went private hospital/Clinic/Nursing home	26.6	1.1	0.0
Went to hospital	23.1	18.5	14.8
Went to PHCC/ HP/ SHP	23.1	23.6	16.1
Consulted/treated by FCHV	6.9	9.0	2.0
Consulted/treated by other HW	6.9	1.7	1.3
Traditional treatment at home	4.6	7.9	2.7
Consulted relative/neighbor/friend	4.6	5.6	0.7
Consulted/treated by TBA	2.9	0.0	2.7
Consulted/treated by MCHW	1.7	0.6	0.0
Bought medicine from pharmacy	1.2	0.0	0.7
Given medicine at home	0.0	1.7	0.7
Treated by consulted dhami/jhankri	0.0	0.6	0.7
Others ¹	1.7	0.0	0.0
Did nothing	10.4	40.4	60.4
Total (n)²	173	178	149

[#]Multiple responses.
¹Other includes AHW, Medical shopkeeper.
²Three cases from Banke, four from Jumla and one from Bajhang missing.

Only a few of the RDW who had arranged consultations/check ups or sought help from health workers were referred to other health facilities for further investigation or monitoring of the problem they had encountered (14% in Banke, 13% in Jumla and 9% in Bajhang) (Figure 13).

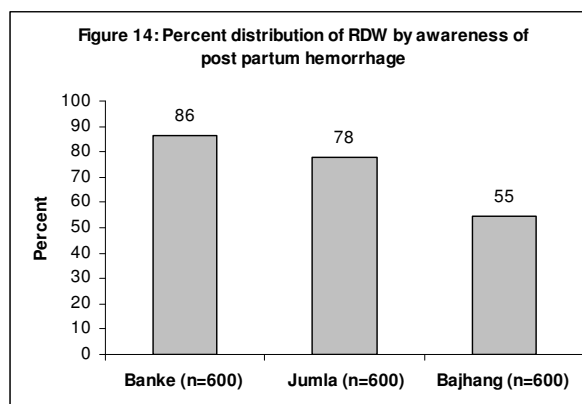


Chapter 7: Postpartum Care

In developing countries like Nepal, postpartum hemorrhage (PPH) are a major cause of maternal death and, arguably, the most preventable. According to MoHP in 2009/10, the most common cause of maternal death in Nepal was excessive bleeding or PPH in mothers, accounting for 47 percent of the total MMR¹³. In addition, 12 percent of maternal deaths are caused by infections contracted during the postpartum phase, it is critical to ensure a proper postpartum care (including check ups, treatments and familial care), especially for six weeks following the day of delivery. The postnatal (interchangeable with postpartum) check up diagnoses the improper placement of the uterus, anemia, contracted infections and other danger signs that have consequences on a mother's health and life, therefore enabling timely management of diagnosed complications. For the timely diagnosis and treatment of postpartum complications, MoHP has been advocating for at least three postpartum check ups, whereby the first check up should take place within the first 24 hours of the delivery, the second on the third day and the third on the seventh day after delivery. This chapter presents information on the utilization of postpartum services by the RDW.

7.1 Knowledge of Postpartum Hemorrhage (PPH)

Awareness of PPH among community women, specifically pregnant women, is the key step in overcoming it. There has been active promotion of maternal and neonatal health care that specifically emphasizes raising awareness of PPH in order to reduce MMR. In the study, all RDW were asked about whether they had heard about PPH during their last pregnancy period. The study results presented in Figure 14 illustrate that over eight in ten RDW in Banke and over seven in ten RDW in Jumla had heard about PPH, yet this rate is very low in Bajhang where only just over half RDW reported hearing about it.



Regarding the type of information RDW's received about PPH, a majority of the RDW said they heard that it could result in death of a woman. Similarly, over half of the RDW in Banke and Jumla and nearly three-quarters in Bajhang had heard that the woman should immediately go to a health facility (Table 7.1).

The survey results indicate that FCHVs were the main sources of information about PPH for majorities of RDW in the study districts (80% in Jumla, 76% in Banke and 73% in Bajhang). Health workers, neighbors and health facilities were other frequently reported sources of information on PPH for RDW. Some of the RDW in Jumla (20%) and Bajhang (31%) had also heard about it on the radio (Table 7.1).

¹³ MoHP et.al. Marga 2066 B.S. (2009/10), *Jeevan Surakshya*.

Information on PPH	Banke	Jumla	Bajhang
Type of Information heard[#]			
Can cause mother's death	68.6	67.0	78.4
Go to health facility promptly	59.9	56.7	73.2
Get help from health worker	10.7	30.3	36.0
Others ¹	1.4	8.2	4.6
Total (n)^{2,3}	516	466	328
Sources of information[#]			
FCHV	75.9	79.8	72.6
Health worker	35.9	47.4	39.3
Neighbor/ family/ friend/ relatives	30.1	31.8	36.0
Health facility	23.0	21.7	21.3
Radio	10.8	21.0	30.8
Television	7.9	7.9	0.9
Poster/Pamphlet/Flyer/booklet/BPP card	5.3	8.3	2.1
Mother's group meeting	0.6	5.6	5.2
Others ⁴	0.2	0.4	0.3
Total (n)	518	466	328
[#] Multiple responses.			
¹ Others includes weakness, uterus complications.			
² Total includes only those RDW who had heard about PPH.			
³ Two cases from Banke missing.			
⁴ Others includes MCHW, training, media.			

7.1.1 Awareness of and Access to Misoprostol 'Matri Suraksha Chakki'

Attempts to reduce deaths from PPH have been complicated by the fact that many deaths occur in out-of-hospital settings or too quickly for the woman to be transferred to a health facility. Misoprostol has been widely recommended to prevent postpartum hemorrhages when other methods are not available at home. Given these trends, the administration of this drug on a wide scale at the community level to prevent and treat postpartum hemorrhage is of major public health importance in Nepal. Thus, the government has been promoting the use of Misoprostol, also called *Matri Suraksha Chakki* (MSC), in home deliveries.

The survey results show that two-thirds of RDW in Banke, a little over one-half of RDW in Jumla and four in ten in Bajhang had received information about MSC (Figure 15). The survey further show that the percentage of RDW who actually received the tablets from FCHVs was lower in all study districts (56% in Banke and 37% each in Jumla and Bajhang).

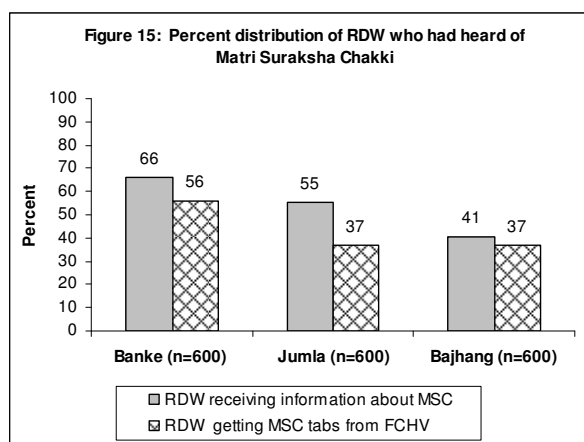


Table 7.2 further shows the proportions of RDW who received MSC during their pregnancy periods sorted by their socio-demographic characteristics. No difference was observed in Jumla based on any of the background characteristics of RDW, while in Banke RDW from the upper caste and those in the highest wealth quintiles were less likely to receive the MSC. On the other hand, in Bajhang, a higher proportion of literate RDW and those from higher wealth quintiles had received the tablets.

Background Characteristics	Received MSC Tablets from FCHV		
	Banke	Jumla	Bajhang
Age	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19	61.5	33.6	32.8
20-24	55.1	35.9	38.3
25-29	56.5	43.8	35.9
30-34	55.7	42.3	36.0
35-49	45.9	25.8	40.0
Literacy status	<i>ns</i>	<i>ns</i>	*
Literate	54.6	29.7	44.5
Illiterate	57.2	39.0	34.0
Education level	<i>ns</i>	<i>ns</i>	<i>ns</i>
No schooling	55.8	38.4	35.5
Primary	64.2	39.4	42.3
Some secondary	53.3	22.6	39.4
SLC and above	48.0	29.4	44.0
Caste/Ethnicity	*	<i>ns</i>	<i>ns</i>
Dalit	58.8	29.9	30.3
Disadvantage Janjati	58.0	~	
Disadvantage non-Dalit (Tarai)	58.0		
Religious minority	67.6		
Upper caste	47.9	39.6	38.5
Wealth quintile	*	<i>ns</i>	*
Lowest	47.5	39.7	29.4
Second	62.5	41.7	29.8
Third	66.7	41.8	44.6
Fourth	58.3	31.5	42.9
Highest	45.0	31.6	38.3
Total (%)	56.0	37.2	37.0
Total (n)¹	600	600	600
95% confidence interval	47.9-63.8	29.1-46.0	30.1-44.5

*Significance at <0.05 level *ns*= not significant
~sub-sample is too small for statistical calculation
¹Total includes only those RDW who have live birth.

All RDW who had not received MSC during pregnancy were also asked about the reason for not receiving the tablets from the FCHVs. The survey results mainly show that the RDW had no knowledge of the tablets. Another reason cited by the RDW for not receiving the tablets was because some FCHVs kept the tablets with themselves and gave them to RDW only during the delivery. This practice appeared to be fairly common in some study districts as the RDW citing this reason was high both in the Banke and Jumla districts (Table 7.3).

Reasons for not receiving MSC	Banke	Jumla	Bajhang
Not aware of MSC	53.4	54.1	67.9
FCHV kept it with herself to give only during delivery	20.8	25.7	3.7
No contact/ don't know/didn't go to check with FCHV	15.5	1.3	11.1
I was away from home	2.7	0.8	5.8
FCHV was out of stock	2.3	4.0	4.2
Misunderstanding with FCHV	2.3	0.8	1.3
Had miscarriage	1.5	0.0	1.9
Planned institutional delivery	1.1	2.1	1.9
Don't know	0.4	11.1	2.1
Total (n)^{1,2}	264	377	377

¹Total includes only those RDW who had not received MSC from FCHV.
²Two cases from Bajhang missing.

The RDW who had received MSC from the FCHVs were further questioned about their knowledge on the purpose of and necessary timing of taking MSC. The overall result shows that a very high percentage of RDW (more than 80% in all districts) were aware that MSC tablets are provided for preventing PPH in women. The other reasons cited by a fairly high percentage of RDW were 'discharge of placenta' and 'prevent from risk of death.' Relating to the timing of taking the MSC tablets, an equally high percentage of RDW (more than 80% in

all districts) responded that the right timing is 'after delivery of baby but before placenta comes out.' A relatively small percentage of respondents thought it should be taken 'immediately after delivery of baby and placenta' (Table 7.4). Furthermore, nearly all RDW had correct knowledge that a single dose of three tablets of MSC should be consumed by the women.

7.1.2 Knowledge Regarding Precautions when Taking MSC

In addition to the need for taking MSC tablets, the pregnant women are also informed about the precautions they must take before taking them. Thus, the pregnant women are supposed to be informed about situations when they should not take the tablets. Regarding this information, all RDW who received the tablets were asked about the necessary precautions. The survey results show that a great majority of RDW in all study districts (83% in Banke, 86% in Jumla and 94% in Bajhang) were aware that these tablets should not be taken during the pregnancy period. Furthermore, a considerable number of RDW shared that it should not be taken during labor before delivery (Table 7.5).

The survey further illustrates that even if RDW knew about the precautions, majorities of RDW in all districts (74% in Banke, 71% in Jumla and 69% in Bajhang) did not know about the possible side effects of the tablets. Smaller proportions of RDW mentioned some problems like 'shivering,' nausea, and 'headache' as side effects of MSC tablets (Table 7.6). In the survey, the RDW were further asked to give their opinion on what a woman should do if the bleeding persisted even after taking the MSC tablets. Overall, almost all respondents in Bajhang (97%), Banke (94%) and Jumla (88%) thought in such a case, the woman should immediately visit a health facility (Table not shown).

Knowledge about MSC	Banke	Jumla	Bajhang
Purpose of taking MSC[#]			
Prevention of PPH	81.8	81.6	89.6
Discharge of placenta	14.9	26.5	20.7
Prevent from risk of death	10.4	17.0	32.4
Contraction of uterus	9.8	31.8	24.8
Preventing abdomen pain	0.6	0.0	0.9
Others	0.6	0.0	0.0
Don't know	10.7	9.0	4.1
Right time of taking MSC			
After delivery of baby but before delivery of placenta	80.4	85.7	92.3
Immediately after delivery of baby and placenta	17.3	11.7	4.1
During excessive blood loss after delivery	0.6	0.0	0.5
Don't know	1.8	2.7	3.2
No. of tablets to be taken			
One	0.6	1.3	3.2
Two	0.0	0.4	0.9
Three	98.2	96.4	94.1
Do not know	1.3	1.8	1.8
Total (n)¹	336	223	222

[#]Multiple responses.
¹Total includes only those RDW who had received MSC.

Conditions to avoid MSC [#]	Banke	Jumla	Bajhang
During pregnancy	82.7	85.7	94.1
During labor but before delivery	12.5	24.7	38.3
If placenta comes out b4 taking MSC	4.5	12.6	13.1
After delivering 1st of the twin	0.9	0.0	0.0
Others	1.5	0.0	0.5
Don't know	12.8	11.7	4.5
Total (n)^{1,2}	335	223	222

[#]Multiple responses.
¹Total includes only those RDW who had received MSC.
²Two cases from Banke missing.

Side effect/problem of taking MSC [#]	Banke	Jumla	Bajhang
Shivering	14.9	1.8	8.1
Nausea	12.5	13.0	18.9
Headache	6.8	10.8	9.5
Fever	5.4	1.8	3.6
Diarrhea	4.8	1.8	1.8
Nothing will happen	0.3	11.7	5.4
Other ¹	0.9	0.0	0.9
Don't know	73.5	71.3	68.9
Total (n)²	336	223	222

[#]Multiple responses.
¹Others includes dizziness, abdomen pain, unconsciousness.
²Total includes only those RDW who had received MSC.

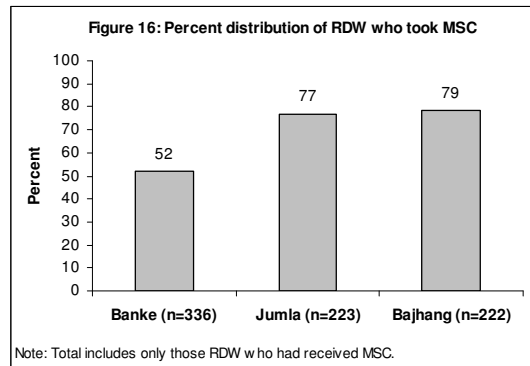
To examine the information communicated by FCHVs regarding MSC, RDW were asked what FCHVs told them when giving them the tablets. In response, more than 82 percent in all districts consistently described that the FCHVs told them not to take MSC during pregnancy. The FCHVs also told them, generally, that taking MSC when pregnant is dangerous (Table 7.7).

Precautions about MSC told by FCHV [#]	Banke	Jumla	Bajhang
MSC should not be taken during pregnancy	81.8	86.1	88.3
Taking MSC in pregnancy is dangerous	23.2	33.6	49.1
Did not say anything	3.9	0.9	4.5
Take it only after delivery of the child	6.5	0.0	0.0
Others ¹	2.4	0.0	0.0
Don't know	8.9	9.4	1.8
Total (n)²	336	223	222

[#]Multiple responses.
¹Others includes after one hour of delivery, when delivered in health facility.
²Total includes only those RDW who had received MSC.

7.1.3 Coverage and Compliance of MSC

Figure 16 presents the distribution of RDW who consumed MSC. Of the total RDW who had received the tablets from FCHVs, just over one-half in Banke and over three-quarters RDW each in Jumla and Bajhang ate the tablets. Furthermore, among those who had consumed the pills, a majority (98% in Banke, 97% in Jumla and 95% in Bajhang) had consumed all three tablets given to them (Table 7.8). Similarly, among RDW who had taken the tablets, more than three-quarters had taken the tablets after delivery of the baby but before the delivery of the placenta (75% in Banke, 80% in Jumla and 90% in Bajhang), and the rest had taken it immediately after the delivery of both the baby and placenta. In total more than nine in ten RDW in all districts among those who ate MSC had met the compliance (Table 7.8).



Quantity and timing of MSC taken	Banke	Jumla	Bajhang
No. of tablets taken			
One tablet	1.7	1.8	1.1
Two tablets	0.0	1.8	3.4
All three tablets	98.3	96.5	95.4
Total (n)¹	175	171	175
Timing of taking MSC			
After delivery of baby but before delivery of placenta	74.7	79.5	89.7
Immediately after delivery of baby and placenta	24.1	17.5	8.6
Others ²	1.1	2.9	1.7
Total (n)³	174	171	175
Compliance of MSC⁴			
Total (n)	175	171	175

¹ Total includes only those RDW who took MSC tablets.
² Others includes after four hours, after two days, after three days, after returning home from HF.
³ One cases from Banke missing.
⁴ Compliance refers to cases who had consumed all three tablets and after delivery of baby or placenta.

Table 7.9 presents the reasons cited for not taking any or all of the three tablets of MSC given to them. The reasons cited by the RDW for not taking all three tablets were: 'fear of side-

effect,' 'thought not necessary/3 tablets is a lot,' 'tablets were expired,' 'forgot to take' and 'placenta came out before taking MSC.' In general, more than 84 percent in Banke, three-quarters in Jumla and a little over half in Bajhang did not take the received MSC because they went to a HF for delivery. Similarly, between 11 to 17 percent too said that the health worker had given them an injection (oxytocin), thus eliminated the need to take it. There are also other reasons cited for not taking MSC shown in Table 7.9.

Table 7.9: Percent distribution of RDW by reasons for not taking MSC tablets despite receiving it

Reasons for not taking MSC	Banke	Jumla	Bajhang
Delivery at HF or by trained HW	84.8	74.1	47.3
Health worker gave injection after delivery	16.5	17.2	10.9
Family members did not allow/fear of side effects	1.8	3.4	3.6
Forgot to take/lost the tablets/Misplaced the tablets	1.2	6.9	9.1
Delivery at other's home	0.6	1.7	1.8
Person who kept MSC was not present during delivery	0.0	1.7	5.5
The placenta came out before	1.2	3.4	9.1
Baby was born dead/ baby died immediately after birth	0.0	3.4	1.8
Thought not necessary	1.2	6.9	9.1
Tablets were expired or given less tablets	0.6	1.7	1.8
Others ¹	0.6	0.0	7.3
Total (n)²	164	58	55

¹Others includes because children ate the tablets, had less blood loss.
²Total includes only those RDW who did not take MSC in spite of receiving.

In the survey, the respondents who took less than three MSC or did not take them despite receiving the tablets were asked more about the unused tablets. Around seven in ten RDW in Banke, half in Jumla and two in ten in Bajhang had given the tablets back to the FCHVs. A smaller proportion of RDW in the study districts had either kept the tablets or had thrown them away. The percentage of RDW throwing them away and keeping the tablets was high in Bajhang (24% and 36%, respectively) (Table 7.10).

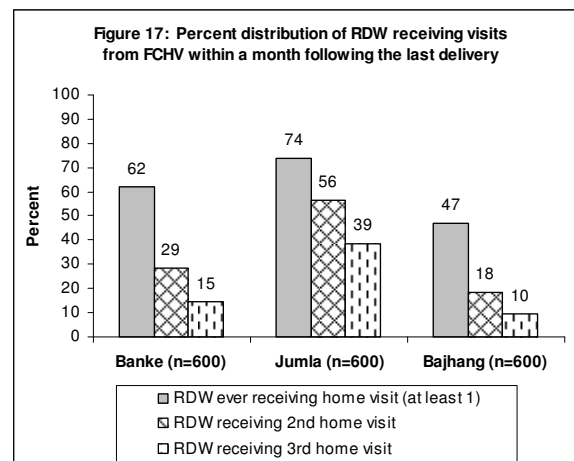
Table 7.10: Percent distribution of RDW by their action with unused MSC, by RDW who did not take any or all MSC in spite of getting it

MSC not eaten	Banke	Jumla	Bajhang
Returned to FCHV	72.2	49.1	20.0
Threw away	8.6	5.5	23.6
Still with me	8.6	20.0	36.4
Returned to HW/HF	6.8	7.3	9.1
Lost/misplaced	3.7	14.5	7.3
Others	0.0	3.6	3.6
Total (n)¹	162	55	55

¹Two cases from Banke and three from Jumla missing.

7.2 FCHV Home Visits for Post Partum Care

All RDW were asked about the visits from FCHVs after their last delivery. The survey result shows that nearly three-quarters and two-thirds of the RDW in Jumla and Banke, respectively, had at least one visit by the FCHVs at home during their last postpartum periods. In Bajhang, however, less than half of RDW reported visits by the FCHVs. It was further observed that a considerably low percentage of RDW had second and third visits from FCHVs during the postpartum period in all three districts (Figure 17).



Among the RDW who were visited by FCHV for postpartum care, 40 percent in Banke and 62 percent in Jumla were visited on the day of delivery. On the other hand, this rate is low in Bajhang where only a quarter of RDW were visited on the same day. Nonetheless, the second visit by a FCHV within two days of delivery and the third visit within seven days of delivery was also high in Banke and Bajhang (Table 7.11).

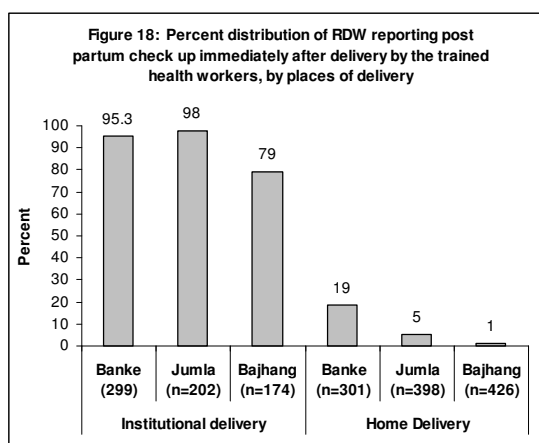
Timing of visit by FCHV	Banke	Jumla	Bajhang
Timing of first visit			
Same day	39.7	62.4	26.4
Next to within 3 days	34.0	25.9	32.5
After 3 rd day	25.5	11.1	40.7
Do not remember	0.8	0.7	0.4
<i>Mean no. of days</i>	3.5	1.5	5.2
Total (n)¹	373	441	280
Timing of second visit			
Within 2 days	26.7	14.2	23.9
3 rd day	23.3	37.3	16.5
After 3 rd day	50.0	48.5	59.6
<i>Mean no. of days</i>	6.6	4.9	7.7
Total (n)²	172	338	109
Timing of third visit			
Within 6 days	46.0	21.6	33.3
7 th day	16.1	32.3	22.8
After 7 th day	37.9	46.1	43.9
<i>Mean no. of days</i>	10.5	9.7	10.7
Total (n)³	87	232	57
¹ Total includes only those RDW who had received visit from FCHV after delivery.			
² Total includes only those RDW who had received the second visit.			
³ Total includes only those RDW who had received the third visit.			

Table 7.12 illustrates the information on whether RDW received advice on PP care and newborn care within one month of delivery from FCHVs and what types of advice they received. The suggestions from the FCHVs were mainly related to mother and newborn issues, such as the necessity of taking iron-folic-acid tablets, resting, eating a balanced diet, breastfeeding and other newborn issues and danger sign that may appear in mothers and newborns (Table 7.12).

Types of advices[#]	Banke	Jumla	Bajhang
Taking Iron tablets	54.5	72.0	45.2
Take rest/avoid heavy work	54.2	72.7	46.0
Maintaining a balanced diet	53.2	70.2	42.8
On the newborn care (avoiding infection by cleanliness and preventing from cold)	49.3	67.8	38.7
Breast feeding counseling	49.0	66.5	39.5
Danger signs for newborn	44.5	63.2	35.5
Post-partum danger signs for mother	44.0	60.5	35.5
Going for post natal visits to a HF or ORC	43.2	54.2	35.7
About birth spacing	35.3	49.8	29.7
Total (n)	600	600	600
[#] Multiple responses.			

7.3 Postpartum Check Ups

In the case of institutional deliveries, nearly all RDW in Banke and Jumla (>95%) and around eight in ten in Bajhang reported receiving a postpartum check up immediately after the delivery by a health worker. In contrast, in case of a home delivery, the percentage of RDW reporting receiving a postpartum check up by a health worker was very low in all three study districts (Figure 18).



A large proportion of the respondents who delivered at home in all three districts (74% in Banke, 78% in Jumla and 87% in Bajhang) did not go for postnatal checkups within six weeks of delivery, showing that the use of PNC services is very low in the study population among home delivery cases. The detailed breakdown of the number of PNC visits made by respondents during the six weeks following their deliveries is shown in Table 7.13.

Number of times of PP check ups	Institutional delivery			Home and other delivery		
	Banke	Jumla	Bajhang	Banke	Jumla	Bajhang
None	4.7	2.5	21.3	74.4	77.6	87.3
1 time	40.8	68.8	29.9	19.6	18.1	9.4
2 times	21.7	23.3	28.2	4.0	2.5	2.3
3 times	14.4	3.5	10.9	1.3	1.3	0.5
4 times or more	18.4	2.0	9.8	0.7	0.5	0.5
Mean no. times	3.0	1.6	1.9	0.4	0.3	0.2
Total (n)	299	202	174	301	398	426

In the case of institutional deliveries, nearly all RDW had the first postpartum check up on the day of delivery. The percentage of home-delivering respondents who had a postpartum check up on the day of delivery in Banke was high (71%), while it was very low in Jumla (23%) and Bajhang (9%). Most RDW in Jumla and Bajhang had their first postpartum checkups a week after delivering (Table 7.14). Regarding the types of health service providers who performed the first postpartum check up, a large proportion of RDW who had an institutional delivery were checked by a nurse/ANM, and most RDW who had a home delivery were attended by a nurse/ANM, HA/AHW/CMA or MCHW (Table 7.14).

First time PP check up	Institutional delivery			Home and other delivery		
	Banke	Jumla	Bajhang	Banke	Jumla	Bajhang
Timing of first check up						
Same day of delivery	95.4	98.5	96.4	71.1	22.5	9.3
1- 7 days	3.9	0.5	2.2	10.5	19.1	11.1
After a week	0.4	0.0	1.5	18.4	58.4	79.6
Do not know	0.4	1.0	0.0	0.0	0.0	0.0
Mean no. of days	0.1	0.0	0.5	3.8	12.3	17.9
Total (n)^{1, 2}	285	197	137	76	89	54
Type of HW in 1st check up						
Doctor	19.0	8.2	18.2	11.7	0.0	0.0
Nurse/ ANM	77.5	77.6	73.0	14.3	39.3	40.7
HA/AHW/ CMA	0.0	7.1	6.6	49.4	27.0	20.4
MCHW	3.5	2.0	2.2	18.2	31.5	37.0
VHW	0.0	0.0	0.0	2.6	0.0	1.9
FCHV	0.0	1.0	0.0	2.6	2.2	0.0
Others ³	0.0	0.0	0.0	1.3	0.0	0.0
Don't know/remember	0.0	4.1	0.0	0.0	0.0	0.0
Total (n)⁴	284	196	137	77	89	54

¹Total includes only those RDW who went for PP check-ups.
²One case from Banke with home delivery missing.
³Others includes medical shopkeeper, uncertified doctors.
⁴One case from Banke with institutional delivery and one from Jumla with institutional delivery missing.

The timing of the second postpartum check up for a high percentage of RDW who had institutional delivery was between one and seven days. In the case of a home delivery, a high percentage of RDW in Banke had the second check up between one and seven days, while most RDW in Jumla and Bajhang had it one week after delivery. The survey results also show that the type of health service provider who conducted the second postpartum check up was similar to those who had attended the first check up both for RDW who had a home delivery and an institutional delivery (Table 7.15).

Second time PP check up	Institutional delivery			Home delivery		
	Banke	Jumla	Bajhang	Banke	Jumla	Bajhang
Timing of second PP check up						
Same day of delivery	19.6	12.1	31.8	5.6	0.0	0.0
1-7 days	75.5	60.3	58.8	61.1	23.5	14.3
After a week	4.9	27.6	9.4	33.3	76.5	85.7
Mean no. of days	2.0	7.4	3.0	8.5	16.5	23.6
Type of HW in second check up						
Doctor	23.9	12.1	24.7	11.1	0.0	0.0
Nurse/ANM	74.8	77.6	69.4	27.8	35.3	50.0
HA/AHW/ CMA	0.6	5.2	5.9	27.8	23.5	7.1
MCHW	0.0	5.2	0.0	11.1	41.2	42.9
FCHV	0.6	0.0	0.0	22.2	0.0	0.0
Total (n)¹	163	58	85	18	17	14

¹Total includes only those RDW who had second PP check ups.

Among all RDW who had postpartum check ups within six weeks of delivery, about one-third had visited government hospitals for the check ups. In Banke, nearly one-third RDW said they visited a private health facility (private hospital or clinic/nursing home) for the postpartum check up. The rest of the RDW who had postpartum check ups within six weeks of delivery visited community health facilities, like HP and SHP. Few RDW in Banke (14%) and Jumla (7%) also reported having the postpartum check up at home (Table 7.16).

Places visited for PP check ups [#]	Banke	Jumla	Bajhang
Hospital	32.1	36.7	30.4
PHCC	8.9	4.9	10.5
Health post	13.9	24.0	36.6
Sub-health post	2.2	25.8	16.8
Private hospital /Clinic /Nursing home	31.6	2.5	2.1
Outreach clinic	0.8	0.4	1.0
Home	13.6	7.1	2.6
Others ¹	2.5	0.4	1.0
Total (n)^{2, 3}	361	283	191

[#]Multiple responses.
¹Others include immunization center/NGO clinic/medical shop.
²Total includes only those RDW who had PP check ups.
³One case from Banke and three from Jumla missing.

Regarding the services provided during postpartum check ups, a majority of RDW from the study districts reported the following components of the postpartum check ups that they received: inquiry regarding excessive bleeding and/or severe abdominal pain, an abdomen examination, advice on immunizations, counseling on breastfeeding and newborn care. A

PP Services	Banke	Jumla	Bajhang
Inquiring excessive bleeding/ severe abdominal pain	90.0	87.4	85.9
Abdomen examination	84.2	88.8	75.9
Counseled about immunization	82.5	82.5	81.7
Counseled about breastfeeding	78.1	83.2	72.8
Advice on newborn care	72.6	77.9	73.3
Perineum examination	69.8	33.0	58.1
Counseled about Family Planning	51.8	35.4	47.6
Total (n)	600	600	600

higher percentage of RDW also reported receiving a perineum examination and counseling on family planning during the postpartum check up (Table 7.17).

7.4 Intake of Iron-folic Acid Tablets in the Postpartum Period

MoHP has recommended the intake of iron-folic acid tablets for pregnant and postpartum mothers from the beginning of the second trimester in pregnancy until six weeks after giving birth (a total of 225 days). The survey results show that a substantial number of RDW in Banke (30%), Jumla (26%) and Bajhang (46%) had not taken any iron-folic-acid tablets during the postpartum period. About 40 percent of RDW each in Banke and Jumla and one-third in Bajhang had taken the tablets for 1-41 days (Table 7.18). Around three in ten in Banke, one-third in Jumla and two in ten in Bajhang, on the other hand, had taken the iron-folic tablets for the entire recommended dose of 42 days (Figure 19).

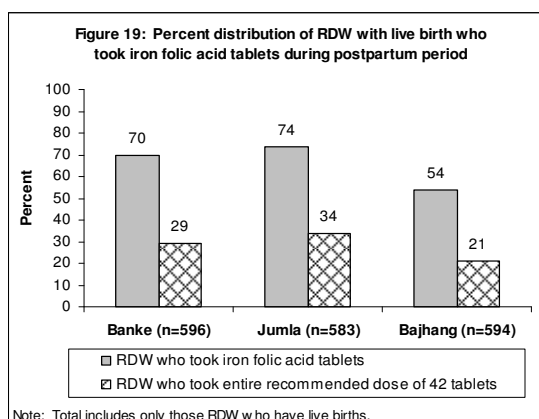


Table 7.18: Percent distribution of RDW by intake of iron folic tablets during post partum period

Number of tablets taken	Banke	Jumla	Bajhang
None	30.4	24.7	46.1
1-41 days	40.3	40.1	32.0
42 days and more	28.7	33.8	21.0
Do not know	0.7	1.4	0.8
Mean	32.7	33.2	30.5
Total (n)¹	596	583	594

¹Total includes only those RDW who have live birth.

Table 7.19 further shows the proportional differences of RDW according to their socio-demographic characteristics that had taken the entire dose of postpartum iron-folic-acid tablets. No difference was observed in this behavior of RDW by age group in all the three districts. Compliance with the entire dose was significantly higher among literate RDW and among RDW with a higher level of education in all three districts compared to their respective counterparts. When categorized by caste/ethnicity and wealth quintiles, a higher proportion of RDW from the upper caste group in Banke and Bajhang and a higher proportion of RDW in highest ranking quintile in Banke and Jumla had complied with the prescribed doses.

Table 7.19: Percent distribution of RDW among live birth who took entire recommended dose of iron folic acid tablets during last postpartum period by background characteristics

Background Characteristics	Took entire dose of iron folic acid tablets during last postpartum period		
	Banke	Jumla	Bajhang
Age	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19	27.8	33.9	30.0
20-24	28.9	37.6	23.3
25-29	33.3	32.0	18.5
30-34	24.6	23.5	17.9
35-49	13.9	24.1	13.6
Literacy status	*	*	*
Literate	37.6	48.7	36.0
Illiterate	20.8	30.1	14.9
Education level	*	*	*
No schooling	21.2	30.6	17.4
Primary	23.5	37.9	23.5
Some secondary	42.5	36.7	33.3
SLC and above	43.2	66.7	44.0
Caste/Ethnicity	*	<i>ns</i>	*
Dalit	19.0	31.9	13.8
Disadvantage Janjati	28.9	~	
Disadvantage non-Dalit (Tarai)	16.2		
Religious minority	22.5		
Upper caste	42.0	34.5	22.7
Wealth quintile	*	*	<i>ns</i>
Lowest	15.3	29.8	12.9
Second	21.8	29.8	19.0
Third	30.0	33.6	25.0
Fourth	35.8	27.0	22.0
Highest	40.3	50.0	26.1
Total (n)	596	583	594
Total (%)¹	28.7	33.8	21.0
95% confidence interval	23.3-34.8	27.7-40.4	15.8-27.4

*Significance at <0.05 level *ns*= not significant ~sub-sample is too small for statistical calculation

¹Total includes only those RDW who have live birth.

7.5 Intake of Vitamin A Capsule in the Postpartum Period

Immediately following childbirth, or as soon as possible up to 42 days after giving birth, women should be given one oral dose of 200,000 IU of vitamin A as a postpartum vitamin supplementation aimed to correct Vitamin A Deficiency (VAD) in infants from birth to six months of age. The intake of vitamin A within six weeks of the last delivery was assessed among the respondents. Around two-thirds RDW in Banke, around three-quarters in Jumla and a little over half in Bajhang reported consuming vitamin A within the given time frame (Figure 20).

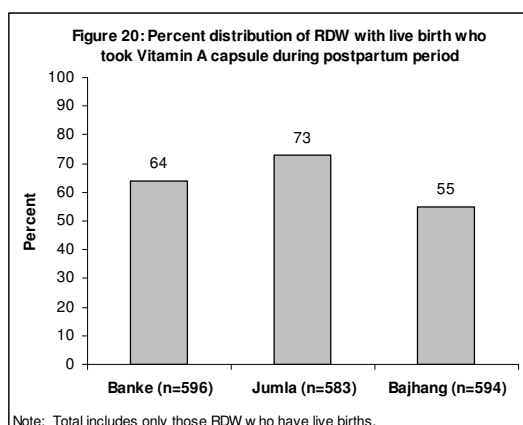


Table 7.20 illustrates the intake of the postpartum vitamin A dose by RDW according to their background characteristics. No difference was observed in this behavior of RDW by age group in all three districts. The intake of vitamin A was significantly higher among literate RDW and among RDW with higher levels of education in Banke and Bajhang, yet no difference was observed in Jumla based on educational status of RDW. RDW in the upper caste group in Banke and Jumla and among highest wealth quintiles in Banke were also more likely to take the postpartum vitamin A.

Background Characteristics	Took entire dose of iron folic acid tablets during last postpartum period		
	Banke	Jumla	Bajhang
Age	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19	64.4	70.5	60.0
20-24	65.5	73.7	59.2
25-29	65.5	76.0	51.0
30-34	62.3	70.6	51.2
35-49	41.7	72.4	45.8
Literacy status	*	<i>ns</i>	*
Literate	72.0	75.7	69.2
Illiterate	56.2	72.6	48.8
Education level	*	<i>ns</i>	*
No schooling	57.6	71.1	49.8
Primary	64.7	83.3	64.7
Some secondary	74.2	73.3	69.7
SLC and above	67.6	81.8	80.0
Caste/Ethnicity	*	*	<i>ns</i>
Dalit	62.0	65.3	58.7
Disadvantage Janjati	71.8	~	
Disadvantage non-Dalit (Tarai)	53.2		
Religious minority	56.3		
Upper caste	66.8	76.0	53.8
Wealth quintile	*	<i>ns</i>	<i>ns</i>
Lowest	49.2	72.6	44.8
Second	60.5	72.1	52.1
Third	68.3	80.7	60.0
Fourth	65.8	73.0	55.9
Highest	73.9	67.3	60.5
Total (%)	63.6	73.2	54.7
Total (n)¹	596	583	594
95% confidence interval	56.7-70.0	65.3-79.9	47.3-61.9

*Significance at <0.05 level *ns*= not significant
~sub-sample is too small for statistical calculation
¹Total includes only those RDW who have live birth.

7.6 Awareness of Danger Signs during the Postpartum Period

Regarding the level of awareness of the danger signs that may appear during the postpartum period, most RDW in the three study districts cited 'excessive bleeding' and 'high fever/coughing' as danger signs that call for immediate care. A high percentage of RDW also regarded other signs or symptoms that may appear during the postpartum period such as pain in lower abdomen or 'foul smelling vaginal discharge,' 'severe headache,' and 'convulsion,' as the danger signs (Table 7.21).

Additionally, most respondents in Banke (73%) and Jumla (70%) identified the hospital as the place where a woman should go to in case of the appearance of such danger signs. Yet, the percentages of RDW who identified a hospital as the place where a woman should go was comparatively low in Bajhang. A sizeable proportion of RDW in all three districts also identified HP and SHP as places to visit to in case of such danger signs. Among those who identified a place to go in case of emergency, the proportion of RDW who identified private health facilities was high in Banke (Table 7.21).

RDW were asked a series of questions to assess their level of awareness of danger signs during the postpartum period. As FCHVs are the key source of information for women, especially in the rural areas, the data on awareness is presented in terms of contact with FCHVs and other health workers. Data presented in Table 7.22 shows that a high proportion of RDW, especially those from Banke and Jumla, had received counseling from a FCHV or health worker on danger signs such as excessive bleeding, severe lower abdominal pain, high fever and breast problems. The RDW who reported these danger signs was comparatively low in Bajhang.

Danger signs during PP period	Banke	Jumla	Bajhang
Cited symptoms[#]			
Excessive bleeding	77.2	84.8	74.8
High fever/Coughing	60.8	60.3	74.1
Pain in lower abdomen or foul smelling vaginal discharge	34.5	52.7	42.7
Severe headache	30.2	34.7	62.9
Convulsion	18.0	28.3	11.4
Uterus complication	1.8	1.0	0.5
Swelling of hands/legs	0.8	0.7	1.2
Diarrhea	0.8	0.3	0.5
Dizziness	0.3	0.7	0.5
Weakness	0.0	0.7	0.2
Don't know	9.2	2.7	3.7
Other ¹	0.7	0.8	0.3
Total (n)	600	600	600
Identified HFs to go to if danger signs persists[#]			
Hospital	72.5	69.7	36.5
Health post	38.2	41.8	50.3
Private Hosp/Clinic/Nursing home	36.0	5.5	0.8
Sub-health post	25.0	50.0	41.8
PHCC	12.2	9.2	20.5
Outreach clinic	6.2	4.3	3.2
Medical shop	1.8	0.0	0.0
Other ²	0.2	0.7	0.2
Do not know	0.3	0.0	0.3
Total (n)³	600	598	600
[#] Multiple responses.			
¹ Others includes vomiting, infection, low appetite, blurred vision, tension.			
² Others includes FCHV, uncertified doctor.			
³ Two cases from Jumla missing.			

Types of counseling received[#]	Banke	Jumla	Bajhang
Excessive bleeding	73.2	82.3	49.5
Severe lower abdominal pain	65.7	78.2	48.3
High fever	55.7	70.3	44.8
Breast problems	50.0	55.7	36.3
Severe headache	49.7	63.8	42.8
Convulsions	42.7	61.0	31.8
Foul smelling discharge	42.5	58.0	35.3
The place to go for health services	60.2	65.5	46.7
Total (n)	600	600	600
[#] Multiple responses.			

7.7 Complications Encountered During Postnatal Period and Health-Seeking Behavior

The MoHP recognizes ‘fever,’ ‘foul smelling vaginal discharge,’ ‘lower abdominal pain,’ ‘excessive bleeding,’ ‘convulsion’ and ‘severe headache’ as danger signs in new mothers requiring an immediate check up at health facility. The study results show that a substantial proportion of RDW faced a number of these life threatening danger signs following their most recent pregnancy (Table 7.23).

In addition, the survey shows that even after encountering the danger signs nearly seven in ten RDW in Bajhang and about four in ten RDW in Jumla did not take any action to resolve the

problems. The percentage of respondents who did not take any action in Banke (21%) was also high. Two in ten RDW in Banke had visited private health facilities, 20 percent had bought medicine from a pharmacy after encountering the problem and another ten percent had visited a government hospital. A higher percentage of RDW in Jumla had visited PHCCs/HPs/SHPs to resolve the problem than in the two districts (Table 7.23).

In some severe cases, the health workers referred RDW to go to a health facility for proper treatment (11 cases in Banke, 18 in Jumla and four in Bajhang). Out of those who were referred, only three RDW in Banke, and two RDW each in Jumla and Bajhang actually visited the health facility as advised (Table not shown). This finding reflects the need for more awareness-building among community women regarding seeking health care.

7.8 Postnatal Care by Family Members

In addition to medical care and counseling, familial care and attention are the most important elements in postnatal care. Eating nutritious food during the postnatal period is essential for the physical and mental development of both the mother and child, and it also bolsters the immune system. Rest during the postnatal period ensures that the child receives enough attention and also prevents the problem of a prolapsed uterus, mostly caused by heavy lifting. Personal hygiene is also crucial in order to prevent infections.

The survey results show that majorities of RDW in Banke (81%) and Jumla (61%) reported eating more food than usual during the first six weeks following delivery. In Bajhang, however, only about four in ten RDW reported eating more food than usual, while about half of them reported of eating the same as usual during the first six weeks following the delivery (Table 7.24).

Experienced problem during PP	Banke	Jumla	Bajhang
Types of problem experienced			
Excessive bleeding	14.0	28.5	19.0
High fever	11.5	13.3	14.7
Severe lower abdominal pain	9.2	16.8	9.7
Convulsions	6.0	9.0	7.0
Action taken regarding above mentioned problem#			
Did nothing	20.7	42.8	68.7
Went to Private hospital/Clinic/Nursing home	20.1	2.4	0.6
Bought medicine from pharmacy	18.9	2.0	4.5
Went to PHCC/HP/ SHP	11.0	19.6	12.8
Went to Hospital	10.4	4.4	7.3
Consulted/treated by FCHV	4.9	4.4	1.7
Consulted/treated by a TBA	4.9	3.2	0.0
Consulted/treated by MCHW	4.3	1.2	0.6
Traditional/home treatment	3.0	15.2	4.5
Given medicine at home	3.0	11.2	1.1
Consulted/treated by other HW	0.6	3.6	0.0
Treated by dhami/jhankri	4.3	0.0	0.0
Consulted relative/neighbor/friend	1.2	0.0	0.0
Brought medicine from India	20.7	0.0	0.0
Total (n)	600	600	600

#Multiple responses.

Majorities of RDW in Banke (86%) and Jumla (70%) reported receiving more care and support from family members during the first six weeks following the delivery. This rate is low in Bajhang where only 40 percent of RDW reported this, and about six in ten RDW reported of receiving the same level of support as usual during this period (Table 7.24).

Among the RDW who have received more care and support than usual in all three study districts, a majority in all three districts reported receiving more care and support from their family members in terms of being advised to get more rest, given more nutritious food to eat, given larger amounts of food, and getting a reduced work load during the first six weeks following the delivery (Table 7.24).

Table 7.24: Percent distribution of RDW by care and support received from family during PP period			
Amount types of care and support received during PP	Banke	Jumla	Bajhang
RDW's reported eating habit during first 6 weeks following the delivery			
Less than usual	3.5	7.5	6.8
Same as usual	15.2	30.3	50.7
More than as usual	81.1	61.2	42.5
Don't know	0.2	1.0	0.0
Total (n)	600	600	600
Care and support received by RDW from the family members during first 6 weeks following the delivery			
Less than usual	1.0	0.8	0.5
Same as usual	13.3	28.2	59.0
More than as usual	85.7	70.3	40.5
Don't know	0.0	0.7	0.0
Total (n)	600	600	600
Type of support/ care received by RDW from the family members during first 6 weeks following the delivery[#]			
Advised for more rest	89.3	56.9	73.7
Given more nutritious food to eat	85.4	70.1	80.2
Given more food to eat	75.1	63.0	90.9
Reduced heavy load	73.2	64.9	75.3
Advised/accompanied for check-up	8.4	8.5	10.7
Wash cloths of mother and child	0.2	0.2	0.0
Total (n)¹	514	422	243
[#] Multiple responses.			
¹ Total include only those RDW who had received more care and support from family members than usual.			

Chapter 8: Immediate Newborn Care and Coverage and Compliance of CHX 'Kawach'

The primary care of newborns includes the proper practice of cutting the umbilical cord. Traditionally, the cord is usually cut with a razor blades, knife, sickle, or even a piece of wood, none of which is generally sterile. In some cultures, the cord is not cut until the placenta is delivered, and it is cut only after cord pulsation stops upon the delivery of the placenta (Save the Children/US, 2002). In this context this study seeks the information on immediate newborn care as well.

8.1 Umbilical Cord Cutting Practices

Table 8.1 shows the types of instruments used to cut the umbilical cord among those who delivered their last child at home. Around a quarter of RDW in Banke and one-third in Jumla had used a clean home delivery kit (CHDK), while only 12 percent of home deliveries in Bajhang had used a CHDK. Though many RDW in all districts had used a new blade/boiled blade to cut the cord (72% in Banke, 45% in Jumla and 50% in Bajhang), the practice of cutting the cord of a newborn using other instruments such as a sickle (*hasiya* and *chulesi*), knife, used blade, scissor, etc was common in Bajhang (38%) and Jumla (19%). In addition, a large proportion of RDW in both Bajhang (99%) and Jumla (89%) districts reported that those instruments were not boiled before cutting the umbilical cord. However, more than eight in ten RDW in all three districts, who did not use a CHDK during home delivery, had used a new string or thread to tie the umbilical cord.

Instruments Descriptions	Banke	Jumla	Bajhang
Instruments used to cut umbilical cord of newborn			
CHDK	23.7	33.6	11.6
New (unused) Blade/Boiled Blade	72.2	45.2	50.1
Others ¹	3.7	19.4	38.2
Do not know	0.3	1.8	0.0
Total (n)²	299	387	421
Sterilization of instruments used³			
Instrument was boiled	25.0	0.0	1.2
Instrument was not boiled	58.3	89.0	98.8
Do not know/Do not remember	16.7	11.1	0.0
Total (n)⁴	12	82	161
Instruments used to tie the umbilical cord of newborn among those who had not used CHDK			
New string/thread	84.6	86.8	94.1
Boiled string/thread	12.8	0.8	0.3
Unbilled used string/thread	2.6	10.5	5.4
Others ⁵	0.0	1.2	0.3
Do not know	0.0	0.8	0.0
Total (n)⁶	227	257	372

¹Others includes used blade, knife, sickle (*hasiya*, *chulesi*), khukuri, scissors
²Total includes only those RDW who had home delivery.
³Sterilization of the instruments was analyzed only among those who have used instruments other than new or boiled blade to cut the umbilical cord.
⁴Total includes only those RDW who did not use CHDK or new/boiled blade.
⁵Others includes clip, tongue, rubber.
⁶Total includes only those RDW who had home delivery and did not used CHDK.

Types of Surface	Banke	Jumla	Bajhang
Nothing	52.9	18.3	1.9
Wood/wooden vessel/stick	16.7	64.6	92.7
Metal coin/vessel	6.2	2.7	0.8
Clay vessels/stones bricks/clay tiles	11.0	5.5	0.0
Plastic disc	1.3	1.6	0.3
Others ¹	0.4	0.4	3.5
Do not know	11.5	7.0	0.8
Total (n)²	227	257	372

RDW were further asked about the surface used to place the cord while cutting (Table 8.2). Wooden vessels /sticks/logs were widely used in a majority of home deliveries specifically in Bajhang (93%) followed by Jumla (65%). In Banke, around half and, in Jumla, 18 percent of RDW stated that nothing was used. A few RDW also reported using other surfaces like a bamboo spatula, an iron rod and finger nails. This practice was slightly higher in Bajhang, demonstrating the continued unhygienic practices when handling the cord.

¹Other include bamboo spatula, iron rod and finger nail.
²Total includes only those RDW who had home delivery and did not used CHDK.

Most of the RDW in institutional deliveries did not know about the timing of when the cord was cut because the newborns were handled by the health workers. The distribution of RDW who delivered at home shows wide variation in the timing of cord-cutting across districts. In particular, Banke shows the highest delay in cutting the cord, i.e., more than 38 percent reported that their newborn’s umbilical cord was cut after more than one hour (and up to 14 hours). The delay in cutting the cord is because of the cultural practice that requires waiting for a member of the occupational caste group called ‘Baskhorin’ and ‘Chamayan’ for cutting the cord. In Jumla, almost 44 percent had their newborn’s umbilical cord cut within five minutes of birth. In Bajhang, almost one-third had cut the umbilical cord within five minutes and another one-third had cut it between 6-15 minutes after the birth (Table 8.3).

Table 8.3: Percent distribution of RDW by timing of cutting the umbilical cord of the newborn among home delivery

Timing of cutting umbilical cord	Banke	Jumla	Bajhang
Within 5 min	13.4	43.9	35.4
6-15 min	14.7	29.5	34.0
16-60 min	26.4	17.3	24.2
More than 1 Hour	38.1	0.5	1.2
Do not know	7.4	8.8	5.2
Median minutes	60	7	10
Total (n)¹	299	387	421

¹Total includes only those RDW who had home delivery.

8.2 Application of Substance on Umbilical Cord Stump

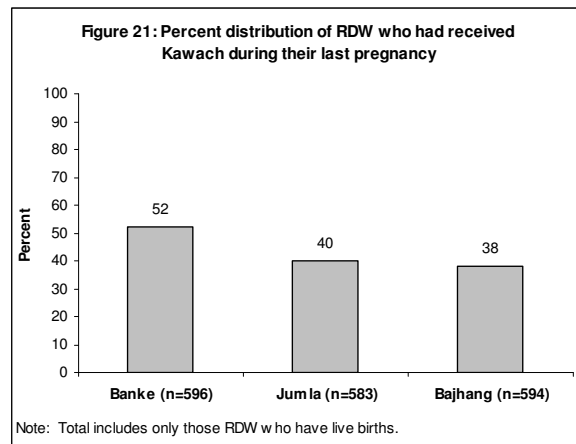
Table 8.4 shows the practice of applying substances on the cord stump of those newborn who were delivered at home. A majority of RDW in all three districts reported that something was applied to the cord stump of the newborn. A significantly high proportion of RDW in Bajhang (34%) and Jumla (24%) compared to Banke (9%) reported that they had not applied anything to their newborns’ cord stumps.

Table 8.4: Percent distribution of RDW by substance used on cord stump of the newborn among home delivery

	Banke	Jumla	Bajhang
Types of Substance applied[#]			
Nothing	9.0	23.5	33.7
Kawach	72.9	55.8	38.2
Oil	14.4	14.0	1.4
Other medicines (powder/ointment)	5.7	8.5	3.6
Turmeric/Turmeric powder	2.7	12.7	0.7
Ghee or Butter (nauni)	0.0	0.0	22.8
Others ¹	0.7	0.3	0.5
Total (n)²	299	387	421

[#] Multiple response.
¹Others include cotton, herbs, sindoor, and ash.
²Total includes only those RDW who had home delivery.

Among RDW who stated that something was applied in the cord, a majority reported the application of Kawach to their children’s cord stumps. In Banke and Bajhang, after Kawach, oil was the second most frequently used substance on a child’s umbilical cord stump, as cited by 14 percent of the respondents in each district. The practice of using turmeric powder was also common in Jumla. On the other hand, in Bajhang, nearly a quarter reported



applying ghee or butter (*nauni*) to the cord stump (Table 8.4).

8.3 Accessibility of Kawach

To assess the coverage of Kawach, RDW were asked if they had received Kawach during their pregnancy with their last child. Figure 21 shows that a little over half RDW in Banke received Kawach during their last pregnancy period. The proportion of RDW who received Kawach was lesser in Jumla (40%) and Bajhang (38%). Among those who received Kawach during their pregnancies, more than 90 percent received it in their third trimester (Table not shown).

Those RDW who reported not receiving Kawach were further questioned about the reasons for not getting it. In response, around six in ten from Bajhang and half from Banke reported that they never had heard of Kawach. A sizeable proportion of RDW in Jumla (40%) and Banke (33%) also reported that FCHVs were supposed to bring Kawach at the time of delivery. Other reasons cited are shown in Table 8.5.

Cited reasons for not getting Kawach	Banke	Jumla	Bajhang
Never heard of Kawach	50.0	29.4	61.8
FCHV was supposed to bring	32.7	40.0	10.6
Didn't knew Kawach should be applied after cutting the cord	6.7	6.3	10.6
FCHV was out of stock/ didn't give	5.3	5.4	7.6
Had planned institutional delivery	2.8	1.1	2.4
Went to other districts during pregnancy	0.4	0.0	2.7
Didn't agree or go to get Kawach/Thought Kawach is dangerous	1.8	1.7	0.3
Do not know	0.4	16.0	4.1
Total (n)¹	284	350	369

¹Total includes only those RDW who had not received Kawach during last pregnancy.

RDW who had received Kawach were further asked if they were told the reasons for applying Kawach on the child's umbilical cord stump. While some RDW said that they were not told of any reasons for applying Kawach (2% in Banke, 3% in Jumla and less than 1% in Bajhang), a majority (more than 86%) in all districts identified the reason that the person giving them Kawach described for applying, which was correct: To prevent umbilical cord infections in newborns. In Jumla and Bajhang, 13 percent and 25 percent, respectively, said that they were told that Kawach reduces the risk of death to newborns (Table 8.6).

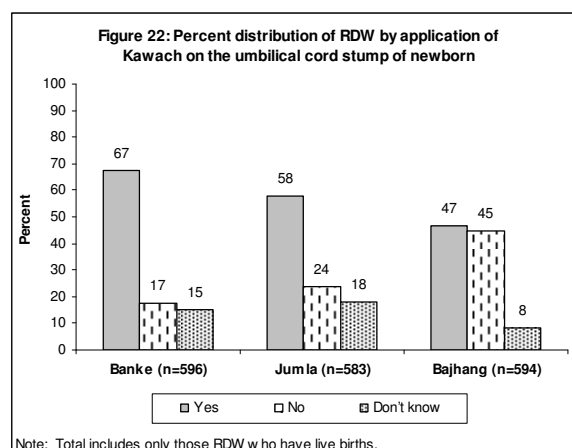
Knowledge on Kawach	Banke	Jumla	Bajhang
Reasons for Using Kawach[#]			
To prevent infection of umbilical cord	86.5	88.4	92.4
To reduce risk of death	5.4	13.3	25.0
No reason was told	1.6	3.0	0.4
Quick recovery	2.2	0.4	1.3
Do not remember	9.3	8.2	6.3
Types of Advices Received[#]			
Wash hand with soap and water before applying Kawach lotion	90.1	98.7	93.8
Spread Kawach lotion by finger	89.7	94.0	95.1
Keep the stump untouched by clothes for sometime after applying Kawach	85.9	94.8	92.0
Do not apply anything on stump than Kawach and keep the surrounding clean and dry	90.1	97.9	93.8
Total (n)¹	312	233	225

[#] Multiple response.
¹Total includes only those RDW who had received Kawach.

Table 8.6 further shows a high and relatively even distribution of RDW in all three districts stating they received all of the following pieces of advice: wash hands with soap and water before applying Kawach (>90% in all districts), spread Kawach by finger (>94% in Jumla and Bajhang and 90% in Banke), keep the cord stump untouched by clothes for sometime after applying Kawach (almost 90% in all three districts), and do not apply anything on the stump other than Kawach while keeping it clean and dry (>90% in all three districts).

8.4 Use of Kawach

All RDW were asked to confirm whether the Kawach was applied to the child's cord stump or not, by showing the tube for their reference. In doing so, more women were able to confirm that Kawach was used than when asked without showing the tube. Two-thirds of RDW in Banke, around six in ten in Jumla and around half in Bajhang reported that Kawach was applied on their newborn's cord stump. While 17 percent in Banke and 24 percent in Jumla confirmed that Kawach was not applied, a comparatively larger percentage in Bajhang of almost 45 percent confirmed that Kawach was not applied to their children's cord stumps (Figure 22).



The proportion of RDW who reported the application of Kawach is higher than those who received Kawach because some RDW who had not received it had reported their newborns were applied Kawach by FCHVs at home delivery or by health workers in the institutional deliveries.

Analyzing the use of Kawach by background characteristics of RDW, the data in Table 8.7 shows that Kawach use was consistent across RDW of all age groups in all three districts, except that fewer women age 35-49 years than their younger counterparts in Banke and Bajhang had used Kawach. A significantly higher proportion of illiterate RDW had used Kawach in Banke and in Jumla compared to their literate counterparts (70% versus 65% in Banke and 59% versus 55% in Jumla). Conversely, in Bajhang a higher proportion of literate RDW had used it than their illiterate counterparts (52% versus 45%). Furthermore, RDW with a higher level of education (SLC and above) were less likely to use Kawach in Banke and Jumla than RDW with no education. Kawach use was reported to be the lowest among Dalits in all three districts compared to other caste groups. Data further shows that a lower proportion of RDW in the

Background Characteristics	Use of Kawach		
	Banke	Jumla	Bajhang
Age (Years)	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19	66.7	50.9	50.0
20-24	68.5	59.0	45.0
25-29	68.4	59.2	49.0
30-34	67.2	60.8	51.2
35-49	58.3	62.1	39.0
Literacy status	*	*	*
Literate	64.9	54.8	51.7
Illiterate	69.7	58.5	44.8
Level of schooling	*	*	*
No Education	70.3	57.9	45.7
Some Primary	73.9	60.6	49.0
Some Secondary	67.5	66.7	51.5
SLC and above	45.9	42.4	52.0
Caste/ Ethnicity	*	*	*
Dalit	55.7	47.2	33.9
Disadvantage Janjati	80.6	~	
Disadvantage non-Dalit (Tarai)	69.4		
Religious minority	73.9		
Upper caste	59.1	61.4	49.7
Wealth quintile	*	*	<i>ns</i>
Lowest	68.6	65.3	38.8
Second	72.3	56.7	43.8
Third	73.3	62.2	49.2
Fourth	65.8	58.7	49.2
Highest	57.1	44.5	52.9
Place of delivery	*	*	*
Institutional Delivery	59.6	41.8	56.1
Home Delivery	75.3	65.9	43.0
Total (%)	67.4	57.8	46.8
Total (n)¹	596	583	594
95% CI	60.5-73.7	47.0-67.9	40.4-53.3

* Significant at <0.05 level *ns* =Not Significant
~sub-sample is too small for statistical calculation
¹Total includes only those RDW who had received Kawach.

highest wealth quintiles in Banke and Jumla applied Kawach, while, in the case of Bajhang, a higher proportion of RDW in the highest wealth quintile had applied it. Based on place of delivery, three-quarters in Banke and two-thirds in Jumla reported Kawach use in home delivery cases, while Bajhang shows higher Kawach use in institutional delivery cases (56% versus 43%).

Table 8.8 shows that among RDW who had applied Kawach to their newborns' umbilical cord stump, almost nine in ten in all districts had not applied any other substance besides Kawach.

Among the RDW who had received Kawach but did not applied it to their newborns' cord stump were further asked about the reasons for not applying Kawach even after receiving it (Table 8.8). The highest proportion of RDW in all the districts reported that they did not apply Kawach because they delivered in a health facility. A

considerably smaller number of RDW who received Kawach reported losing it, delivered at someone else's house, or gave other reasons for not applying it. Three RDW from Bajhang said that they did not use it because they did not know how to apply it, while four RDW in Jumla and two RDW each in Banke and Bajhang said that they did not use it thinking that it was not necessary or useful. Also four RDW in Jumla reported that their family members did not allow the use of Kawach.

Among RDW who confirmed about application of Kawach to their newborn, in Banke 47 percent said that it was applied by health workers while in Jumla FCHVs were cited more frequently (46%). On the other hand, in Bajhang 44 percent of mothers reported applying Kawach on their newborns' cord stumps themselves (Table 8.9).

	Banke	Jumla	Bajhang
Substance used after applying Kawach			
Yes	6.2	10.1	7.2
No	92.3	89.6	91.7
Do not know	1.5	0.3	1.1
Total (n)¹	402	337	278
Reasons for not applying Kawach despite receiving it[#]			
Delivered at a health facility	92.0	53.8	36.8
Thought it was not useful or necessary	4.0	15.4	10.5
Forgot to apply	0.0	11.5	21.1
Family members/others didn't allow to use	2.0	15.4	5.3
Didn't know how to apply Kawach	0.0	0.0	15.8
Child was not delivered in home	0.0	7.7	0.0
Lost Kawach	0.0	0.0	5.3
New born died immediately after birth	0.0	7.7	5.3
Do not know	2.0	3.8	0.0
Total (n)²	50	26	19
[#] Multiple response			
¹ Total includes only those RDW who had applied Kawach to their new born.			
² Total includes only those RDW who didn't applied Kawach to their new born in spite of receiving it.			

Person who applied Kawach	Banke	Jumla	Bajhang
Health Worker	47.0	24.3	34.5
FCHV	25.6	46.0	12.6
TBA	4.5	1.8	0.7
RDW	7.7	17.2	44.2
Family members	7.7	10.1	7.6
Others ¹	1.7	0.6	0.4
Occupational caste (Baskhorin/Chamar)	5.7	0.0	0.0
Total (n)²	402	337	278
¹ Others include peon of HF, Neighbor			
² Total includes only those RDW who had applied Kawach to their new born.			

Figure 23 illustrates the proportion of RDW who reported being notified that Kawach was applied to their newborn by someone (health workers/FCHVs/TBAs) other than one of their family members. Almost 98 percent in Jumla, followed by 94 percent in Banke and 89 percent in Bajhang, affirmed that they were notified regarding the Kawach application.

8.5 Appropriateness of Kawach Application

Among the RDW who had confirmed that Kawach was applied to their newborns' cord stumps, around nine in ten in all three districts reported of applying it within two hours of cutting the cord (Table 8.10). Although Banke showed a delay in cord cutting, the average timing of applying Kawach after cutting was quicker (29 minutes) than the other two districts; for, the timing of applying Kawach after cutting of cord was 44 minutes in Bajhang and extremely delayed in Jumla at 78 minutes.

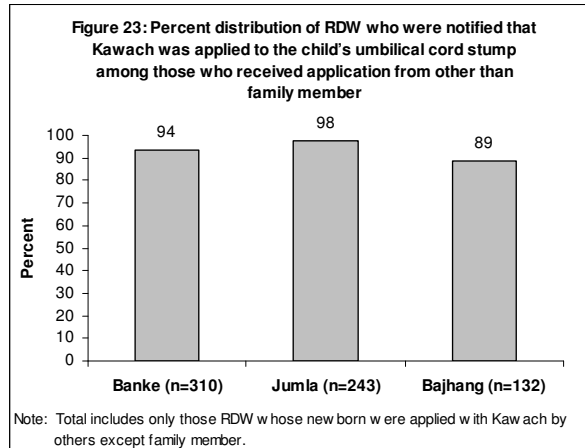


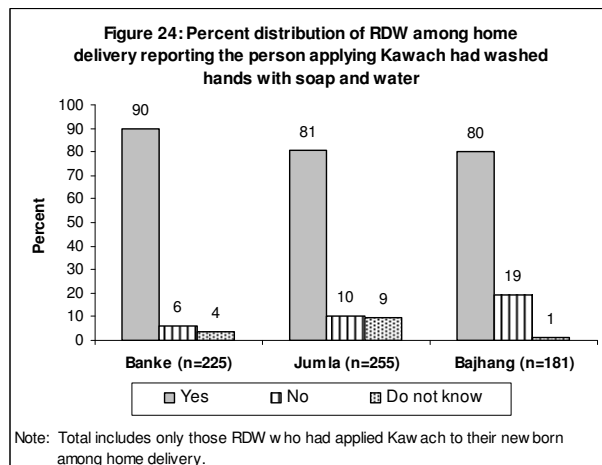
Table 8.10: Percent distribution of RDW by the duration of application of Kawach after cutting of the umbilical cord

Time period of Kawach application after the cord was cut	Banke	Jumla	Bajhang
Within 2 hours	91.8	89.0	91.0
After 2 hours	4.0	6.5	5.0
Do not know	4.2	4.5	4.0
Average minutes	28.6	78.4	44.1
Total (n)¹	402	337	278

¹Total includes only those RDW who had applied Kawach to their newborn.

According to Figure 24, nine in ten RDW in Banke and eight in ten in Jumla and Bajhang who delivered at home said that the person who applied Kawach on the child's cord stump had washed their hands with soap and water.

Table 8.11 presents the data on which body part of the newborn was covered with Kawach, the amount and number of times Kawach was applied and whether or not the cord made contact with cloths after application of Kawach. In most of the cases, Kawach was applied to both the cord stump and the surrounding area as reported by nearly nine in ten RDW in Banke and Jumla, and 86 percent in Bajhang.



Almost eight in ten RDW in Banke and Bajhang and nine in ten in Jumla stated that the whole content of the Kawach tube was applied on the cord stump. RDW who reported that only 'some content of the tube was applied' was the highest in Bajhang at 12 percent. Most of the RDW who reported that they did not use the whole content of the tube thought that applying Kawach more than once would be more effective. This perception was most frequently cited by 46 percent of RDW in Bajhang. Another reason, which was most

frequently cited by 31 percent of RDW in Jumla, was that the entire tube of lotion would be a lot for one application. Less than ten RDW in each three districts said that they were not aware that the whole content of the tube had to be applied at once (Table 8.11).

Again, among the RDW who confirmed the application of Kawach, about 94 percent from Banke and Jumla and 89 percent from Bajhang reported that Kawach was applied at a single time to the cord stump of the newborn. Nine in ten RDW from Banke and Jumla and 85 percent in Bajhang said that the cord of the child was untouched by clothes for some time after the application of Kawach. RDW reporting that the cord was not kept untouched was higher in Bajhang than in the other two districts (13% in Bajhang versus 6% in Banke and Jumla).

8.6 Compliance of Kawach

As per the program protocol, the correct Kawach application requires using the entire tube of Kawach in a single application to the cord stump and surrounding areas within two hours of cutting the cord.

Around seven in ten RDW (of those who had applied Kawach to their newborn) in Banke and Bajhan reported meeting the requirements of Kawach application, while this rate was slightly higher in Jumla where a little over three-quarters complied with the prescribed application (Figure 25). Table 14 shows no difference in compliance of Kawach

based on age, literacy status and education level of RDW in all three districts except in Banke where a higher proportion of illiterate RDW and RDW with no education or some primary education had fulfilled the requirements. By caste, in Jumla, the upper caste group showed a significantly higher compliance rate. There was however no difference in Banke and Bajhang based on caste.

Table 8.11: Percent distribution of RDW by place, amount and number of times Kawach was applied

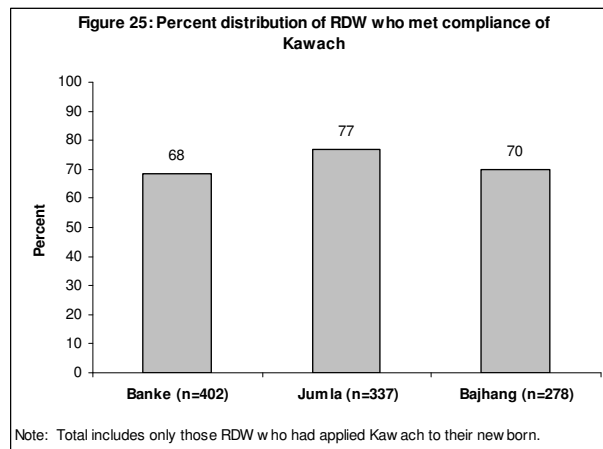
Application of Kawach	Banke	Jumla	Bajhang
Body part of newborn where Kawach was applied			
Stump only	2.0	3.9	3.6
Surrounding area only	3.5	3.6	5.8
Both in stump and surrounding area	89.1	89.6	86.0
Do not know	5.5	3.0	4.7
Total (n)¹	402	336	278
Amount of Kawach applied			
Whole content of the tube	78.9	89.6	83.5
Some content of the tube	8.5	4.7	11.9
Do not know	12.7	5.6	4.7
Total (n)¹	402	337	278
Reasons for not applying the whole content Kawach in the child's umbilical cord[#]			
Tube lotion is more for one application	26.5	31.3	30.3
Thought more than one applications effective	26.5	31.3	45.5
Did not know that whole content of the tube has to be applied at one time	26.5	37.5	30.3
Do not know	23.5	6.3	3.0
Total (n)²	34	16	33
Times of Kawach application			
Once	93.8	95	89.2
More than once	5.5	4.2	8.2
Do not know	0.7	0.9	2.5
Mean no. of times of application	1.2	1.1	1.2
Total (n)¹	402	337	278
Contact of cord with clothes after applying Kawach			
Kept the cord stump untouched for sometime	89.5	92.0	84.5
The cord was not untouched	5.7	5.9	12.6
Do not know	4.7	2.1	2.9
Total (n)^{1, 3}	401	337	278

[#]Multiple response

¹Total includes only those RDW who had applied Kawach to their new born.

²Total includes only those RDW who had not applied the hole content of Kawach.

³One case from Banke missing.



Furthermore, the household wealth quintile showed no difference in meeting the compliance of Kawach in Jumla and Bajhang, while in Banke households belonging to the lowest quintile showed a higher compliance than their highest quintile counterparts (78% versus 60%). A higher proportion of RDW who had delivered the child at home in Banke and who had delivered at a health institution in Jumla had met the requirements, whereas in Bajhang there was no difference according to where the delivery occurred (Table 8.12).

Background Characteristics	Compliance ¹ of Kawach		
	Banke	Jumla	Bajhang
Age	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19	56.7	71.9	73.3
20-24	66.7	79.6	66.7
25-29	73.6	73.0	75.7
30-34	70.7	80.6	58.1
35-49	81.0	77.8	82.6
Literacy status	*	<i>ns</i>	<i>ns</i>
Literate	61.9	77.8	69.7
Illiterate	73.8	76.6	69.8
Level of schooling	*	<i>ns</i>	<i>ns</i>
No education	74.4	78.7	71.4
Some primary	68.2	70.0	64.0
Some secondary	58.0	80.0	64.7
SLC and above	58.8	57.1	65.4
Caste/Ethnicity	<i>ns</i>	*	<i>ns</i>
Dalit	63.6	86.8	70.3
Disadvantage Janjati	71.1	~	
Disadvantage non-Dalit (Tarai)	71.4		
Religious minority	73.6		
Upper caste	63.2	74.3	69.7
Wealth quintile	*	<i>ns</i>	<i>ns</i>
Lowest	77.8	74.1	68.9
Second	68.6	86.4	64.2
Third	69.3	77.0	72.9
Fourth	70.9	75.7	69.0
Highest	52.9	71.4	73.0
Place of delivery	*	<i>ns</i>	*
Institutional delivery	61.0	80.5	79.4
Home delivery	74.2	75.7	64.6
Total (%)	68.4	76.9	69.8
Total (n)²	402	337	278
Confidence Interval	62.2-74.0	71.1-81.8	61.7-76.8

*Significance at <0.05 level *ns*= not significant ~sub-sample is too small for statistical calculation
¹Compliance refers to cases who received a full tube of Kawach in single application on the cord stump and surrounding areas within first 2 hours of cutting the cord
²Total includes only those RDW who had applied Kawach to their new born.

8.7 Timeline Analysis

The timeline analysis was done in order to assess the progress of the program as the program matures. Table 8.13 shows the coverage and compliance of Kawach in two sets of timeline: the initial six-month phase of program implementation and the subsequent six-month phase. The data shows that coverage of Kawach had increased in the second timeline of project from 65 to 70 percent in Banke;

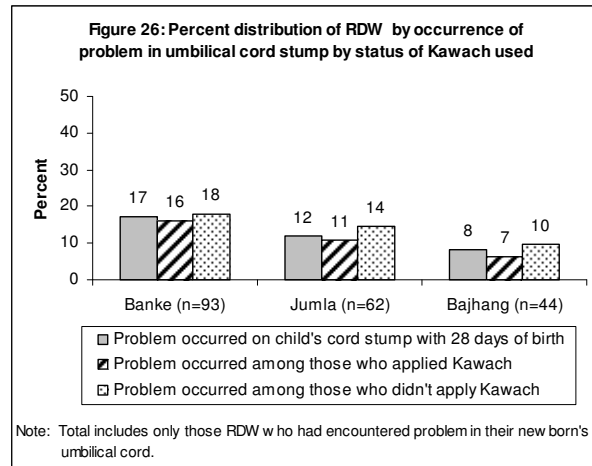
Periodic description	Banke	Jumla	Bajhang
Coverage of Kawach	<i>ns</i>	*	*
Initial 6 months of program implementation (Baishak - Kartik 2067)	65.4	53.3	42.1
Later 6 months of program implementation (Mangsir, 2067 - Jestha, 2068)	70.1	61.4	51.0
Total (n)¹	596	583	594
Compliance of Kawach	<i>ns</i>	<i>ns</i>	<i>ns</i>
Initial 6 months of program implementation (Baishak - Kartik 2067)	66.4	78.3	67.8
Later 6 months of program implementation (Mangsir, 2067 - Jestha, 2068)	70.8	75.9	71.3
Total (n)²	402	337	278

*Significance at <0.05 level *ns*= not significant
¹Total includes only those RDW who have live births.
²Total includes only those RDW who had applied Kawach to their newborn.

from 53 to 61 percent in Jumla and from 42 to 51 percent in Bajhang. Similarly, the compliance had also slightly improved in the later six months in Banke and Bajhang compared to the earlier months of program implementation, although no significant difference was observed (66% versus 71% in Banke and 68% versus 71% in Bajhang). There was, however, no change in compliance in this comparative timeline in the case of Jumla.

8.8 Problems Encountered in the Umbilical Cord of the Newborn

RDW with children one month or older were asked about the occurrence of problems in the child's cord stump within 28 days of birth. In response very few (17% in Banke, 12% in Jumla and 8% in Bajhang) reported a problem in the cord stump of their newborn (Figure 26).



Among the RDW reporting some problems in the cord stump, the most commonly cited problem was infection of the cord stump (94% in Banke, 84% in Jumla and 89% in Bajhang). Furthermore, seven and nine RDW from Banke and Jumla, respectively, reported a delay of the falling of the cord (Table 8.14).

Table 8.14: Percent distribution of RDW by the types of problem encountered in the cord stump, action taken against the problem and the timing of cord stump fall

Problem in umbilical curd	Banke	Jumla	Bajhang
Type of problem encountered			
Infection on the cord stump	93.5	83.9	93.2
Delay in cord falling off	7.6	14.5	0.0
Other	4.3	12.9	6.8
Total (n)¹	93	62	44
Actions taken for the problem			
Home remedy	28.0	35.5	75.0
Visited a health facility/health worker	22.6	22.6	9.1
Consulted a pharmacy	30.1	8.1	2.3
Did nothing	7.5	24.2	9.1
Used Kawach again	3.2	9.7	4.5
Used other medicines	5.4	0.0	0.0
Consulted FCHV/other	3.2	0.0	0.0
Total (n)¹	93	62	44
Time of cord stump fall			
Within 5 days	31.2	30.9	33.0
6-10 days	44.9	56.4	54.5
More than 10 days	23.0	11.7	11.9
Do not know	0.9	1.0	0.6
Mean number of days	8.4	7.2	7.2
Total (n)²	548	512	539

¹Total includes only those RDW who had encounter problem to their newborn's umbilical curd.

²Total includes only those RDW whose child was above one month of age.

The timing of cord stump fall was analyzed for children above one month of age. A majority of RDW in all districts reported the falling of the cord stump within six to ten days of cutting the cord (45% in Banke, 56% in Jumla and 55% in Bajhang) with a mean number of days when cord stump fell being 8.4 in Banke and 7.2 in Jumla and Bajhang (Table 4.14).

8.9 Opinion Regarding Kawach

All RDW were asked for their opinion regarding why they thought Kawach should be applied on the umbilical cord stump of a newborn. In response, while a considerable percent of RDW shared that they did not know why Kawach should be applied, a majority (66% in Banke, 53% in Jumla and 50% in Bajhang) expressed that Kawach should be applied in order to prevent infection of the cord stump. Almost a quarter in Jumla said that Kawach should be applied because it had been advised by a health worker and FCHV (Table 8.15).

Table 8.15: Percent distribution of RDW by their opinion regarding why Kawach should be applied on the newborn's cord stump

Opinions on Kawach Use	Banke	Jumla	Bajhang
To prevent infection of umbilical cord	65.8	53.3	49.8
To reduce risk of death	2.4	7.4	14.8
FCHV/health worker advised to apply	5.4	23.9	1.0
For quick healing	1.7	0.9	1.0
Do not know	31.0	37.6	49.0
Total (n)^{1, 2}	594	582	594

¹Total includes only those RDW who have live birth.

²Two cases from Banke and one from Jumla missing.

Chapter 9: Newborn Care during First Month

As discussed in previous chapters, a newborn's susceptibility to infection and illness can have consequences on their lives. In addition to an umbilical cord infection, other danger signs in newborns that need attention include 'poor suckling,' 'lethargy,' 'fast breathing,' 'severe chest in-drawing,' 'fever' and 'hypothermia.' Thus, the MoHP has established a protocol for mandatory check ups of newborns by health workers calling for at least three check ups: first within 24 hours of birth and second and third check ups on the third and seventh days, respectively. These check ups not only assess the status of the baby's health and diagnose danger signs, but also they provide important counseling on immunization, breast feeding and other key issues.

9.1 Knowledge of Issues in Newborn Care

The respondents were asked about their experience of danger signs in neonates to measure the amount of RDWs who needed to seek immediate health care. Table 9.1 shows that except for six percent in Banke and less than two percent in Jumla and Bajhang, all RDW experienced some dangers signs that they were aware of in a newborn. Fever was the most commonly cited danger sign followed by poor suckling, fast breathing and chest in-drawing in all districts.

RDW were also asked if they had received any counseling on newborn issues and danger signs by HWs or FCHVs. In Banke, about three-fourths of all RDW had received all the important advice about newborns and danger signs, as shown in Table 9.1. In Jumla, eight out of ten RDW had received most of the information and advice (except being advised to use Kawach). In Bajhang, slightly less than half described being told about Kawach and newborn danger signs, but, in general, two-thirds had received all other information on newborn care and danger signs (Table 9.1).

Knowledge on newborns health issues	Banke	Jumla	Bajhang
Type of symptoms[#]			
Poor suckling	53.8	53.0	61.0
Difficult to wake/lethargic/unconscious	8.8	16.0	21.7
Fast breathing	48.3	45.8	37.0
Severe chest in-drawing	21.7	41.5	25.7
Fever	82.8	81.0	64.5
Hypothermia	4.5	30.7	5.2
Umbilical infection /Skin rashes	12.5	16.8	25.0
Diarrhea	10.0	4.2	11.3
Cold/Cough	1.7	2.0	3.5
Pneumonia	1.0	0.2	2.0
Jaundice	1.3	0.2	0.2
Vomiting	0.5	0.5	3.3
No urination or excretion	0.8	0.2	1.2
Others ¹	0.7	1.0	2.0
Do not know	6.2	0.5	2.0
Total (n)	600	600	600
Type of counseling by the HW or FCHV on Newborn issues[#]			
Keeping the baby warm by drying & wrapping and keeping in contact with mother's body	83.4	84.6	64.4
Breastfeeding within the first hour of delivery and continuing exclusively	87.2	84.9	68.7
Applying Kawach in child's cord stump	75.3	69.0	49.9
Avoid cold, esp. baby with low birth weight	79.6	83.5	66.3
About Immunization	88.3	86.2	68.0
Hand washing with soap and water before touching the baby	71.1	82.8	61.6
Total (n)²	592	564	581
[#] Multiple response			
¹ Others includes swelling of abdomen and limbs, baby don't sleep well, cries a lot, weight loss, worm infestation.			
² Total includes only those RDW who received counseling from HW or FCHV.			

9.2 Access to Neonatal Check Up Services

Newborn health check ups have been mandated by the MoHP to ensure that all children receive all essential health services. Three-fourths of RDW in Banke and Jumla reported that a HW or FCHV had checked their child's health within the first month after birth. Slightly more than half of RDW in Bajhang confirmed a newborn check up within the first month (Table 9.2). While more than 80 percent of neonates among those who received check ups in Banke and Jumla received their first check up on the day of delivery, only half in Bajhang had received day-of-delivery check ups.

The type of health workers providing neonatal check ups during the four months vary in all three districts. In Banke and Bajhang, a staff nurse or ANM were among the most commonly cited HWs who checked the child's condition (56% in Banke and 41% in Bajhang). Alternatively, in Jumla, more than half RDW cited FCHVs as the health workers who checked the health of their children.

Newborn checkups	Banke	Jumla	Bajhang
Newborn checked by HW or FCHV within four weeks of birth			
Yes	74.3	76.4	53.8
No	25.7	23.6	46.2
Total (n)¹	592	564	586
No. of times health checkups was done in four weeks of birth			
Once	47.0	46.2	54.6
Twice	25.5	37.6	26.7
Thrice	13.4	11.8	10.2
Four or more times	13.9	4.4	8.6
Mean number of times	2.6	1.8	1.9
Total (n)²	440	431	315
First Checkups done in			
Same day of birth	80.7	84.2	48.9
Next day	4.5	3.2	1.3
After two days	14.9	12.4	49.5
Do not know	0.0	0.2	0.3
Mean number of days	1.9	1.2	1.0
Total (n)²	440	431	315
Type of HW who did the checkups for newborn within four weeks of birth[#]			
Doctor	18.4	4.0	8.3
Nurse/ANM	55.5	42.2	41.3
HA/AHW/CMA	12.7	8.2	11.1
MCHW	7.0	11.2	16.2
VHW	1.4	1.2	3.8
FCHV	27.7	55.0	34.6
CMA	1.8	0.0	0.0
Don't know/ don't remember	0.0	2.8	0.0
Total (n)²	440	431	315
Percent of newborn receiving BCG vaccine	93.0	87.0	83.0
Total (n)¹	592	564	586
[#] Multiple responses. ¹ Total includes only those RDW who have live birth and the newborn above one months of age. ² Total includes only those RDW whose newborn had completed one month of age and were check by HW with in four weeks of birth.			

Table 9.2 also shows that the percent of RDW who reported that the BCG vaccine was given to their newborns was very high in all districts (93% in Banke, 87% in Jumla and 83% in Bajhang).

9.3 Health Issues Encountered by Neonates and Treatment-Seeking Behaviors After Encountering Health Problems

Table 9.3 illustrates the health problems faced by newborns in the first month after birth. A majority of RDW in all districts reported that their children did not face any problems (74% in Banke, 70% in Jumla and 84% in Bajhang). A quarter in Banke, 30 percent in Jumla and 16 percent in Bajhang encountered at least one health problem within that period. The types of health problems encountered by the newborn varied within the three districts. Most of the health problems reported in Jumla were fever, redness around cord stump, persistent vomiting, feeding problem, fast breathing, etc. The same problems were reported in Banke and Bajhang, but, interestingly, RDW from Bajhang reported less health problems as well as fewer occurrences of these problems. Half the RDW reporting a problem in Banke said their newborn faced the problem within a week of birth. Almost three-quarters of children in Jumla and seven in ten in Bajhang faced the problem between the second and fourth weeks of birth (Table 9.3).

Health problems in newborn	Banke	Jumla	Bajhang
Health problems in neonates during first 4 weeks			
No Problem	73.6	70.0	83.8
At least 1 or more problem	26.4	30.0	16.2
Total (n)¹	592	564	586
Type of problems faced			
Fever	13.5	16.3	7.8
Feeding problem	4.2	7.1	3.6
Trouble breathing	5.1	6.4	2.9
Fast breathing	4.1	5.9	3.1
Chest-in-drawing	2.4	3.4	1.2
Drowsy	0.7	1.1	1.0
Abdominal tenderness	1.5	1.6	0.9
Convulsions	0.2	0.2	0.2
Persistent vomiting	2.5	8.0	5.8
Unconscious	0.2	0.2	0.0
Red/discharging eye	2.5	3.4	2.2
Skin pustules	2.2	0.7	1.4
Redness around cord	9.5	8.7	4.6
Felt cold/ hypothermia	0.3	2.3	0.2
Total (n)¹	592	564	586
Timing of the problem			
Within 7 days	50.0	20.9	29.5
7-28 days	49.4	74.2	68.4
Don't know	0.6	4.9	2.1
Mean no of days	9.9	14.8	13.1
Total (n)²	156	163	95
¹ Total includes only those RDW who have live birth and the newborn above one months of age.			
² Total includes only those RDW who had encountered problem in their newborn with four weeks of birth.			

When faced with these health problems in their newborns, almost 38 percent RDW in Banke visited a private hospital or clinic or nursing home for the problem. Similarly, 35 percent in Jumla had visited a PHCC or HP or SHP for the problem encountered, but the majority in Bajhang stuck to homeopathic treatments or did nothing about the problem (Table 9.4).

Action taken after the neonate had reported health problem [#]	Banke	Jumla	Bajhang
Did Nothing	5.8	16.6	44.2
Traditional treatment at home	8.3	24.9	20.0
Given medicine at home	2.6	8.3	2.1
Went to Hospital	13.5	11.8	7.4
Went to PHCC/HP/SHP	17.9	34.9	17.9
Went to private hospital/Clinic/Nursing home	37.8	3.0	2.1
Bought medicine from pharmacy	13.5	5.3	1.1
Consulted/treated by FCHV	5.8	9.5	4.2
Consulted/treated by MCHW	0.6	0.6	1.1
Consulted/treated by other HW	4.5	0.6	2.1
Treated by Consulted Dhamai /Jhankri	0.6	2.4	0.0
Consulted relative/neighbor/friend	1.3	2.4	1.1
Total (n)¹	156	169	95
[#] Multiple responses.			
¹ Total includes only those RDW who had encountered problem in their newborn with four weeks of birth.			

Table 9.5 shows that a majority of RDW sought help from someone besides a family member within the week that the problem was encountered in all three districts. Yet, the proportion of RDW who only sought help a week after the problem was encountered was very high in Bajhang at 25 percent. In Banke, not only did the many RDW seek help from outside sources on the same day they noticed problem (20%), but also the many (29%) reported that they first visited a doctor to address the problem. In Jumla, most of the RDW sought help from family members and ANM for the problem. In Bajhang, many sought help from family members then by AHWs and CMAs.

RDW who sought help from health practitioners for the problems encountered were further questioned about admitted to the HF or how many visits they made to the HF. Table 9.6 shows that the majority of RDW in all three districts visited the HF once for the check up. A quarter in Jumla had visited the HF up to three times, while this rate was at 18 percent in Banke and at 12 percent in Bajhang. A few in all districts also reported visiting the HF more than three times (Table 9.6).

Furthermore, RDW who did not seek help from a health facility were asked for the reasons for not seeking health care after seeing the problem in the child. Table 9.7 shows that a majority in all three districts (almost three out of four RDW) felt it not necessary to seek a HF. In Bajhang, 22 percent said they did not seek help because of a lack of reliable service and 20 percent said that the HF was not easily accessible. Also, 12 percent in Bajhang did not go to HF due to financial constraints.

Child sickness	Banke	Jumla	Bajhang
Duration of child's sickness before the help was sought from outside			
Same day	20.4	5.0	13.2
Within a week (1-7 days)	61.2	58.3	24.5
After a week	6.8	7.9	24.5
Only home remedies	9.5	25.9	37.7
Don't know	2.0	2.9	0.0
Total (n)¹	156	169	95
First person sought for the problem encountered			
Doctor	28.6	7.1	15.1
Nurse	9.5	7.8	5.7
ANM	5.4	16.3	7.5
HA	6.1	0.0	0.0
AHW/CMA	17.7	13.5	20.8
MCHW	2.0	13.5	5.7
VHW	0.0	0.7	0.0
FCHV	4.1	7.8	7.5
Family member/ friend/ neighbor	13.6	21.3	26.4
Private practitioner	1.4	0.0	0.0
Medical shop	10.9	4.3	0.0
Traditional healer	0.0	2.8	0.0
Traditional treatment at home	0.7	5.0	11.3
Total (n)²	147	141	53

¹Total includes only those RDW who had encountered problem in their newborn with four weeks of birth.
²Total includes only those RDW who sought help for the problem encounter.

Problem management	Banke	Jumla	Bajhang
Admitted child to HF	18.8	2.4	7.7
Visited HF once for check up	55.5	71.1	65.4
Visited HF up to 3 times for check up	17.8	24.1	15.4
Visited HF more than 3 times for check up	7.9	2.4	11.5
Total (n)¹	101	83	26

¹Total includes only those RDW who sought help from HW.

Cited reasons [#]	Banke	Jumla	Bajhang
Not felt necessary	83.3	70.6	76.8
No reliable service	1.9	8.2	21.7
Financial problem	0.0	0.0	11.6
Health service not easily accessible	9.3	20.0	5.8
Don't know where to go	0.0	4.7	0.0
Don't have friend to go with	1.9	7.1	1.4
Others ¹	13.0	15.3	2.9
Don't know	0.0	3.5	0.0
Total (n)²	54	85	69

[#]Multiple responses.
¹Others includes mother being sick or busy, family member didn't seek health care, no HW closed by.
²Total includes only those RDW who did not seek health care for their newborn.

9.4 Child's Weight and Size at Birth

The community level of the MNH program has a component that provides special care for underweight newborns (under the weight of 2.5 kgs). An underweight child is more prone to health problems owing to their less developed physical abilities. This survey also sought the information on the weight and sizes of the newborns, which is presented in Table 9.8. In total, three out of four children born alive were weighed. A majority in Banke and Jumla were weighed the same day they were born, while almost half in Bajhang said that the newborns were weighed for the first time three days after birth. Most of the RDW in all three districts said that their children were weighed for the first time in their own house. Hospitals, SHP, HP and PHCC were the second most common location for weighing babies. A doctor was the first person to weigh more than half of total newborns who were weighed in Banke. In Jumla, a FCHV weighed more than half, and, in Bajhang, one-third were weighed by a staff nurse/ANM and a third by a FCHV (Table 9.8).

The survey information on the weight of the child was collected from the birth cards. In case the card was not available in the house, mothers were asked to recall the weight of their newborn. In all districts, around three-quarters of the children were between two and four kgs when measured for the first time. But four percent, two percent and one percent in Banke, Jumla and Bajhang, respectively, said that their child was below two kgs. As per RDW's perceptions on the size of their newborns, 13 percent in Banke, 14 percent in Jumla and 12 percent in Bajhang were reported smaller than average or very small (Table 9.8).

Weight monitoring	Banke	Jumla	Bajhang
RDW saying the child was weighed ever			
Yes	85.7	84.7	74.4
No	14.1	14.4	25.3
Don't know	0.2	0.9	0.3
Total (n)¹	596	583	594
Time when baby was first weighed			
Same day	77.1	73.7	42.3
1-2 days	6.1	6.9	3.8
3 days	1.6	4.3	5.7
After 3 days	14.2	14.8	48.2
Don't know	1.0	0.4	0.0
Total (n)^{2,3}	507	494	442
Place where baby was weighed for the first time			
Hospital	22.4	20.6	14.3
PHCC	6.3	1.6	10.0
Health post	11.4	8.1	17.6
Sub-health post	5.7	11.9	18.3
Private hospital/Clinic/Nursing home	20.4	0.8	0.2
Own home	28.8	53.2	32.1
Other/FCHV home	2.9	1.8	3.4
Outreach clinic	2.0	0.4	1.8
Immunization center	0.2	1.4	2.3
Total (n)^{2,4}	510	494	442
Type of person weighing the baby for the first time			
Doctor	2.0	0.6	0.7
Nurse/ANM	55.4	26.6	36.0
HA/AHW/ CMA	9.6	10.0	19.7
MCHW	1.0	5.3	4.3
VHW	1.0	2.8	2.5
FCHV	29.7	54.3	34.2
Others ⁵	1.2	0.4	2.5
Do not know	0.2		0.2
Total (n)^{2,6}	509	492	442
Weight of the child as per mothers recall and/or birth card when measured for the first time			
Less than 2 Kgs	4.1	1.8	0.7
2 to less than 4 Kgs	77.3	76.1	73.5
4 and more Kgs	18.6	22.1	25.8
Total (n)²	511	494	442
RDW's perception of child's size at birth			
Very large	4.4	4.8	1.5
Larger than average	14.3	26.9	11.3
Average	64.9	53.5	75.6
Smaller than average	6.5	10.1	9.3
Very small	6.5	3.8	2.2
Don't know	3.4	0.9	0.2
Total (n)¹	596	583	594
¹ Total includes only those RDW who have live birth.			
² Total includes only those RDW whose newborn was ever weighed.			
³ Four cases from Banke missing.			
⁴ One case from Banke missing.			
⁵ Other includes Peon of HF, father of the newborn, community worker.			
⁶ Two cases Banke and two from Jumla missing.			

Figure 27 illustrates information on the skin-to-skin contact given by RDW to their newborns immediately after birth. In total, a little over one-third in Banke and almost six in ten in Jumla

and Bajhang did not provide skin contact to their newborns, while around half in Banke, and three in ten in Jumla and Bajhang did provide skin contact to their newborn for up to two hours following the birth. Almost one in ten in Banke and Jumla and six percent in Bajhang had given skin-to-skin contact for more than two hours after birth.

9.5 Care to Newborn Perceived to be Smaller Than Average

Table 9.9 shows the health care provided to the newborn due to his or her perceived smaller size. Among newborns who were small in size, the highest percentage visited by health workers or FCHVs more than the usual times were in Jumla (36%), followed by Banke (28%) and Bajhang (21%). More than one-third in Banke, three in ten in Jumla and two in ten in Bajhang were referred to a HF by HW. But the percent of RDW actually taking the newborn to a HF as advised was very small in all districts. A majority in Banke (82%) and Jumla (73%) reported providing extra care to the child because of their small size, while only 53 percent in Bajhang reported doing so.

When RDW were visited by HWs in order to check the health of the smaller child, a majority of them were advised on various ways of taking care of the small-sized newborn. The most frequently cited advice received by RDW in all three districts was on frequent and continuous breastfeeding to the newborn, keeping the baby warm, and giving skin-to-skin contact to the baby by keeping it close to mother's chest (Table 9.10).

As a majority had described providing extra care to the newborn due to their perceived smaller size, RDW were also asked about the type of care provided. A majority from all districts said they breastfed frequently. About three-fourths in Jumla had provided skin-to-skin contact to keep the baby warm, followed by 44 percent in Banke and 25 percent in Bajhang. In Banke, RDW also reported providing extra care by feeding newborns with a spoon and giving them oil massages (Table 9.11).

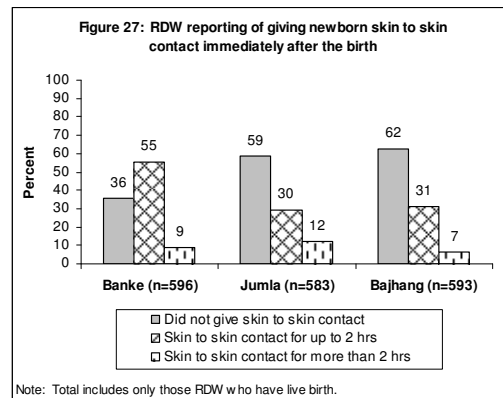


Table 9.9: Percent distribution of RDW by care provided to newborn who were perceived as small

Type of care provided	Banke	Jumla	Bajhang
Newborn visited more times by HW/ FCHV to check	28.2	35.8	20.9
Total (n)¹	78	81	68
Referred to HF	37.2	29.6	17.6
Total (n)¹	78	81	68
RDW Taking child to HF as advised	15.4	3.7	4.4
Total (n)²	29	24	12
Provided extra care to the child by RDW	82.1	72.8	52.9
Total (n)¹	78	81	68

¹Total includes only those RDW who perceived their new born as small.

²Total includes only those RDW whose new born were referred to HF.

Table 9.10: Percent distribution of RDW by types of advices given by HW because the child was small

Advices given by HW	Banke	Jumla	Bajhang
No advice	34.6	24.7	47.8
Frequent breast feeding	55.1	66.7	41.8
Keep baby warm	30.8	59.3	32.8
Keep baby close to mother's chest (skin to skin contact)	42.3	49.4	26.9
Newborn danger signs	5.1	3.7	4.5
Repeatedly weigh baby	15.4	12.3	4.5
Repeated visit to HF or HW	19.2	9.9	4.5
Total (n)¹	78	81	67

*Multiple responses.

¹Total includes only those RDW who perceived their new born as small.

Table 9.11: Percent distribution of RDW by types of care provided by RDW who state extra care was provided because the child was small

Type of care provided	Banke	Jumla	Bajhang
Frequent breastfeeding	87.5	98.3	94.4
Skin-to-skin contact	43.8	74.6	25.0
Fed by cup or spoon	14.1	3.4	0.0
Oil massaged	7.8	0.0	0.0
Kept warm	3.1	10.2	0.0
Other	1.6	3.4	2.8
Total (n)¹	64	59	36

*Multiple responses.

¹Total includes only those RDW who perceived extra care to their new born perceived as small.

Chapter 10: Infant and Young Child Feeding Practices

Optimal infant feeding practices consist of exclusively breastfeeding to the age of six months and then continued breastfeeding in addition to appropriate complementary feeding until the baby reaches at least two years of age. Feeding practices during infancy are critical for the growth, cognitive development and health of a child and are important for the early prevention of chronic degenerative diseases. Recommended infant and young child feeding (IYCF) practices include timely initiation of breastfeeding, exclusive breastfeeding, appropriate and timely introduction of complementary foods, meal frequency and food diversity.

This chapter reviews the infant and young child feeding practices of the RDW including breastfeeding and feeding of solid/semi-solid foods, diversity of foods and frequency of feeding.

10.1 Early Initiation of Breastfeeding

Breastfeeding is universal in Nepal, and so, in this study also almost all the children in all three districts who were the most recent children were breastfed at some time. Yet, initiation of breastfeeding to the child within one hour of birth was reported only by a little over two-thirds of RDW in Banke (68%), six in ten in Jumla (60%) and around seven in ten in Bajhang (69%). Nonetheless, almost all children were breastfed within one day of birth and almost all were fed the colostrums. The practice of pre-lacteal feeding was reported by a considerable proportion of RDW in Banke (29%), while this rate was much lower in Jumla (8%) and Bajhang (4%) (Table 10.1).

Initiation of Breastfeeding	Banke	Jumla	Bajhang
Ever Breastfed the child	99.7	98.8	100.0
Initiation of breastfeeding after delivery			
Within one hour of birth	67.5	59.5	68.5
Within one day after birth ¹	96.8	91.7	100.0
Fed Colostrums to the child	95.9	98.3	94.9
Pre-lacteal feeding within 3 days of birth	29.1	7.5	3.7
Total (n)^{2,3}	594	575	594

¹Includes children who started breastfeeding within one hour of delivery.
²Total includes only those children who were ever breastfeed.
³One case from Jumla missing.

Table 10.2 illustrates the information on early initiation of breastfeeding practices of RDW assorted by various background characteristics. In Banke, the initiation of breastfeeding within one hour of birth was more likely among mothers who were young, literate, higher educated, from the upper caste group, from the highest household wealth quintiles and among those who had delivered in a health facility than their respective counterparts. Conversely, in Jumla and Bajhang, none of these characteristics were associated with early initiation of breastfeeding except in Jumla where literate RDW were more likely to breastfeed within the recommended time.

Background Characteristics	Breastfed within one hour of birth		
	Banke	Jumla	Bajhang
Sex of Child	<i>ns</i>	<i>ns</i>	<i>ns</i>
Male	70.3	60.9	69.0
Female	64.3	57.8	68.0
Age of mother	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19	68.9	60.6	75.0
20-24	70.3	60.5	70.4
25-29	67.6	57.3	62.9
30-34	63.3	56.9	69.0
35-49	52.8	62.1	67.8
Literacy status	*	<i>ns</i>	*
Literate	75.6	63.7	81.4
Illiterate	60.3	58.5	63.3
Education level	*	<i>ns</i>	*
No schooling	62.3	59.4	66.3
Primary	68.1	50.8	70.6
Some secondary	75.8	66.7	69.7
SLC and above	73.0	72.7	86.0
Caste/Ethnicity	*	<i>ns</i>	<i>ns</i>
Dalit	64.6	59.0	67.9
Disadvantage Janjati	74.6	~	
Disadvantage Non-Dalit (Tarai)	51.8		
Religious Minority	60.0		
Upper Caste	75.1	59.6	68.7
Wealth quintile	*	<i>ns</i>	<i>ns</i>
Lowest	52.1	57.3	61.2
Second	67.2	63.1	67.8
Third	71.7	55.6	69.2
Fourth	71.7	55.3	75.4
Highest	74.6	67.9	68.9
Total (%)	67.5	59.5	68.5
Total (n)¹	594	576	594
95% confidence interval	60.6-73.8	51.2-67.3	63.3-73.3

*Significance at <0.05 level *ns*= not significant ~sub-sample is too small for statistical calculation
¹Total includes only those children who started breastfeeding within one hour of birth.

10.2 Exclusive Breastfeeding Practices

Exclusive breastfeeding refers to the practice of giving only breast milk - excluding any kind of liquids or solid foods, even the water - to the newborn until s/he reaches six months of age. Figure 28 shows that the proportion of children less than six months old who were exclusively breastfed in the day preceding the survey was very low in all three districts (44% in Banke, 83% in Jumla and 77% in Bajhang).

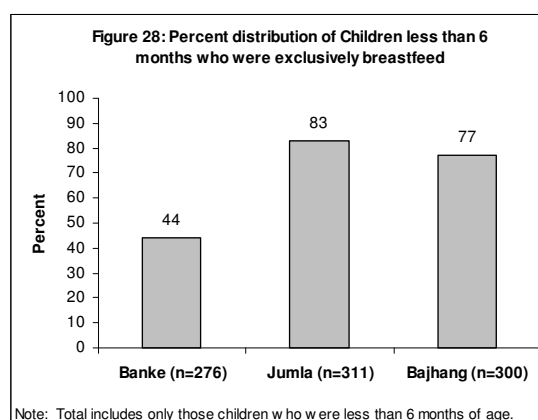


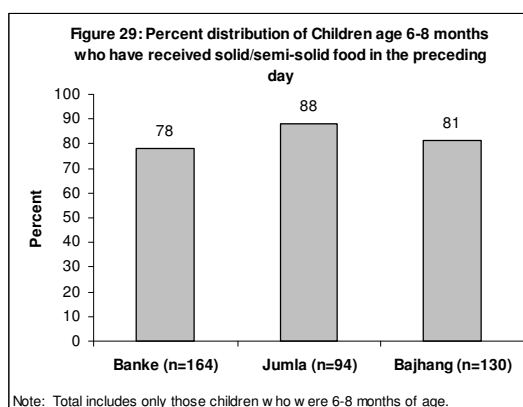
Table 10.3 presents the information on the exclusive breastfeeding status of the child in relation to various background characteristics of RDW. The exclusive breastfeeding practice in all three districts was significantly higher among children less than two months of age, and it decreased as the age of the child increased. Furthermore, in Banke, male children and children from illiterate mothers, mothers with no schooling, the Dalit caste group and lower wealth quintiles were more likely to receive exclusively breast milk than their respective counterparts. However, these characteristics were not significantly associated with breastfeeding behaviors in Jumla. Then again, in Bajhang, more children from the upper caste group were exclusively breastfed in the day and night preceding the survey.

Background Characteristics	Exclusively Breastfed the child		
	Banke	Jumla	Bajhang
Age of the Child	*	*	*
0-1	81.9	96.3	97.7
2-3	39.8	88.9	85.0
4-5	17.0	61.5	51.9
Sex of the child	*	<i>ns</i>	<i>ns</i>
Male	50.7	84.0	80.3
Female	38.0	81.3	73.4
Age of mother	<i>ns</i>	<i>ns</i>	*
15-19	55.8	80.3	72.2
20-24	37.0	83.3	71.2
25-29	39.8	86.9	87.2
30-34	56.3	70.8	85.7
35-49	55.6	93.3	69.2
Literacy status	*	<i>ns</i>	<i>ns</i>
Literate	36.7	87.1	70.2
Illiterate	50.7	81.9	79.6
Education level	*	<i>ns</i>	*
No schooling	51.5	82.3	79.4
Primary	50.0	82.9	87.5
Some secondary	30.9	83.3	42.1
SLC and above	30.8	93.3	68.4
Caste/Ethnicity	*	<i>ns</i>	*
Dalit	53.3	78.8	63.3
Disadvantage Janjati	57.1	~	
Disadvantage Non-Dalit (Tarai)	45.1		
Religious Minority	58.1		
Upper Caste	28.7	84.4	79.7
Wealth quintile	*	<i>ns</i>	<i>ns</i>
Lowest	64.6	85.3	75.5
Second	51.8	76.7	83.8
Third	41.4	76.6	72.7
Fourth	40.6	85.5	72.6
Highest	24.0	91.2	80.0
Total (%)	44.2	83.0	77.0
Total (n)¹	276	311	300
95% confidence interval	37.9-50.7	77.6-87.2	70.5-82.4

*Significance at <0.05 level *ns*= not significant ~sub-sample is too small for statistical calculation
¹Total includes only those children who were less than 6 months of age.

10.3 Introduction of Complementary Foods

The WHO recommends the introduction of complementary foods (solid/semi-solid) to children after six months of age. Concerning this standard, the RDW were asked whether they had given their children any solid or semi solid foods in the day and night preceding the survey. Figure 29 shows that among RDW with child age six to eight months, around eight in ten in Banke and Bajhang and nine in ten in Jumla had given solid/semi-solid food to their children the preceding day. The demographic differences of children who received complementary food is shown in Table 10.4. In Banke, a higher proportion of children from the highest wealth quintiles, the disadvantaged Janajati caste and those born in a health facility had received the complementary food than other children. In Jumla, none of the characteristics were associated with food intake, except that more male children had received the complementary foods than female children. Relatedly, in Bajhang, more children from the upper caste group were fed complementary foods.



Background Characteristics	Introduction of complementary foods		
	Banke	Jumla	Bajhang
Sex of child	<i>ns</i>	*	<i>ns</i>
Male	77.1	96.2	80.0
Female	79.4	78.6	81.7
Age of the child	<i>ns</i>	<i>ns</i>	*
6-7 months	75.0	83.6	73.4
8 months	83.3	94.9	92.2
Age of mother	<i>ns</i>	<i>ns</i>	<i>ns</i>
15-19	85.7	85.0	58.3
20-24	81.5	87.8	76.5
25-29	74.1	94.7	86.5
30-34	71.4	80.0	100.0
35-49	70.0	100.0	78.6
Literacy status	<i>ns</i>	<i>ns</i>	<i>ns</i>
Literate	84.6	94.4	79.4
Illiterate	72.1	86.8	81.3
Education level	<i>ns</i>	<i>ns</i>	<i>ns</i>
No schooling	69.6	88.3	83.2
Primary	85.7	80.0	75.0
Some secondary	80.6	75.0	50.0
SLC and above	94.7	100.0	84.6
Caste/Ethnicity	*	<i>ns</i>	*
Dalit	83.3	84.0	65.5
Disadvantage Janjati	87.8	~	
Disadvantage Non-Dalit (Tarai)	66.7		
Religious Minority	50.0		
Upper Caste	85.4	89.9	85.1
Wealth quintile	*	<i>ns</i>	<i>ns</i>
Lowest	84.2	90.9	80.0
Second	64.5	71.4	72.7
Third	78.8	93.3	85.7
Fourth	70.4	100.0	73.9
Highest	88.6	82.6	88.9
Total (%)	78.0	88.3	80.8
Total (n)¹	164	94	130
95% confidence interval	70.2-84.3	80.5-93.2	69.8-88.4

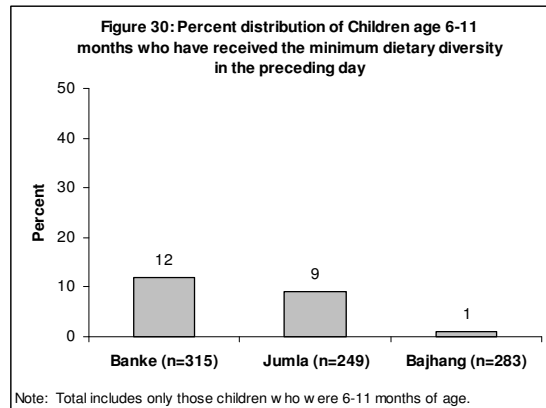
*Significance at <0.05 level *ns*= not significant ~sub-sample is too small for statistical calculation
¹Total includes only those children who were 6-8 months of age.

10.4 Minimum Dietary Diversity

The period from birth to two years is a critical window for promoting optimal growth, health and cognitive development. Adequate nutrition via appropriate infant and young child feeding practices during infancy and early childhood is fundamental to child development. Dietary diversity refers to the variety and balance of a diet and is a predictor of the adequacy of essential-nutrient intake.

Minimum dietary diversity was defined as consumption of at least four of the seven main food groups in the previous day by children age 6-23 months. The seven food groups include grains, roots and tubers, legumes and nuts, dairy products (milk, yogurt, and cheese), flesh foods (meat, fish, poultry and liver/organ meats), eggs, vitamin A rich fruits and vegetables, and other fruits and vegetables.

Figure 30 shows the proportion of children of different ages who ate foods from four or more food groups during the preceding day. Amongst children aged 6-11 months, only 12 percent in Banke, nine percent in Jumla and one percent in Bajhang had received the recommended minimum dietary diversity. The percentage of children who had received the minimum dietary diversity in Banke was significantly higher among young, literate and higher educated RDW and also among female children while none of the background characteristics were associated with food diversity in Jumla and Bajhang (Table 10.5).



Background Characteristics	Children who met the minimum dietary diversity		
	Banke	Jumla	Bajhang
Age of the child	*	ns	ns
6-7	5.8	3.6	0.0
8-9	16.2	7.2	2.9
10-11	12.3	12.6	0.0
Sex of the child	*	ns	ns
Male	9.4	7.2	1.3
Female	14.9	10.5	0.8
Age of mother	ns	ns	ns
15-19	13.6	7.0	0.0
20-24	11.5	6.5	0.9
25-29	12.8	8.5	1.4
30-34	7.1	23.1	2.1
35-49	11.1	7.1	0.0
Literacy status	*	ns	ns
Literate	18.8	7.8	0.0
Illiterate	5.4	9.1	1.5
Education level	*	ns	ns
No schooling	6.0	9.6	1.4
Primary	15.4	8.7	0.0
Some secondary	15.4	8.3	0.0
SLC and above	22.9	0.0	0.0
Caste/Ethnicity	ns	ns	ns
Dalit	10.2	5.2	0.0
Disadvantage Janjati	12.8	~	
Disadvantage non-Dalit (Tarai)	3.5		
Religious minority	12.5		
Upper caste	16.5	10.0	1.3
Wealth quintile	ns	ns	ns
Lowest	7.2	3.8	0.0
Second	10.2	4.9	0.0
Third	8.1	16.3	1.9
Fourth	12.5	11.9	3.7
Highest	20.3	6.3	0.0
Total (%)	11.7	8.8	1.1
Total (n)¹	315	249	283
95% confidence interval	7.9-17.1	5.7-13.4	0.3-3.2

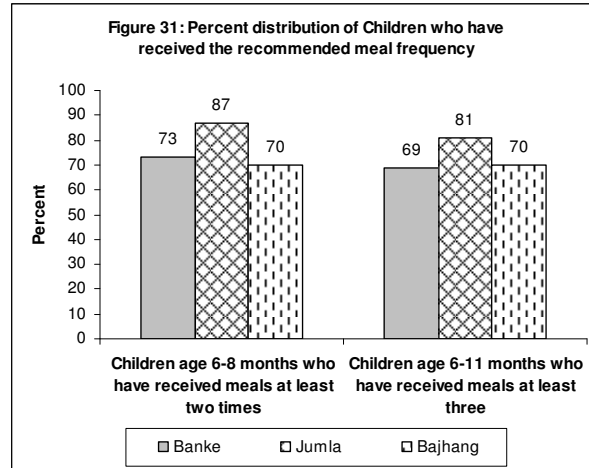
*Significance at <0.05 level ns= not significant ~sub-sample is too small for statistical calculation
¹Total includes only those children who were 6-11 months of age.

10.5 Minimum Meal Frequency

The minimum meal frequency is defined as the minimum number of times per day a child is recommended to consume solid, semi-solid or soft foods. The WHO's IYCF guidelines define 'minimum' differently for breastfed and non-breastfed children and according to age. According to the guidelines, 'minimum frequency' is defined twice for a breastfed child aged

6-8 months, three times for a breastfed child aged 9-23 months and four times for non-breastfed children age 6-23 months.

Since there were no sample children above the age of 12 months, only 6-11 month old children were surveyed to calculate this indicator. The study revealed that almost seven in ten breastfed children aged 6-8 months in Banke and Bajhang and around nine in ten in Jumla received the recommended meal (solid/semi solid food) at least two times in the day preceding the survey. Likewise, around seven in ten breastfed children age 9-11 months in Banke and Bajhang and eight in ten in Jumla had received it three times, thereby complying with WHO standards (Figure 31).



10.6 Types of Complementary Foods

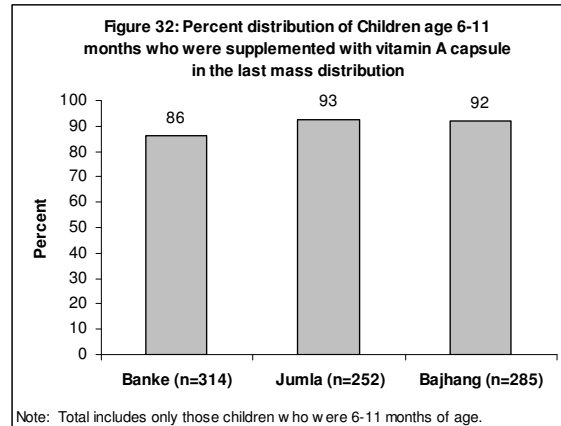
Table 10.6 shows information on the types of food given to the sample children on the day and night preceding the survey. The intake of all food increased with the increasing age of the children.

Age Wise Child Feeding Practice	Food from grains %	Food made from roots and tubers %	Legumes and nuts %	Vitamin A rich fruits and vegetables %	Other fruits and vegetables %	Meat/Fish/Eggs %	Dairy product %	Other milk %	Other liquid %	Total (n)
Banke										
0-1 months	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	0.0	83
2-3 months	1.1	0.0	0.0	0.0	0.0	0.0	0.0	4.3	1.0	92
4-5 months	23.0	1.0	7.0	3.0	2.0	3.0	2.0	13.0	10.0	100
6-7 months	71.2	6.7	24.0	6.7	4.8	4.8	1.9	30.8	25.0	104
8-9 months	85.4	11.5	48.5	17.7	15.4	16.9	3.1	27.7	41.5	130
10-11 months	92.6	19.8	39.5	14.8	8.6	9.9	2.5	27.2	38.3	81
Total (%)	48.1	6.6	21.5	7.6	5.8	6.4	1.7	19.0	20.6	590
Jumla										
0-1 months	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	107
2-3 months	4.6	0.0	0.0	0.0	0.0	0.0	0.0	4.6	1.9	108
4-5 months	24.0	3.1	5.8	3.1	0.0	3.1	0.0	13.5	5.2	96
6-7 months	83.6	20.0	14.0	14.5	1.8	3.6	0.0	27.3	29.1	55
8-9 months	95.2	34.9	31.4	21.7	1.2	10.8	3.6	28.9	36.1	83
10-11 months	99.1	38.7	48.8	36.0	1.8	10.8	3.6	27.9	34.2	111
Total (%)	47.0	15.4	21.6	12.3	0.7	4.6	1.3	16.3	16.3	560
Bajhang										
0-1 months	1.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	87
2-3 months	5.6	0.0	0.0	0.0	0.0	0.0	0.0	12.1	0.9	107
4-5 months	34.0	0.0	4.7	0.0	0.0	0.0	2.8	26.4	0.9	106
6-7 months	72.2	8.9	12.7	6.3	0.0	0.0	12.7	35.4	7.6	79
8-9 months	91.3	7.8	23.3	2.9	1.0	1.9	12.6	43.7	20.4	103
10-11 months	91.1	11.9	12.9	2.0	3.0	4.0	15.8	47.5	21.8	101
Total (%)	49.1	4.6	8.9	1.7	0.7	1.0	7.2	28.1	8.7	583

Almost all of the 10-11 month old children had received food made from grain in the preceding day in all districts. The consumption of food made from roots and tubers (7% in Banke, 15% in Jumla and 5% in Bajhang) and legumes and nuts (22% in Banke, 22% in Jumla and 9% in Bajhang) is very low. Likewise very few children in all the districts among all age groups had consumed vitamin A rich fruits and vegetables, other fruits and vegetables or meat products. Almost two in ten children in Banke and Jumla and three in ten in Bajhang had received milk, and the proportion, overall, of children receiving dairy products is again very low in all districts (Table 10.6).

10.7 Coverage of Vitamin A Capsules

Among the children six months and older, around nine in ten in Jumla and Bajhang had received vitamin A in the last distribution. This rate is slightly lower for children in Banke with 86 percent supplemented with vitamin A in the last mass distribution (Figure 32).



Chapter 11: Postpartum Family Planning and Birth Spacing

Postpartum family planning (FP) is an important issue directly linked to the health of mothers and newborns. Postpartum family planning not only prevents unwanted pregnancy, but also the birth spacing of 3-5 years between two children ensures care and attention for each child. Postpartum family planning is stressed also because of the high chances of conceiving following the sixth week of delivery and because unprotected intercourse during postpartum amenorrhea¹⁴ can also result in pregnancy despite the perception of a reduced chance. Thus, the period after birthing a child is crucial to discuss family planning and birth spacing with RDW. The purpose of assessing RDW's knowledge about family planning and birth spacing is also to see the efficacy of FCHV Program's services.

11.1 Family Planning Practices

Family planning practices among RDW was analyzed only among them who had their last child above age six months and were not pregnant at the time of survey (Table 11.1). The study demonstrated that percent of RDW using FP methods after their last delivery was higher in Banke at 35 percent followed by Jumla (27%) and Bajhang (25%). RDW practicing FP (at the time of study) also follows a similar pattern of distribution. The type of FP

FP method used	FP usage ever after the recent delivery			Current FP usage		
	Banke	Jumla	Bajhang	Banke	Jumla	Bajhang
Types of FP method used						
Did not use any method	64.8	72.7	74.9	69.6	74.1	79.4
Female Sterilization	2.2	0.0	0.4	2.2	0.0	0.4
Male Sterilization	0.3	4.0	2.5	0.3	4.5	2.5
Pill	3.2	0.0	0.7	2.2	0.0	0.7
IUD (Copper T)	0.6	0.0	0.4	0.6	0.0	0.4
Depo-Provera (Sangini)	12.4	4.0	1.1	11.2	3.2	0.7
Implant (Norplant/Jedil)	0.3	2.8	0.0	0.3	2.8	0.4
Condom	14.9	13.3	18.4	12.1	12.6	14.6
Periodic abstinence	0.0	0.8	0.4	0.0	0.8	0.0
Withdrawal	0.6	2.4	1.4	0.6	2.0	1.1
Other	0.6	0.0	0.0	0.6	0.0	0.0
Total (n)¹	315	249	283	313	247	281
<i>Mean no. of months when FP method started after birth of last child</i>	4.6	3.9	3.6			
¹ Total incurrent FP usages include only those RDW who were not pregnant and those RDW who had last child of age 6-11 months.						

contraception used most frequently, as cited by RDW in all three districts, was a condom followed by Depoprovera. In Bajhang, three percent and, in Jumla, four percent also reported male sterilization. The data also exemplified that the average number of months after childbirth that RDW started FP was five months in Banke, four months in Jumla and much sooner in Bajhang at three months (Table 11.1).

11.2 Family Planning Service Received from FCHVs and Health Workers

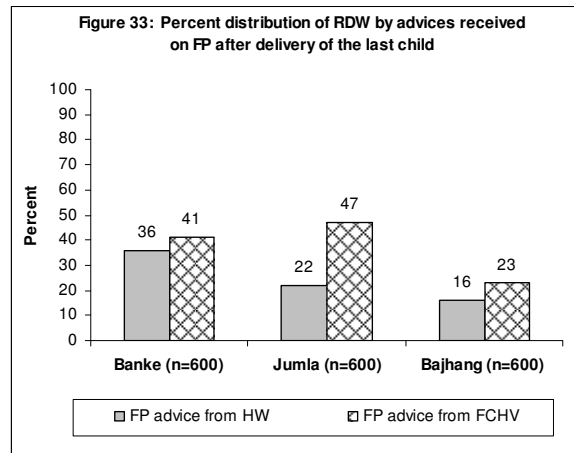
As a part of postnatal care, FCHVs are mobilized to impart information about family planning methods and the importance of birth spacing. Figure 33 shows that more RDW get advice from FCHVs than from health workers about using FP methods after the delivering in all three districts.

Table 11.2 shows that both HWs and FCHVs provided advice and counseling regarding FP to RDW within seven days of delivery. On average, while RDW in Banke were getting FP

¹⁴ Post partum amenorrhea is the interval between the birth of a child and the resumption of menstruation.

related advice sooner from health workers (1.3 weeks) than from FCHVs; RDW from Jumla and Bajhang were getting advice from FCHVs sooner.

The most common types of services rendered by FCHVs were FP counseling in all three districts. Additionally, in Jumla FCHVs were more active than in other districts in distributing condoms and pills. Referral to FP services by FCHVs was also mentioned by a considerable number of RDW in all three districts (Table 11.2).



Duration of FP counseling received after last delivery	Banke	Jumla	Bajhang
Weeks after last delivery that HW provided FP counseling			
Less than one week	74.4	34.1	48.9
1-4 weeks	15.8	43.4	40.4
More than 4 weeks	8.8	11.6	10.6
Do not know	0.9	10.9	0.0
Mean no of weeks	1.3	2.2	2.4
Total (n)¹	215	129	94
Days after last delivery that FCHV provided FP counseling			
Same day	7.3	4.3	4.3
1-7days	49.4	38.4	52.5
8-14 days	12.7	22.6	14.4
15-21 days	7.3	10.0	7.9
22-28 days	2.0	1.8	3.6
29+ days	20.8	22.9	17.3
Do not know	0.4	0.0	0.0
Mean no. of days	18.3	15.6	14.5
Total (n)²	245	279	139
Type of services/counseling on FP provided by FCHV[#]			
FP counseling	95.5	83.8	84.2
Gave condoms	9.4	32.0	15.8
Gave pills	3.3	25.2	3.6
Referred for FP services	11.5	20.1	18.0
Other	0.0	0.4	0.0
Total (n)³	244	278	139

#Multiple responses.
¹Total include only those RDW who had received FP counseling from health workers.
²Total include only those RDW who had received FP counseling from FCHV.
³One case from Banke and one case from Jumla missing.

11.3 Birth Spacing Knowledge

Table 11.3 presents the distribution of RDW's knowledge about minimizing their chances of getting pregnant by breast-feeding their newborns for a certain period based on their demographics. Almost a quarter of RDW in Jumla were aware of this fact but only around one in ten each in Banke and in Bajhang knew that breast-feeding reduces the chances of pregnancy.

Among the RDW who knew about this phenomenon, a majority from all three districts (49% in Banke, 58% in Jumla and 77% in Bajhang) reported that breast-feeding for up to 6 months reduces the chances of conceiving. Nearly two in ten RDW in Banke shared that they did not know the duration of breast feeding to prevent pregnancy (Table 11.3).

Knowledge on possibility of pregnancy by breastfeeding	Banke	Jumla	Bajhang
know breast feeding minimizes the possibility of becoming pregnant			
Yes	12.0	24.8	10.7
No	15.7	14.3	30.2
Don't know	72.3	60.8	59.2
Total (n)	600	600	600
Reported Duration of breast feeding minimizes pregnancy			
1-6 months	48.6	58.4	76.6
7-48 months	33.3	35.6	17.2
Do not know	18.1	6.0	6.3
Mean	11.3	10.8	7.9
Total (n)¹	72	149	64

¹Total include only those RDW who had new breast feeding minimizes the possibility of pregnancy.

Since birth spacing allows mothers to rest fully and to give their newborns appropriate amounts of care and attention, RDW were asked to share their opinion on the ideal birth spacing period. In response, a higher proportion of RDW in Jumla and Bajhang expressed that the spacing of 2 to 3 yrs (25 to 36 months) is ideal spacing between children while half of the RDW in Banke suggested spacing of up to 5 years as an ideal gap between two children (Table 11.4).

Ideal months birth spacing	Banke	Jumla	Bajhang
1-12 months	0.2	0.7	3.5
13-24 months	6.0	11.0	20.7
25-36 months	22.4	43.2	36.0
37-48 months	16.5	22.2	17.2
49-60 months	49.9	17.2	20.5
More than 61 months	2.7	0.8	0.2
Do not know	2.3	5.0	2.0
Mean months suggested	50.5	41.8	39.7
Total (n)¹	599	600	600

¹One case from Banke missing.

Chapter 14: Conclusions

Considering the diverse geography, demographics, and socio-cultural setting of the study districts the overall findings of the survey shows that the MNH program has been successful in establishing good coverage and compliance in the three districts. The study shows a higher level of knowledge among RDW about danger signs that may appear during ANC, delivery and PNC care. The other MNH indicators such as ANC practice, especially the first ANC, was found nearly universal. It is also encouraging to note that the institutional delivery practice in the three districts was found higher than that at the national level in 2011. Awareness of the RDW about specific life threatening conditions such as PPH, and awareness and use of MSC, though varies across districts, was also found high in the communities. The compliance of MSC was found over ninety percent in the study districts. It is also encouraging to note that within a short duration of launching of Kawach component in the MNH care, the program has been successful in achieving a high coverage and compliance of Kawach application among the newborns in these districts. The study result also shows good knowledge and practices among RDW regarding newborn care in the study districts.

The evaluation further notes that while many indicators show good status of MNH care and practices in the community, there are some areas where the program should put more focus on. The study shows that many RDW did not seek care when one of the danger signs appeared during their pregnancy, delivery or postpartum period when they already had knowledge about the outcome of such danger signs. The survey result shows, for example, that after encountering the danger signs nearly 7 in 10 RDW in Bajhang and about 4 in 10 RDW in Jumla had not taken any action to resolve the problem. The percentage of respondents who did not take any action in Banke at 21 percent was also high. In some severe cases, the health workers had referred RDW to go to health facility for proper treatment. While some of the RDW did visit the health facility as advised many did not. This finding reflects the need of more awareness in the community regarding women seeking health care. Similarly, the percentage of RDW taking ANC at least one time was high in all study districts (around 90%), the percentage declines sharply for the RDW who took at least four ANC check ups (40% to 69%). Moreover, a high percentage of RDW had also sought services from FCHVs in their last pregnancy (45% to 63%). In addition, RDW's compliance on other aspects of ANC such as taking recommended doses of TT vaccine and consumption of iron folic tablets was also found low in the study districts. Among various other things to be considered during pregnancy, a recommended number of four ANC services provided by a trained health worker are considered as a prerequisite for safe delivery and good health of both mother and the newborn. In light of these findings, the MNH program in the study district needs to strengthen the program and an enabling environment needs to be created for better utilization of MNH services by women in the community.

The study findings on the place of delivery of RDW's last child are highly encouraging since the practice of institutional delivery in study districts was much higher than the national figure of 28 percent in 2011. The MNH programs in the study districts however needs to continue their effort of promoting institutional delivery among the community people since a high percentage of delivery was still taking place at home. For example, about one-half of the RDW in Banke had their last delivery in the health institution and the corresponding figure for Jumla was about 34 percent and was 29 percent for Bajhang district. It should also be noted that in home delivery cases, some were attended by health service providers while a

high percentage of delivery was assisted by other non-health personnel such as neighbor/friends/relatives. Similarly, delivery assistance by FCHV was also found relatively high in the study districts.

The study finding also shows a need to strengthen the MSC coverage that is one of the important aspects of MNH program. For example, only about two-third of RDW in Banke and a little over one-half in Jumla had received information about MSC. In Bajhang very low percent of RDW were receiving information on MSC. The survey result further shows that the percentage of RDW who actually received the tablets from the FCHV was even lower. One of the reasons cited by the RDW for not receiving the tablets was because some FCHVs kept the tablets with themselves to give these to RDW only during the delivery. This practice appeared to be fairly common in the study districts and the RDW citing this reason was high both in Banke and Jumla districts. Therefore this finding calls for putting more effort by the program to provide knowledge about MSC and also ensure adequate supply to and utilization of drug by the delivering mothers.

Another issue that the study takes note of is that there were still many newborn cases across the study districts where various types of substances other than Kawach were applied in the cord stump of the child. In Banke for example, after Kawach, other type of ointments and powders were second most frequently used substance. In Jumla, oil and turmeric were frequently used substances other than Kawach. In Bajhang the application of ghee or butter (nauni) in the cord stump was found fairly common in the communities.

The study further takes note of the fact that the overall survey results shows, among the three study districts, Bajhang lags much behind than the other two districts in terms of knowledge, use and practices on MNH care. In light of this finding, the study team concludes that Bajhang needs to be treated as a special district within the MNH program and a more intensified approach is taken in order to improve the overall MNH indicators of this district.

The study therefore concludes that these are some of the specific issues that the program should focus on for the remaining cycle.

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Annexes

Annex 1: List of Selected Cluster

Banke

- | | | |
|-----------------------|-----------------------|-------------------|
| 1. Bageswari-1 | 11. Phatepur-9 | 21. Sitapur-4 |
| 2. Bageswari-8,9 | 12. Bejapur-5,6 | 22. Sonapur-9 |
| 3. Bhawaniyapur-3,4,5 | 13. Khajurakhurda-3,4 | 23. Udarapur-2 |
| 4. Gangapur-6,7 | 14. Manikapur-7,8,9 | 24. Naubasta-7 |
| 5. Holiya-1,2,3 | 15. Narainapur-7,8,9 | 25. Banakatawa-8 |
| 6. Puraina-8,9 | 16. Mahadevpuri-6 | 26. Chisapani-2,3 |
| 7. Saigaun-7,8,9 | 17. Kachanapur-5 | 27. Kohalpur-3 |
| 8. Kamdi-4, 5 | 18. Khaskusma-1,2 | 28. Kohalpur-8 |
| 9. Banakatti-7,8,9 | 19. Belbhar-1,2 | 29. Rajhena-3,4 |
| 10. Phatepur-3,4 | 20. Jaispur-1 | 30. Rajhena-9 |

Jumla

- | | |
|-------------------------|--------------------------------------|
| 1. Chandan Nath-4 | 16. Mahabe Pattharkhol-5,6,7,8,9 |
| 2. Chandan Nath-7,8,9 | 17. Malika Bota-1,2,3,4,5,6,7,8,9 |
| 3. Chhumchaur-5,6,7,8,9 | 18. Tamti-1,2 |
| 4. Dillichaur-1,2,3 | 19. Tatopani-1,2 |
| 5. Dillichaur-7,8,9 | 20. Tatopani-8,9 |
| 6. Garjyangkot-6,7,8,9 | 21. Badki-3,4 |
| 7. Mahatgaun-3,4,5 | 22. Birat-3,4,5 |
| 8. Patarasi-6,7,8,9 | 23. Buvramadichaur-1,2,3,4,5,6,7,8,9 |
| 9. Patmara-4,5,6,7,8,9 | 24. Dhapa-1,2,3 |
| 10. Talium-3,4 | 25. Kalikakhetu-5,6,7,8,9 |
| 11. Guthichaur-1,2,3,4 | 26. Kanakasundari-4,5,6,7,8,9 |
| 12. Haku-5,6,7,8,9 | 27. Narakot-1,2,3 |
| 13. Kudari-2 | 28. Narakot-6,7,8,9 |
| 14. Kudari-7,8,9 | 29. Pandawagufa-6,7,8,9 |
| 15. Lihi-1,2,3 | 30. Sanigaun-6,7,8,9 |

Bajhang

- | | | |
|--------------------------|------------------------|--------------------------|
| 1. Banjh-4,5,6 | 11. Dangaji-4,5 | 22. Kalukheti-1,2,3,4 |
| 2. Deulekh-7,8,9 | 12. Lekhgau-4,5,6 | 23. Majhigau-1,2,3 |
| 3. Deulikot-6,7 | 13. Maulali-1,2,3,4 | 24. Rithapata-1,2,3,4 |
| 4. Kaphalaseri-3,4 | 14. Parakatne-1,2,3 | 25. Subeda-6,7,8,9 |
| 5. Khiratadi-3,4 | 15. Rayal-6,7 | 26. Bhatekhola-1,2 |
| 6. Pipalkot-6,7,8,9 | 16. Sainpasela-7,8,9 | 27. Chainpur-6,7,8,9 |
| 7. Sunkuda-4,5 | 17. Byasi-4,5,6,7,8,9 | 28. Daulichaur-1,2,3,4 |
| 8. Syandi-1,2,3 | 18. Kadel-4,5 | 29. Gadaraya-4,5,6,7,8,9 |
| 9. Dahabagar-2,3,4 | 19. Malumela-5,6,7,8,9 | 30. Kotdewal-1,2,3 |
| 10. Bhairabanath-6,7,8,9 | 20. Koiralakot-3,4,5,6 | 31. Patadewal-5,6,7,8 |

Annex 2: Questionnaires

**A SURVEY ON COVERAGE OF CHX AND OTHER MNH ACTIVITIES AT COMMUNITY LEVEL-2011
(MOHP/NFHP II/New ERA)
SCREENING QUESTIONNAIRE – 1
(SCREENING QUESTIONNAIRE TO FIND EVER MARRIED WOMEN)**

Instructions to interviewer: Complete this Household Listing Form by interviewing the household head. If the household head is not present or otherwise unable to provide the required information, interview a senior member of the household and note their name in the table below.

Form No.

--	--	--	--

Start by giving your short introduction:				
1) Name of District _____		Banke..... 57 Jumla..... 63 Bajhang..... 68		
2) Name and code of VDC _____		<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td></tr></table>		
3) Ward Number _____		<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td></tr></table>		
4) Village name _____				
5) Cluster Number. _____		<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td></tr></table>		
6) Household Number _____		<table border="1" style="display: inline-table;"><tr><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td></tr></table>		
7) Name of the household head _____				
8) Name of respondent: _____				
9) Relationship of respondent to household head (if respondent is not household head) _____				

INTERVIEWER VISITS			
	1	2	3
DATE [DD/MM/YY]	/ /	/ /	/ /
INTERVIEWER'S NAME:			
RESULT:			
NEXT VISIT : DATE [DD/MM/YY]	/ /	/ /	
TIME FOR NEXT VISIT :			

***Result Codes:**

1 = Interview completed 2 = Respondent refused to be interviewed 3 = Time and date set for later	4 = Respondent not at home 5 = Others (Specify): _____
--	---

Q. #	Question	Codes					Go to Q	
1.	How many women (all women) of age 15-49 years live in your household?	Total <input type="text"/> None97					If none then end the interview	
2.	Please give me their name(s), marital status and age of the women who usually live in your household?							
		Name of the women (1)	Currently married (2)	Widow, Separated, Divorced (3)	Unmarried (4)	Age (5)	Has she been pregnant (preg-nancy loss or live birth) in the last two year i.e., since Baishakh 2066? (6)	
							Yes	No
	1		1	2	3		1	2
	2		1	2	3		1	2
	3		1	2	3		1	2
4		1	2	3		1	2	

Screening Questionnaire -2 should be filled for married woman who has been pregnant in the last 2 years i.e. since Baishakh 2066. Screening Questionnaire -2 should not filled for other women.

A SURVEY ON COVERAGE OF CHX AND OTHER MNH ACTIVITIES AT COMMUNITY LEVEL-2011
(MOHP/NFHP II/New ERA)
SCREENING QUESTIONNAIRE – 2
(SCREENING QUESTIONNAIRE TO FIND RDW)

Form No.				
-----------------	--	--	--	--

- 1) District: _____ Banke..... 57
 _____ Jumla..... 63
 _____ Bajhang..... 68
- 2) Name and Code of VDC: _____
- 3) Ward Number
- 4) Village name: _____
- 5) Cluster Number.
- 6) Household Number.....
- 7) Name of the household head: _____
- 8) Name of the respondent: _____

INTERVIEWER VISITS			
	1	2	3
DATE [DD/MM/YY]	/ /	/ /	/ /
INTERVIEWER'S NAME:			
RESULT:			
NEXT VISIT : DATE [DD/MM/YY]	/ /	/ /	
TIME FOR NEXT VISIT:			

***Result Codes:**

1 = Interview completed 2 = Respondent refused to be interviewed 3 = Time and date set for later	4 = Respondent not at home 5 = Other (specify): _____
--	--

INTRODUCTION AND CONSENT

Namaste! My name is _____. I am from New ERA, which is conducting a study for the Ministry of Health and Population/Government of Nepal. The MOHP has been helping pregnant women, mothers, and newborns in this district with the objectives of improving maternal and child health status. We are here to find out about the health of mothers and newborns to help you and your community to keep mothers and children healthy. We would very much appreciate your participation in this survey. This information will help the MOHP to improve its program in the districts. The survey usually takes around one hour. I assure you that your name will not be shared with anyone else and your answers to my questions will be combined with answers from many other people so that no one will know that the answers you give me today belong to you. Your privacy is protected, and I assure that your answers will be kept confidential.

Your participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

May I proceed with the questions?

RESPONDENT AGREES TO BE INTERVIEWED..... 1 → START INTERVIEW
RESPONDENT DOES NOT AGREE TO BE INTERVIEWED..... 2 → END INTERVIEW & THANK RESPONDENT

Q. No.	Question	Response	Go to Q
101	How old are you?	Completed years (15-49)..... <input type="text"/> <input type="text"/> If the respondent less than 15 yrs or more than 49 yrs.	→ End the interview
102	How many times did you give birth in the last two years i.e. since Baishakh 2066?	Times..... <input type="text"/> <input type="text"/>	
103	Have you ever had a pregnancy in the last two years i.e. since Baishakh 2066? That did not end in a live birth?	Yes 1 No 2	→ Stop interview
104	Check Q102 and Q103, and circle below: Had live birth or pregnancy loss in the past two years..... 1 Did not have both live birth and pregnancy loss in the past two years..... 2		
105	Are you currently pregnant?	Yes 1 No 2 Don't know 8	

Now I would like to record all of your pregnancies in the last two years, whether born alive, born dead, or lost before full term. Starting with the last one record all the pregnancies in Q106. Record twins and triplets on separate lines.

Note: Don't ask about current pregnancy.

Q.No.	Question	Last pregnancy	Next to last pregnancy	Next to second last pregnancy
		Baby No. 01	Baby No. 02	Baby No. 03
106	Was the baby born alive, born dead or lost before birth?	Born alive1→108 Born dead.....2 Lost before full term.....3→115	Born alive1→108 Born dead.....2 Lost before full term.....3→115	Born alive1→108 Born dead.....2 Lost before full term.....3→115
107	Did that baby cry, move, or breathe when it was born?	Yes 1 No 2	Yes 1 No 2	Yes 1 No 2
108	What was the name of the child?	_____	_____	_____
109	Is the child (name) a boy or a girl?	Boy..... 1 Girl..... 2	Boy..... 1 Girl..... 2	Boy..... 1 Girl..... 2
110	In what month and year was the child (name) born?	Month..... <input type="text"/> <input type="text"/> Year..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Month..... <input type="text"/> <input type="text"/> Year..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	Month..... <input type="text"/> <input type="text"/> Year..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
111	Is the child (name) still alive?	Yes 1 No 2 →113	Yes 1 No 2 →113	Yes 1 No 2 →113
112	How old was (name) at his/her last birth day? (Record in completed months)	Month <input type="text"/> <input type="text"/> →117	Month <input type="text"/> <input type="text"/> →117	Month <input type="text"/> <input type="text"/> →117
113	How old was (name) when he/she died? (If less than one month record in day)	Day <input type="text"/> <input type="text"/> Month..... <input type="text"/> <input type="text"/>	Day..... <input type="text"/> <input type="text"/> Month..... <input type="text"/> <input type="text"/>	Day..... <input type="text"/> <input type="text"/> Month..... <input type="text"/> <input type="text"/>

Q.No.	Question	Pregnancy		
		Last pregnancy	Next to last pregnancy	Next to second last pregnancy
114	In what month and year did the child (name) died?	Month.... <input type="checkbox"/> <input type="checkbox"/> Year..... <input type="checkbox"/> <input type="checkbox"/> →117	Month.... <input type="checkbox"/> <input type="checkbox"/> Year..... <input type="checkbox"/> <input type="checkbox"/> →117	Month.... <input type="checkbox"/> <input type="checkbox"/> Year..... <input type="checkbox"/> <input type="checkbox"/> →117
115	In what month and year did this pregnancy end?	Month.... <input type="checkbox"/> <input type="checkbox"/> Year..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Month.... <input type="checkbox"/> <input type="checkbox"/> Year..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Month.... <input type="checkbox"/> <input type="checkbox"/> Year..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
116	How many months did this pregnancy last? (Record in completed months)	Month..... <input type="checkbox"/> <input type="checkbox"/>	Month..... <input type="checkbox"/> <input type="checkbox"/>	Month..... <input type="checkbox"/> <input type="checkbox"/>
117	Interviewer: Check Q110, Q115 and Q116. Is this child born after Baishakh 2067? (Born alive, or born dead or pregnancy lasted for 7 months or more)?	Yes..... 1 No 2	Yes 1 No..... 2	Yes 1 No..... 2

Interviewer: Administer Main Questionnaire to only one woman of the household who has a child born after Baishakh 2067 (Should be less than 1 year of age i.e., within 11 months and 29 days). If there is more than one such woman in the household then select **one randomly** and interview her.

To be used for confidential interview only

**A SURVEY ON COVERAGE OF CHX AND OTHER MNH ACTIVITIES
AT COMMUNITY LEVEL-2011
QUESTIONNAIRE FOR RECENTLY DELIVERED WOMEN
(MOHP/NFHP II/NEW ERA)**

Form No.

--	--	--	--

1) District:	Banke..... 57				
	Jumla..... 63				
	Bajhang..... 68				
2) Name & code of VDC:	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td></tr></table>				
3) Ward Number	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td></tr></table>				
4) Village/ Town name:					
5) Cluster Number.	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td></tr></table>				
6) Household Number.....	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td><td style="width: 20px; height: 15px;"></td></tr></table>				
7) Name of the household head:					
8) Name of the respondent:					

INTERVIEW VISITS	1	2	3
DATE [DD/MM/YY]	/ /	/ /	/ /
INTERVIEWER'S NAME:			
RESULT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NEXT VISIT : DATE [DD/MM/YY]	/ /	/ /	
TIME FOR NEXT VISIT:			

***RESULT CODES:**

1 = Interview completed	4 = Respondent not at home
2 = Respondent refused to be interviewed	5 = Other (specify):
3 = Time and date set for later	

INTRODUCTION AND CONSENT

Namaste! My name is _____. I am from New ERA, which is conducting a study for the Ministry of Health and Population/Government of Nepal. The MOHP has been helping pregnant women, mothers, and newborns in this district with the objectives of improving maternal, and child health status. We are here to find out about the health of mothers and newborns to help you and your community to keep mothers and children healthy. We would very much appreciate your participation in this survey. This information will help the MOHP to improve its program in the districts. The survey usually takes around one hour. I assure you that your name will not be shared with anyone else and your answers to my questions will be combined with answers from many other people so that no one will know that the answers you give me today belong to you. Your privacy is protected, and I assure that your answers will be kept confidential.

Your participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

May I proceed with the questions?

RESPONDENT AGREES TO BE INTERVIEWED..... 1 → START INTERVIEWING
RESPONDENT DOES NOT AGREE TO BE INTERVIEWED..... 2 → THANK THE RESPONDENT & END INTERVIEW

Check **Q106, Q108, Q111, Q112, Q113, Q115, & Q116** from screening 2 and enter in the table the line number, name and the survival status of each birth from Baishakh 2067 or later. Ask questions about the last birth.

QA	Name and survival status from Q. 108, 111 and Q. 115	Child's Name _____ Currently living 1 Dead.....2 Still birth.....3	→ Q B → Q C → Q D
QB	Age from Q. 112	Age of [NAME] months..... <input type="text"/> <input type="text"/>	→ Q101
QC	Age at death from Q. 113	Age of [NAME] when he/she died months..... <input type="text"/> <input type="text"/> If less than one month in Days.. <input type="text"/> <input type="text"/>	→ Q101
QD	From Q. 116 (pregnancy loss after 7 months or more)	If Stillbirth, write in which month did the pregnancy lost occur. <input type="text"/> ...	→ Q101

Section 1: Respondent's Background

Interview start time: :

Interviewer: "Now I would like to ask some questions about you ."

Q.No	Question	Code	Go to Q
101	In what month and year were you born?	Month..... <input type="text"/> <input type="text"/> Year..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Do not know month98 Do not know year.....98	
102	How old are you?	Age (completed years) <input type="text"/> <input type="text"/>	
103	Have you ever attended school?	Yes 1 No 2	→106
104	What is the highest class you completed?	Grade..... <input type="text"/> <input type="text"/>	
105	(Interviewer: Check Q. 104)	Grade 5 or below..... 1 Grade 6 and above 2	→107
106	Now, I would like you to read out loud as much of this sentence as you can. "Churot khanu ramro bani hoina" (Show card to the respondents)	Cannot read at all 1 Able to read only parts of sentence..... 2 Able to read whole sentence 3	
107	What is your caste or ethnicity? (Write the caste in space but don't fill in the code in the box)	Caste/Ethnicity..... <input type="text"/> <input type="text"/>	
108	In the last 3 months have you heard any health messages from the local radio station of your district?	Yes 1 No 2	→201
109	What were the messages about? Probe: Any other? (Circle all responses given)	Newborn care.....1 ARI/Pneumonia.....2 Diarrhea.....3 Family Planning.....4 Safe motherhood.....5 Others (Specify).....6	

Section 2: Respondent's Background (Socioeconomic status)

Interviewer: "Now I would like to ask some questions about your household."

Q. #	Question	Codes	Go to Q
201	Does your household have the following items? (READ ALL)		
	1 Electricity	1 2	
	2 Solar Power	1 2	
	3 Bicycle	1 2	
	4 Motorcycle	1 2	
	5 A mobile telephone	1 2	
	6 Land line telephone	1 2	
	7 Television	1 2	
	8 Radio	1 2	
	9 An animal –drawn cart	1 2	
202	What is the main source of drinking water for the members of your household?	Piped water Piped into house/yard/plot 1 Public / neighbor's tap 2 Dug well Well in house/yard/plot 3 Public/neighbor's well 4 Tube well/borehole Tube well in yard/plot 5 Public/neighbor's tube well 6 Surface water Spring/kuwa 7 River/stream/pond/lake 8 Stone tap/dhara 9 Others (Specify) 96	
203	What type of toilet facility does your house have? RECORD OBSERVATION	Flush toilet (Water seal).....1 Traditional pit toilet2 Ventilated improved pit latrine3 No facility / bush / field4 Others (Specify)5	
204	What is the main material used in the floor of respondent's house? RECORD OBSERVATION	Earth (soil)/dung1 Wood planks2 Linoleum / carpet3 Ceramic tiles, marble chips4 Cement5 Others (specify)6	
205	What is the main material used in the roof of respondent's house? RECORD OBSERVATION	Thatch1 Galvanized sheet/Jasta2 Tiles/Khapada3 Cement4 Stone5 Other (specify):6	
206	What is the main material used in the walls of respondent's house? RECORD OBSERVATION	Bamboo with mud1 Bamboo with cement2 Adobe.....3 Wood4 Cement 5 Bricks6 Cement blocks7 Wood planks8 No walls9 Rocks/stones.....10 Others (Specify): 96	

Section 3: FCHV Services: General and Antenatal

Interviewer: “Now I would like to ask you some questions about FCHV in your ward and the services she provides to pregnant women.”

Q. #	Question	Codes	Go to Q.
301	Do you know the FCHV who serves in your area? Prompt: Do you know the woman who gives out vitamin A to children under five in your area twice a year?	Yes 1 No 2 Do not know 8	→307 →307
302	Please tell me which of the following kinds of help or services does your FCHV provide? (READ ALL RESPONSES)	Yes No DK	
	1. Health information including mothers groups?	1 2 8	
	2. Provide advice to pregnant women?	1 2 8	
	3. Provide advice to post-partum mother?	1 2 8	
	4. Provide advice regarding newborn?	1 2 8	
	5. Provide advice and treatment regarding children’s diarrhea?	1 2 8	
	6. Provide advice and treatment regarding children’s respiratory infection (including pneumonia)?	1 2 8	
	7. Supply condoms and pills?	1 2 8	
	8. Provide vitamin A for mother / child?	1 2 8	
	9. Provide HIV/AIDS/STI information?	1 2 8	
303	Did you meet the FCHV in your community for services or advice during your last pregnancy?	Yes 1 No 2	→ 307
304	How many times did you meet with the FCHV during your last pregnancy <u>outside of the mothers group</u> to receive services or advice?	Number of times..... <input type="checkbox"/> <input type="checkbox"/> Do not know 98	
305	Did your FCHV discuss specific plans for any of the following with you during your last pregnancy? (READ ALL RESPONSES)	Yes No DK	
	1. Delivery at a health facility	1 2 8	
	2. Identifying/using a skilled birth attendant?	1 2 8	
	3. Emergency transport for delivery?	1 2 8	
	4. Finances for delivery care?	1 2 8	
	5. About source/place of Emergency Obstetric Care?	1 2 8	
	6. Identify and manage the person to accompany mother in emergency?	1 2 8	
306	Did you receive advice from your FCHV on any of the following topics during your last pregnancy? (READ ALL RESPONSES)	Yes No DK	
	1. Seek ANC from health worker?	1 2 8	
	2. Take rest and avoid heavy work?	1 2 8	
	3. Proper, balanced diet?	1 2 8	
	4. Avoid alcohol and smoking during pregnancy?	1 2 8	
	5. Tetanus toxoid vaccination?	1 2 8	
	6. Obtain iron tablets?	1 2 8	
	7. Obtain deworming tablets	1 2 8	
	8. Financial preparation for your delivery?	1 2 8	

	9. Identifying emergency transport options?	1	2	8	
	10. Danger signs for pregnant woman?	1	2	8	
	11. Use Clean Home Delivery Kit?	1	2	8	
	12. Deliver in clean, light surface/room?	1	2	8	
	13. Danger signs during delivery?	1	2	8	
	14. Make post-natal visit to a health facility or outreach clinic?	1	2	8	
	15. Danger signs for postpartum period?	1	2	8	
	16. Use family planning following delivery?	1	2	8	
	17. Anyone touching newborn to wash hands with soap and water first	1	2	8	
	18. Wrap the newborn in a clean and dry cloth right after delivery?	1	2	8	
	19. Do not bathe the newborn within 24 hours?	1	2	8	
	20. Apply Kawach on cord stump of newborn after delivery?	1	2	8	
	21. Breastfeed the newborn within 1 hour after birth?	1	2	8	
	22. Continue exclusive breastfeeding for 6 months?	1	2	8	
	23. Danger signs in newborn?	1	2	8	
	24. Skin to skin contact?	1	2	8	
	25. Personal hygiene of mother?	1	2	8	
	26. Maternal incentive scheme	1	2	8	
307	Is there a mothers' group in your area?	Yes	1	No	2 → 401
		Don't know	8		→ 401
308	Did you attend the mothers' group meeting during your last pregnancy?	Yes	1	No	2 → 401
309	How many times did you attend the mothers group during your last pregnancy?	Number of times:	<input type="checkbox"/> <input type="checkbox"/>	Don't know	98

Section 4: Antenatal Care

Interviewer: “Now, I would like to ask you some questions about your last pregnancy period.”

Q. #	Question	Codes	Go to Q.
401	Did you receive antenatal care during your last pregnancy prior?	Yes 1 No 2	→409
402	From whom did your received the antenatal care service? Probe: Anybody else? (CIRCLE ALL RESPONSES GIVEN)	Doctor..... 1 Nurse/ANM 2 HA/AHW 3 MCHW 4 VHW..... 5 FCHV..... 6 TBA 7 Others (Specify).....96	} 405
403	How many times did you receive antenatal care from a health worker during your last pregnancy?	Number of times..... <input type="checkbox"/> Don't know 98	
404	How many months pregnant were you when you first received antenatal care from a health worker for the pregnancy prior to your most recent delivery?	Number of months..... <input type="checkbox"/> Don't know 98	

Q. #	Question	Codes			Go to Q.
405	As part of your antenatal care during your last pregnancy, were any of the following done at least once? (Read each service, circle appropriate response)	Yes	No	DK	
	1. Was your abdomen examined?	1	2	8	
	2. Did you receive iron tablets?	1	2	8	
	3. Did you receive deworming tablets?	1	2	8	
	4. Did you receive TT vaccination?	1	2	8	
	5. Was your weight measured?	1	2	8	
	6. Was your blood pressure measured?	1	2	8	
	7. Did you give a blood sample?	1	2	8	
	8. Did you give an urine sample?	1	2	8	
406	Who are the people who accompanied you at least one time to your antenatal care? Probe: Anybody else? (CIRCLE ALL RESPONSES GIVEN)	Husband 1 Mother-in-law 2 Father-in-law..... 3 Mother 4 Other family member..... 5 Friend / Neighbor 6 Other (specify)..... 96 Nobody (went alone) 97 Don't know..... 98			
407	Where or from who did you receive antenatal care for your most recent antenatal care visit? If source is hospital, health center, or clinic, write the name of the place. Probe to identify the type of source and circle the appropriate code. ----- Name of institute/place	Hospital..... 1 PHCC..... 2 Health post..... 3 Sub-health post 4 Outreach clinic..... 5 Pvt. Hospital/Clinic/N. Home..... 6 Pharmacy 7 FCHV..... 8 TBA 9 Other (specify)..... 96 Don't know 98			
408	During any of your antenatal care visits with health workers during your last pregnancy, were you counseled on following at least once: (READ ALL RESPONSES)	Yes	No	Don't know	
	1. Financial preparation for your delivery?	1	2	8	
	2. Identifying emergency transport options?	1	2	8	
	3. Arranging for blood in case of emergency?	1	2	8	
	4. Tetanus toxoid vaccination?	1	2	8	
	5. Danger signs during pregnancy?	1	2	8	
	6. Delivery in a suitable health facility?	1	2	8	
	7. Maternal incentive scheme?	1	2	8	
	8. Use of Clean Home Delivery Kit?	1	2	8	
	9. All who touch the newborn need to wash hands with soap and water first?	1	2	8	
	10. Immediate drying and wrapping of the newborn?	1	2	8	
	11. Breastfeeding within 1 hour of birth?	1	2	8	
	12. Care of the newborn, particularly cleanliness, avoiding chilling, and immediate breastfeeding?	1	2	8	
409	Did you discuss planning for your delivery with your husband while you were pregnant?	Yes 1 No 2			
410	Did you receive tetanus toxoid injection during your last pregnancy?	Yes 1 No 2 Don't know 8			→ 412 → 412

411	How many times did you receive immunization against tetanus (TT) during that pregnancy?	Number of shots..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Don't know 8	
412	Were you given or did you buy any iron/folic acid tablets during your last pregnancy? SHOW IRON TABLETS	Yes 1 No 2 Do not know 8	→415 →415
413	During the whole pregnancy, for how many days did you take the iron/folic tablets?	Number of days..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Don't know..... 998	
414	Where did you obtain the iron/folic acid tablets? If "FCHV" is not mentioned, then prompt "Did you receive iron/folic acid tablets from the FCHV?" (CIRCLE ALL RESPONSES GIVEN)	Hospital..... 1 PHCC..... 2 Health post..... 3 Sub-health post 4 Outreach clinic..... 5 Pvt. Hospital/Clinic/N. Home..... 6 Pharmacy 7 FCHV..... 8 Others (Specify)..... 96	
415	During your last pregnancy, did you take deworming tablets?	Yes 1 No 2 Do not know 8	
416	When you were last pregnant, did you eat less than usual, about the same amount as usual, or more than usual?	Less than usual..... 1 Same as usual..... 2 More than as usual 3 Don't know 8	
417	During your last pregnancy, did you receive less care and support than usual, about the same care & support as usual, or more care and support than usual from your family members?	Less than usual..... 1 Same as usual..... 2 More than as usual 3 Don't know 8	→419 →419 →419
418	What types of care/support did you receive from your family members during that time? Probe: Any other? (CIRCLE ALL RESPONSES GIVEN)	Given more food to eat 1 Given more nutritious food to eat 2 Advised for more rest 3 Reduced heavy load..... 4 Advised/accompanied for physical check-up..... 5 Others (Specify)..... 6	
419	Please tell me where you should go for health services if you have danger signs while you are pregnant? (CIRCLE ALL RESPONSES GIVEN)	Hospital..... 1 PHCC..... 2 Health post..... 3 Sub-health post 4 Outreach clinic..... 5 Pvt. Hospital/Clinic/N. Home..... 6 Others (Specify)..... 96 Don't know 98	
420	What are the symptoms during pregnancy indicating the need to seek immediate care? Probe: Any others? (CIRCLE ALL RESPONSES GIVEN)	Vaginal bleeding (any amount) 1 Severe lower abdominal pain..... 2 Severe headache..... 3 Convulsion..... 4 Blurred vision and swelling of hands and face..... 5 Others (Specify)..... 6 Don't know 8	

Q. #	Question	Codes		Go to Q.
421	When you were pregnant, did you experience any of the following problems at anytime? (Read out all responses one after another)	Yes	No	
				→ 501
	1 Blurred vision?	1	2	
	2 Severe lower abdominal pain?	1	2	
	3 Severe headache?	1	2	
	4 Convulsion?	1	2	
	5 Swelling of the hands, body or face?	1	2	
	6 Any vaginal spotting or bleeding?	1	2	
	None of the above.....	2		
422	What did you do or whom did you consult for the problems that you stated above? Prompt: anything else? (CIRCLE ALL RESPONSES GIVEN)	Traditional treatment at home 1 Given medicine at home 2 Went to Hospital 3 PHCC /HP/ SHP 4 Private Hospital/Clinic/N. Home 5 Bought medicine from pharmacy 6 Consulted and treated by FCHV 7 Consulted and treated by MCHW 8 Consulted and treated by a TBA 9 Consulted and treated by other HW ... 10 Treated by dhami / jhankri 11 Consulted relative/neighbor/friend 12 Others (Specify)_____ 96 Nothing 97		

Section 5: Delivery Care

Interviewer: “Now, I would like to ask you some questions about your most recent delivery.”

Q. #	Question	Codes	Go to Q.
501	Who assisted with your most recent delivery? Prompt: Anybody else? (CIRCLE ALL RESPONSES GIVEN)	Doctor 1 Staff Nurse 2 ANM 3 MCHW 4 HA 5 AHW / CMA 6 VHW 7 TBA 8 FCHV 9 Relative/Friend 10 Others (Specify)_____ 96 Nobody 97	} 504 } 504
502	When you were in labor (i.e. before the baby came out) were you given an injection in the thigh or buttock (not in your back or arm, and not a 'drip')?	Yes 1 No 2 Don't Know 8	} 504

503	What was the injection given for?	To hasten the delivery of the baby.....1 To prevent infection.....2 Other (Specify)6 Don't Know.....8
-----	-----------------------------------	--

Q. #	Question	Codes	Go to Q.
504	Who else was present outside the room where the delivery took place? Prompt: Anybody else? (CIRCLE ALL RESPONSES GIVEN)	TBA1 FCHV2 Friends/Neighbors3 Mother-in-law4 Father-in-law5 Husband6 Mother7 Father8 Other relative9 Other (specify)96 Nobody97 Don't know/cannot remember98	
505	Where did you give birth in your most recent delivery? If source is hospital, health center, or clinic, write the name of the place. Probe to identify the type of source and circle the appropriate code to the right. _____ NAME OF INSTITUTE & PLACE	Hospital1 PHCC2 Health post3 Sub-health post4 Private Hospital/Clinic/N. Home5 Your home6 Other home7 Others (Specify)96	} 511
506	Did you receive cash incentive for transportation from the facility after the delivery of your baby?	Yes1 No2 Don't know8	
507	Did the facility charge you any amount for the delivery of your baby?	Yes1 No2 Don't know8	
508	Had you planned during your pregnancy to deliver in a health facility or did you only go to the health facility because of some problem occurring during your labor or delivery?	Planned to go during pregnancy1 Started to deliver at home2 Others (Specify)6	
509	Was your child delivered by caesarean section? Prompt: did a doctor cut and open your abdomen to deliver the baby?	Yes1 No2	→ 515
510	Was it an instrumental delivery? Prompt: Was the baby delivered with the help of machine or instruments?	Yes1 No2 Don't know8	
511	Was the baby born head first or did other parts of the body, including the placenta, come out first?	Head first1 Other parts of body including placenta ..2 Don't know8	
512	Within the first hour after the delivery, did a health worker give you an injection either in the thigh or buttock or medication by intravenous drip?	Yes1 No2 Don't know8	
513	Did you bleed a lot more than a normal delivery immediately following the birth of your baby?	Yes1 No2 Don't know8	

Q. #	Question	Codes			Go to Q.
514	Now I am going to ask you some questions regarding how you felt immediately (within 6 hours) following the delivery:	<u>Yes</u>	<u>No</u>	<u>DK</u>	
	1. In the first 6 hours following delivery, did you feel faint or dizzy?	1	2	8	
	2. In the first 6 hours following delivery, did you actually faint or lose consciousness?	1	2	8	
	3. In the first six hours following delivery, did you experience shivering?	1	2	8	
	3a. (if yes) for how many hours?	Minutes <input type="checkbox"/> <input type="checkbox"/>	Hour <input type="checkbox"/> <input type="checkbox"/>	8	
	4. In the first six hours following delivery, did you experience nausea?	1	2	8	
	4a. (if yes) for how many hours?	Minutes <input type="checkbox"/> <input type="checkbox"/>	Hour <input type="checkbox"/> <input type="checkbox"/>		
	5. In the first six hours following delivery, did you experience fever?	1	2	8	
	5a. (if yes) for how many hours?	Minutes <input type="checkbox"/> <input type="checkbox"/>	Hour <input type="checkbox"/> <input type="checkbox"/>	8	
	6. In the first six hours following delivery, did you have a diarrhea?	1	2	8	
	6a. (if yes) how many times?	Times <input type="checkbox"/> <input type="checkbox"/>		8	
Interviewer: "Now I'd like to ask you some questions about delivery services available in this area."					
515	Who should be present at birth to help deliver the baby safely? Probe: Anybody else who could be suitable instead? (CIRCLE ALL RESPONSES GIVEN)	Doctor	1		
		Staff Nurse	2		
		ANM	3		
		MCHW	4		
		HA	5		
		AHW/ CMA	6		
		VHW	7		
		TBA	8		
		FCHV	9		
		Relative/Friend	10		
		Others (Specify)	96		
516	Please tell me the name and location of a health facility in your community where you can go to deliver your child as well as its location. Institute's name and location: _____	Hospital.....	1		
		PHCC.....	2		
		Health post.....	3		
		Sub-health post.....	4		
		Outreach clinic.....	5		
		Pvt. Hospital/Clinic/N. Home.....	6		
		Others (Specify)	96		
		Don't know	98		
	Confirm the type of health facility and its location				

Q. #	Question	Codes	Go to Q.
523	Where did you go?	Hospital1 PHCC.....2 Health post.....3 Sub-health post4 Outreach Clinic.....5 Private Hospital/Clinic/N. Home.....6 Pharmacy7 Others (Specify)96 Don't know/don't remember 98	
524	In the <u>past three months</u> , have you seen, heard, or read anything about importance of delivering in a suitable health facility on the radio or television or in the newspaper or anywhere else?	Yes 1 No 2	→ 601
525	Please tell me where you saw or heard a message on importance of delivering in a	Media source	Unaided Aided Unexposed
		1. FCHV flip chart	1 2 3
		2. From FCHV	1 2 3
		3. From TBA	1 2 3
		4. From a health worker at the health facility	1 2 3
		5. Community groups	1 2 3
		6. Posters, pamphlets,	1 2 3
		7. Newspaper/ Magazines	1 2 3
		8. Radio	1 2 3
		9. TV	1 2 3
		96. Others (specify) _____	
526	Did your family member, relative or friends talked with you regarding the importance of delivering in appropriate health facility in the <u>past 2 months</u> ?	Yes 1 No 2	

Section 6: Misoprostol and Post-Partum Hemorrhage

Interviewer: "Now, I would like to ask you some questions about bleeding after childbirth."

Q #	Questions	Response	Go to Q
Obstetric History			
601	During your last pregnancy, did you receive any information about bleeding after childbirth?	Yes 1 No 2 Do not know / do not remember 8	604
602	What information did you receive about bleeding after childbirth? Prompt: Did you receive any other information? (Circle All Responses Given)	Can cause death 1 Go to health facility promptly 2 Get help from health worker 3 Others (Specify) 6	
603	Please name all the sources from which you learned about bleeding in mother after childbirth. Prompt: Did you receive any other information? (CIRCLE ALL RESPONSES GIVEN)	Radio 1 Television 2 Pamphlet/flyer 3 Poster 4 FCHV..... 5 Mother's group meeting 6 Health worker 7 Health facility 8 Neighbor/family/friend/ relative 9 Health facility operation and management committee 10 Others (Specify) 96	

Interviewer: "Now I would like to ask you some questions about your experience with using Matri Surakshya Chakki (Misoprostol)."

604	During your last pregnancy, did you receive any information about a medicine that can be taken to reduce bleeding after childbirth?	Yes 1 No 2 Do not know/ do not remember 8	606
605	How many months pregnant were you when you got that information ?	Months..... <input type="text"/> <input type="text"/>	
606	Did you receive MSC tablets from your FCHV when you were last pregnant? If not, probe: Did you receive tablets like this (SHOW TABLET) from your FCHV during your pregnancy?	Yes 1 No 2	→608
607	Why did you not receive MSC tablet from the FCHV?	Not aware of MSC 1 FCHV was out of stock..... 2 I was away from home..... 3 No contact with FCHV/don't know FCHV/ didn't go to check with FCHV... 4 FCHV kept it with herself to give only during delivery 5 Others (Specify) 6 Don't know 8	701
608	How many months pregnant were you when you received MSC from the FCHV ?	Months..... <input type="text"/>	
609	Why should a woman take MSC? Probe: Any other? (CIRCLE ALL RESPONSES GIVEN)	Prevention of PPH 1 Prevent from risk of death 2 Contraction of Uterus 3 Discharge of placenta 4 Others (Specify) 6 Don't know 8	

610	When should a woman take MSC?	After delivery of baby but before delivery of placenta.....1 Immediately after delivery of baby and placenta2 Others (Specify)6 Don't know.....8	
611	How many MSC tablets should a woman take?	Number of tablets..... <input type="text"/> Do not know.....8	
612	When and in which conditions a woman should not take MSC tablets? Probe: Any other conditions? (CIRCLE ALL RESPONSES GIVEN)	During pregnancy1 If placenta comes out before taking MSC.....2 During labor but before delivery3 Others (Specify)6 Don't know.....8	
613	What did the FCHV tell you about taking MSC before delivery i.e. when you are still pregnant? Probe: Any other? (CIRCLE ALL RESPONSES GIVEN)	MSC should not be taken during pregnancy.....1 Taking MSC during pregnancy is dangerous.....2 Did not say anything.....3 Others (Specify).....6 Don't remember.....8	
614	What problems/side effects could a woman face after taking MSC? Probe: Any other? (CIRCLE ALL RESPONSES GIVEN)	Shivering1 Nausea2 Watery stool3 Fever4 Headache5 Others (Specify)6 Don't know.....8	
615	What should a woman do if she takes MSC but still experiences heavy bleeding?	Go to health facility1 Others (Specify)6 Don't Know8	
616	Did you take MSC tablets that you received from the FCHV?	Yes1 No2	→619
617	When did you take the MSC tablets?	After delivery of baby but before delivery of placenta.....1 Immediately after delivery of baby and placenta2 Other (specify)6	
618	How many MSC tablets did you take?	One tablet.....1 Two tablets2 All 3 tablets.....3	→701

619	<p>Check Q 616 and 618:</p> <p><i>If she took 1 or 2 tablets, ask:</i> You got three MSC tablets but you did not take all of them after the delivery of the baby. Why didn't you take all of the tablets?</p> <p><i>If she didn't take any tablets, ask:</i> You got MSC tablets but you did not take any of them after the delivery of the baby. Why didn't you take any of the tablets?</p> <p>Probe: Any other reasons? (CIRCLE ALL RESPONSES GIVEN)</p>	<p>Delivery at HF or trainer provider came for delivery.....1</p> <p>Health worker gave injection after delivery..... 2</p> <p>Family members did not allow 3</p> <p>Forgot to take..... 4</p> <p>Delivery at other's home 5</p> <p>Fear of side-effect..... 6</p> <p>Person who kept MSC was not present during delivery..... 7</p> <p>Lost the tablets (some or all)..... 8</p> <p>Misplaced the MSC tablets..... 9</p> <p>The placenta came out before I could take MSC..... 10</p> <p>Baby was born dead..... 11</p> <p>Baby died immediately after birth..... 12</p> <p>Others (Specify) 96</p>
620	What did you do with the unused MSC tablets?	<p>Threw away.....1</p> <p>Still with me.....2</p> <p>Returned to FCHV3</p> <p>Returned to HW/HF.....4</p> <p>Lost/misplaced5</p> <p>Others (Specify) 6</p>

Section 7: Post-Partum Care

Interviewer: “Now, I would like to ask you some questions about your health after your most recent delivery.”

Q. #	Question	Codes	Go to Q.
<i>Interviewer: “I would like to begin by asking you some questions about your FCHV and the postnatal services she provides.”</i>			
701	At the time of delivery or in the early days after the delivery did you receive a visit from the FCHV?	<p>Yes 1</p> <p>No 2</p> <p>Don't know FCHV 3</p> <p>Don't remember 8</p>	} 707
702	How long after the delivery did the first visit happen?	<p>Days..... <input type="checkbox"/><input type="checkbox"/></p> <p>Don't remember 98</p>	
703	Did the FCHV also made a second visit over the following days and weeks?	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 8</p>	} 707
704	If Yes, when did she make a second visit?	Days..... <input type="checkbox"/> <input type="checkbox"/>	
705	Did the FCHV make third visit over the following days and weeks?	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 8</p>	} 707
706	If Yes, when did she make the third visit?	Days..... <input type="checkbox"/> <input type="checkbox"/>	

Q. #	Question	Codes			Go to Q.	
707	Did you receive advice from your FCHV on any of the following topics during the one month following your last delivery? (READ ALL RESPONSES)	Yes	No	DK		
	1. Take rest/avoid heavy work?	1	2	8		
	2. Post natal visits to a health facility or outreach clinic?	1	2	8		
	3. Proper Balanced Diet?	1	2	8		
	4. Breastfeeding counseling?	1	2	8		
	5. On care of the newborn, notably avoiding infection by cleanliness and preventing chilling?	1	2	8		
	6. Post-partum danger signs for mother?	1	2	8		
	7. Danger signs for newborn?	1	2	8		
	8. Iron tablets?	1	2	8		
	9. Birth spacing?	1	2	8		
Interviewer: "Now I am going to ask you some more detailed questions about the postnatal care that you received."						
708	<p>Check Q N. 505 and circle appropriate number.</p> <p>Name of Place of delivery:</p> <p>_____</p> <p>NAME AND ADDRESS OF THE PLACE</p>	Hospital 1 PHCC 2 Health post 3 Sub-health post..... 4 Pvt. Hospital/Clinic/N. Home 5 Your home 6 Other home 7 Others (Specify).....96	} 710			
709	<p>FOR BIRTHS IN OWN/OTHER HOME, ASK:</p> <p>After [NAME] was born; and the health care provider or FCHV or traditional birth attendant left your home, did any health care provider check your health?</p> <p>Note: For women with a stillbirth, ask: "After you lost your baby, and the health care provider, FCHV or traditional birth attendant left your home, did any health care provider check on your health?"</p>	Yes 1 No 2	} 711			
710	<p>FOR BIRTHS IN HEALTH FACILITY, ASK:</p> <p>After you gave birth to (NAME) did anyone check your health while you were still in the health facility?</p>	Yes 1 No 2				
711	How many times did a health professional check your health within six weeks after birth?	Number of times: <input type="checkbox"/> <input type="checkbox"/> Zero times 97 Don't know 98	→719			
712	<p>How long after delivery did the first check up take place?</p> <p>If On The Day Of Delivery Record "00".</p>	DAYS <input type="checkbox"/> <input type="checkbox"/> Don't know 98				

Q. #	Question	Codes	Go to Q.	
713	Who checked your health at that (FIRST) time? PROBE FOR MOST QUALIFIED PERSON. (If circled 6, 7, or 8 in Q713; ask Q709 and Q710 again)	Doctor 1 Nurse/ANM 2 HA/AHW 3 MCHW..... 4 VHW 5 FCHV 6 TBA 7 Others (Specify) 96 Don't know / don't remember 98		
714	Interviewer: Check question Q711 and circle below: More than one postnatal check up for mother..... 1 Postnatal check up only once 2		→717	
715	How long after delivery did the second check up of your health take place? IF LESS THAN ONE WEEK, RECORD DAYS.	DAYS 1 <input type="checkbox"/> <input type="checkbox"/> WEEKS..... 2 <input type="checkbox"/> <input type="checkbox"/> Don't know 98		
716	Who checked on your health at that (SECOND) time? PROBE FOR MOST QUALIFIED PERSON.	Doctor 1 Nurse/ANM 2 HA/AHW 3 MCHW..... 4 VHW 5 FCHV 6 TBA 7 Others (Specify) 96 Don't know / don't remember 98		
717	Where did these checks ups in those initial 6 months take place? Prompt: Anywhere else? (CIRCLE ALL RESPONSES GIVEN)	Hospital..... 1 PHCC 2 HP 3 SHP 4 Private Hospital/clinic/N. Home 5 NGO clinic 6 Outreach clinic 7 Home 8 Others (Specify) 96		
Interviewer: "Now I am going to ask you some questions regarding care that you may have received at a health facility following your delivery."				
718	Which of the following services were provided by the health worker during your postnatal checkup within six weeks after delivery? (READ ALL)			
		Yes	No	DK
	1 Examination of abdomen?	1	2	8
	2 Perinium examination?	1	2	8
	3 Asked if you had excessive bleeding / severe abdominal pain?	1	2	8
	4 Counseled you about Family Planning?	1	2	8
	5 Counseled you about breastfeeding?	1	2	8
	6 Counseled you about immunization?	1	2	8
	7 Provided advice on newborn care?	1	2	8
719	After your most recent delivery, for about how many days did you take iron or folic acid tablets? SHOW IRON TABLETS (If not taken at all enter '00')	Number of days..... <input type="checkbox"/> <input type="checkbox"/> Don't know 98		

720	In the first 42 days after delivery, did you receive a Vitamin A dose like this? SHOW VITAMIN A CAPSULE	Yes 1 No 2	
721	What are the symptoms in the mother that indicate the need for her to seek immediate health care during the six weeks after delivery? Probe: Anything else? (CIRCLE ALL RESPONSES GIVEN)	High fever 1 Pain in lower abdomen or foul smelling vaginal discharge 2 Excessive bleeding 3 Severe headache 4 Convulsion and fit 5 Others (Specify) 6 Don't know 8	
722	Following your last delivery, did a health worker or FCHV counsel you on the following maternal danger signs or issues? (READ ALL)		
		Yes	No
	1 High fever?	1	2
	2 Severe lower abdominal pain?	1	2
	3 Foul Smelling discharge?	1	2
	4 Excessive bleeding?	1	2
	5 Severe headache?	1	2
	6 Convulsions?	1	2
	7 Breast problems?	1	2
	8 Where to go for services?	1	2
723	During the <u>first six</u> weeks after your most recent delivery, did you eat less than usual, about the same amount as usual, or more than usual?	Less than usual 1 Same as usual 2 More than as usual 3 Don't know 8	
724	During the <u>first six</u> weeks after your most recent delivery, did you receive less care and support than usual, about the same care and support as usual, or more care and support than usual from your family members?	Less than usual 1 Same as usual 2 More than as usual 3 Don't know 8	→726 →726 →726
725	What types of care/support did you receive from your family members? Probe: Any other care and support? (CIRCLE ALL RESPONSES GIVEN)	Given more food to eat 1 Given more nutritious food to eat 2 Advised for more rest 3 Reduced heavy load 4 Advised/accompanied for check-up 5 Others (Specify) 6	
726	How many days after the delivery did you start working outside your home?	Number of days <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Not yet 996 Don't know 998	
727	Please tell me where you would go for health services if <u>you</u> have danger signs during the six weeks after you have delivered. (CIRCLE ALL RESPONSES GIVEN)	Hospital 1 PHCC 2 Health post 3 Sub-health post 4 Outreach clinic 5 Pvt. Hospital/ Clinic/Nursing. Home 6 Others (Specify) 96 Don't know 98	

Section 8: Post-Partum Family Planning and Birth Spacing

Interviewer: “Now, I would like to talk about the various ways or methods of family planning that a couple can use to delay or avoid a pregnancy.”

Q. #	Question	Codes	Go to Q.
801	Have you done something or used any method to delay or avoid getting pregnant at any time after your most recent delivery?	Yes 1 No 2	→804
802	What was the first method you or your husband used after the delivery?	Female Sterilization 1 Male Sterilization 2 Pill 3 IUD (Copper T) 4 Depo-Provera (Sangini) 5 Implant (Norplant/Jedi) 6 Condom 7 Periodic abstinence 8 Withdrawal 9 Others (Specify).....96	
803	After how many months of your most recent delivery did you first start to use a family planning method?	Months..... <input type="checkbox"/> <input type="checkbox"/>	
804	Are you currently pregnant?	Currently pregnant..... 1 Not pregnant / unsure 2	→ 807
805	Are you or your husband currently doing something or using any method to delay or avoid getting pregnant?	Yes 1 No 2	→ 807
806	Which method are you using?	Female Sterilization 1 Male Sterilization 2 Pill 3 IUD (Copper T) 4 Depo-Provera (Sangini) 5 Implant (Norplant/Jedi) 6 Condom 7 Periodic abstinence 8 Withdrawal 9 Others (Specify).....96	
807	Did a health worker counsel you on birth spacing or Family Planning at any time following your most recent delivery?	Yes 1 No 2	→809
808	How many weeks following your most recent delivery were you counseled on birth spacing or Family Planning <u>for the first time</u> ?	Number of weeks..... <input type="checkbox"/> <input type="checkbox"/> Don't know 98	
809	Did your FCHV provide you with family planning information and services following your most recent delivery?	Yes 1 No 2	→812
810	How many days after your recent delivery did FCHV provide you with family planning information and services for the first time?	Days..... <input type="checkbox"/> <input type="checkbox"/>	

811	What type of information and services related to family planning did she provide you? Probe: Anything else? (CIRCLE ALL RESPONSES GIVEN)	FP counseling.....1 Gave condoms.....2 Gave pills.....3 Referred for FP services.....4 Others (Specify).....6	
812	In your opinion does breast feeding helps to minimize the chances of becoming pregnant?	Yes1 No2 Don't Know.....8	} 814
813	For how long after the delivery the chances of becoming pregnant is small for a woman who has been breastfeeding her child?	Months..... <input type="checkbox"/> <input type="checkbox"/> Don't Know98	
814	In your opinion birth space of how many months between two children is needed?	Months..... <input type="checkbox"/> <input type="checkbox"/> Don't Know98	

Section 9: Immediate Newborn Care

Interviewer: “Now, I would like to ask you some questions about the care of your child after delivery.”

Q. #	Question	Codes	Go to Q.
901	Check Q A and circle the appropriate response below: The recent delivery resulted in a live birth.....1 The recent delivery resulted in a still birth.....2		→ 948

Interviewer: “Now, I would like to ask you some specific questions pertaining to the baby immediately following the delivery.”

902	Was a Clean Home Delivery Kit used during delivery? (Show CHDK)	Yes1 No2 Don't know8	→ 907
903	What instrument was used to cut (name)’s umbilical cord?	New Blade1 Boiled Blade2 Unboiled used blade3 Knife4 Grass Cutter (hansiya)5 Weapon (khukuri)6 Scissor.....7 Others (Specify)96 Don't know98	→ 905 → 905
904	Was the instrument used to cut the cord boiled prior to use?	Yes1 No2 Do not know/ cannot remember8	
905	What was used to tie the cord?	New string or thread1 Boiled string or thread2 Unboiled used string or thread3 Others (Specify)6 Don't know8	
906	On what surface was the cord cut on?	Plastic disc1 Metal coin2 Wood.....3 Others (Specify)6 Nothing.7 Don't know8	

907	How long after the birth of the baby the cord was cut?	Minutes..... <input type="text"/> <input type="text"/> <input type="text"/> Don't remember.....998	
908	Did the person who handled the baby, assisting with the delivery, washed hands with soap and water first?	Yes 1 No 2 Don't know 8	
909	Did anybody apply anything on the stump after the baby's cord was cut?	Yes 1 No 2 Don't know 8	} 911
910	What did they apply after the cord was stumped ? Prompt: Anything else? (CIRCLE ALL RESPONSES GIVEN)	Oil 1 Ash..... 2 Sindoor..... 3 Powder 4 Animal dung 5 Turmeric/turmeric powder 6 Ghyu 7 Kawach..... 8 Other Ointment..... 9 Others (Specify) 96 Don't know 98	
911	After the cord of your baby was cut was Kawach applied on the umbilical cord stump? SHOW KAWACH TUBE	Yes 1 No 2 Don't Know..... 8	} 922
912	How long after the cord cut, was Kawach first applied?	Immediately after cord was cut.....996 Minutes <input type="text"/> <input type="text"/> <input type="text"/> Don't Know.....998	
913	Who applied Kawach on the umbilical cord stump of your baby?	Health worker..... 1 FCHV..... 2 Traditional birth attendant..... 3 Mother..... 4 Family members..... 5 Other (specify) 96 Don't know..... 98	} 915
914	(check Q910 & 708 and ask) Did the health work told or communicated with you or other family member that Kawach has been applied to the child umbilical cord stump?	Yes 1 No 2 Don't Know..... 8	
915	Did the person applying Kawach wash hand with soap and water before applying Kawach?	Yes 1 No 2 Don't Know..... 8	
916	Was Kawach applied on stump only or also in the surrounding area of the stump?	Stump only 1 Surrounding area only..... 2 Both in stump and surrounding area..... 3 Don't Know..... 8	
917	Was the whole amount of the Kawach in the tube applied at a time on your baby's stump or only some amount from the tube applied?	Whole content of the tube 1 Part of the content of the tube..... 2 Don't know 3	→ 919 → 919
918	Why was the whole amount of Kawach in the tube not applied at a time? Probe: Any other reason? (CIRCLE ALL RESPONSES GIVEN)	Tube cream is more for one application...1 Thought more than one application is effective.....2 Did not know that whole content of the tube has to be applied once.....3 Other (specify).....6 Don't Know.....8	

919	How many times Kawach was applied on umbilical cord stump of your baby?	Times <input type="checkbox"/> Don't know8		
920	After applying Kawach, was the cord stump kept untouched by clothes for some time?	Yes1 No2 Don't Know.....8		
921	After an application of kawach, was anything else applied to the cord stump?	Yes 1 No 2 Don't Know.....8		
922	During your last pregnancy, were you given or did you buy Kawach?	Yes 1 No 2		→ 924
923	Why didn't you get or buy Kawach?	Never heard of Kawach1 Didn't knew Kawach had to be applied2 Because on FCHV3 Because FCHV was supposed to bring4 Other (specify).....6 Don't Know.....8		
924	Where did you obtain Kawach from?	FCHV.....1 Health facility2 Bought from a shop separately.....3 Bought from a shop in a CHDK.....4 Others (Specify).....6		
925	What reasons were you told for using Kawach? Probe: Any other reason? (CIRCLE ALL RESPONSES GIVEN)	To prevent infection of umbilical cord...1 To reduce risk of death.....2 No reason was told.....3 Others (Specify).....9 Don't remember.....8		
926	At what month of pregnancy did you receive Kawach?	Months..... <input type="text"/> <input type="text"/> (currently running month)		
927	Did the person giving you Kawach tell you the following while giving you Kawach?		YES	NO
	Told to wash hand with soap and water before applying Kawach		1	2
	Told to spread Kawach by finger		1	2
	Told to, keep the stump untouched by clothes for sometime after applying Kawach		1	2
	Told not to apply anything on the cord stump other than Kawach but keep it dry and clean		1	2
928	Check Q 910, 911, 922 and 923:	Received Kawach but did not apply1 Received Kawach and applied.....2 Not received Kawach and not applied.....3 Not received Kawach but applied.....4		} 930
929	You had received Kawach from (source from Q. 924) but you did not apply on the cord stump of your baby. Why did not you apply Kawach on your baby's stump? Probe: Any other reason? (CIRCLE ALL RESPONSES GIVEN)	Delivered at a health facility.....1 Family members/others were against of it.....2 Forgot to apply.....3 Lost Kawach.....4 Did not think it was useful or necessary....5 Others (Specify).....6 Don't know.....8		
930	Was there any problem on the cord stump of your baby within 28 days of birth?	Yes 1 No 2		→ 933

Q. #	Question	Codes	Go to Q.
931	What type of problems were seen? Probe: Any other problem?	Infection on the cord stump.....1 Delay in cord fall.....2 Others (Specify).....6	
932	What did you do when the baby had problem in cord stump?	Used Kawach again.....1 Visited a health facility/health worker....2 Consulted a pharmacy.....3 Home remedy.....4 Others (Specify).....6 Did nothing.....7	
933	How many days after the cord was cut, it fell?	Days..... <input type="text"/> <input type="text"/> Don't Know.....98	
934	In your opinion why Kawach should be applied on the baby's stump after cutting the umbilical cord? Probe: Any other reason? (CIRCLE ALL RESPONSES GIVEN)	To prevent infection of umbilical cord.....1 To reduce risk of death.....2 FCHV/health worker advised to apply...3 Others (Specify).....6 Don't know.....8	
935	Was your baby wiped off/dried before the placenta was delivered?	Yes 1 No 2 Don't know 8	
936	Was your baby wrapped in cloth before the placenta was delivered?	Yes 1 No 2 Don't know 8	} 938
937	Was the cloth used to wrap or cover the baby clean and dry?	Yes 1 No 2 Don't know 8	
938	Where was the baby placed before the placenta was delivered?	On the floor 1 On the bed/cot 2 Beside or on the mother's body.....3 With someone else 4 Others (Specify).....6 Don't know 8	
939	How long after the birth was your baby bathed for the first time?	Within 1 hour 1 2-24 hours 2 After 24 hours 3 Don't know..... 8	
940	Did you ever breastfeed (NAME)?	Yes 1 No 2	→ 944
941	How long after birth did you first put (NAME) to the breast?	During the first hour after delivery 1 After 1 hour of delivery. 2 Don't know 8	
942	Did you give the colostrums (<i>begauti</i>) that came from your breasts to (NAME)?	Yes 1 No 2	
943	In the first three days after birth, was (NAME) given anything to drink other than breast milk?	Yes 1 No 2	
944	Check QA and circle the appropriate number below The recently born child is still alive.....1 The recently born child is no more alive.....2		→ 948
945	Are you still breastfeeding (NAME)?	Yes 1 No 2	

Q. #	Question	Codes	Go to Q.
946	Now I would like to ask you about liquids or foods that the child (NAME) had yesterday during the day or at night. I am interested in whether your child had the item I mention even if it was combined with other foods. Did (NAME) (drink/eat):		
		YES NO DK	
	a) Plain water?	1 2 8	
	b) Juice or juice drinks?	1 2 8	
	c) Soup?	1 2 8	
	d) Milk such as tinned, powered, or fresh animal milk? IF YES: How many times did (NAME) drink milk? IF 7 OR MORE TIMES, RECORD '7'.	1 2 8 NUMBER OF TIMES DRANK MILK	<input type="checkbox"/>
	e) Infant formula like Lactogen? IF YES: How many times did (NAME) drink infant formula? IF 7 OR MORE TIMES, RECORD '7'.	1 2 8 NUMBER OF TIMES DRANK FORMULA	<input type="checkbox"/>
	f) Any other liquids?	1 2 8	
	g) Yogurt? IF YES: How many times did (NAME) eat yogurt? IF 7 OR MORE TIMES, RECORD '7'.	1 2 8 NUMBER OF TIMES ATE YOGURT	<input type="checkbox"/>
	h) Any fortified baby food like Cerelac, Nestrum, Champion etc?	1 2 8	
	i) Roti, rice, maize, millet, noodles, porridge, or other foods made from grains?	1 2 8	
	j) Pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside?	1 2 8	
	k) White potatoes, white yams, colocasia, or any other foods made from root?	1 2 8	
	l) Any dark green, leafy vegetables like spinach, amaranth leaves, mustard leaves?	1 2 8	
	m) Ripe mangoes, papayas, or apricot?	1 2 8	
	n) Any other fruits or vegetables?	1 2 8	
	o) Liver, kidney, heart or other organ meats?	1 2 8	
	p) Any meat such as pork, lamb, goat, chicken, or duck?	1 2 8	
	q) Eggs?	1 2 8	
	r) Fresh or dried fish or shellfish?	1 2 8	
	s) Any foods made from beans, peas, lentils, or nuts?	1 2 8	
	t) Cheese or other food made from milk?	1 2 8	
	u) Any other solid, semi-solid, or soft food (jaulo, lito, sarbottam pitho etc.?)	1 2 8	
947	How many times did (NAME) eat solid, semi-solid, or soft foods yesterday during the day or at night?	Number of times..... Don't know	<input type="checkbox"/> 98
948	Please tell me when should a newborn child be bathed after the birth?	Immediately after the birth.....1 Within 24 hours after birth.....2 After 24 hours after birth.....3 Should not be bathed.....4 Others (Specify) 6 Don't know.....8	
949	Please tell me when should a newborn child be breast fed for the first time after the birth?	Immediately after the birth.....1 After the placenta is out.....2 After bathing the new born.....3 After 24 hours after birth.....4 Others (Specify).....6 Don't know.....8	

Section 10: Newborn Care During First Month

Interviewer: “Now, I would like to ask you some questions about the health of your child during the month after your most recent delivery.”

Q. #	Question	Codes	Go to Q.
1001	What are the symptoms of <i>the infant within one month after delivery</i> indicating the need to seek immediate health care? Prompt: Any other symptoms? (CIRCLE ALL RESPONSES GIVEN)	Poor suckling 1 Difficult to wake/lethargic/unconscious.....2 Fast breathing 3 Severe chest indrawing.....4 Fever.....5 Hypothermia..... 6 umbilical infection /Skin rashes.....7 Others (Specify) _____ .96 Don't know.....98	
1002	Interviewer: Check QA, QB and QC and circle appropriate code Baby still alive.....1 Baby born alive, then died at 2+ months2 Baby born alive, then died at 0-1 months.....3 Baby still born.....4		→ 1021 → 1101

Interviewer: “I would like to start by asking you some detailed questions about the postnatal care that your most recently delivered child received.”

1003	During the first four weeks or one month after your most recent delivery, did a health professional or FCHV check on your newborn's health?	Yes 1 No 2	→ 1009
1004	How many times new born's health was checked within four weeks or one month after the delivery?	Times..... <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/>	
1005	How many days after birth was the baby checked for the first time by a health worker or FCHV? (Write “00” if same day of birth)	Number of days..... <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black;" type="text"/> Don't know 98	
1006	Who checked your newborn's health at that time? Probe: Anybody else? (CIRCLE ALL RESPONSES GIVEN)	Doctor 1 Nurse/ANM.....2 HA/AHW 3 MCHW.....4 VHW 5 FCHV 6 TBA 7 Others (Specify)_____ .96 Don't know / don't remember.....98	

Q. #	Question	Codes	Go to Q.
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1007 Prior to or following your delivery, did a health worker or FCHV counsel you at any time on the following newborn issues? **(READ ALL)**

	Yes	No	DK
1 Keeping the baby warm by immediately drying and wrapping and keeping in contact with mother's body?	1	2	8
2 Breastfeeding within the first hour of delivery and continuing exclusively?	1	2	8
3 NEWBORN DANGER SIGNS (E.G. FAST	1	2	8
4 Applying Kawach in child's cord stump?	1	2	8
5 Need to avoid chilling, especially of very small baby?	1	2	8
6 Immunization?	1	2	8
7 Hand washing with soap and water before touching/handling the baby?	1	2	8

1008 Did your child receive a Vitamin A capsule in the Baishakh 2068 distribution?
 Yes 1
 No 2
 Don't know 8

1009 Did (NAME) receive a BCG vaccination against tuberculosis, that is, an injection in the right arm that usually causes a scar?
 Yes 1
 No 2
 Don't know 8

1010 Did your newborn experience any of the following health problems at anytime in the first four weeks following delivery?

(Read out all responses one after another and Record all responses accordingly.)

	Yes	No
1 Fever?	1	2
2 Feeding problem?	1	2
3 Trouble breathing?	1	2
4 Fast breathing?	1	2
5 Chest-in-drawing?	1	2
6 Drowsy?	1	2
7 Abdominal tenderness?	1	2
8 Convulsions?	1	2
9 Persistent vomiting?	1	2
10 Unconscious?	1	2
11 Red/discharging eye?	1	2
12 Skin pustules?	1	2
13 Skin around cord red?	1	2
14 Felt cold/ hypothermia?	1	2
None of the above mentioned problems.....	2	

→ 1019

1011 How many days old was your child at that time? (during the first problem)
 Days old.....
 Don't know 98

Q. #	Question	Codes	Go to Q.
1012	What did you do or whom did you consult for the problems that you stated above? Prompt: Anything else? (CIRCLE ALL RESPONSES GIVEN)	Traditional treatment at home 1 Given medicine at home 2 Hospital 3 PHCC /HP/ SHP 4 Pvt. Hospital/Clinic/n. Home 5 Bought medicine from pharmacy 6 Consulted & treated by FCHV 7 Consulted & treated by MCHW 8 Consulted & treated by a TBA 9 Consulted & treated by other HW 10 Treated by dhama / jhankri 11 Consulted relative/neighbor/friend 12 Others (Specify) 96 Nothing 97	→ 1018
Now I'd like to ask you some questions about the first time that your child was sick.			
1013	How long was your child sick before you sought help from someone outside the family for the first time ?	Days <input type="text"/> <input type="text"/> Treated in Home only 1 Don't know 98	
1014	Whom did you go to first for this health problem?	Doctor 1 Nurse 2 ANM 3 HA 4 AHW/CMA 5 MCHW 6 VHW 7 FCHV 8 TBA 9 Family member 10 Friend/Neighbors 11 Private practitioner 12 Medical shop 13 Traditional healer 14 Others (Specify) 96	
1015	Check Q1014, and circle below		
	Sought care from a health facility (Q1012= 3, 4 or 5).....	1	
	Not sought care from a health facility.....	2	→ 1018
1016	If care was sought from a health facility, was the child admitted?	Yes 1 No 2	→ 1019
1017	I understand that your child was not admitted but that you visited a health facility. Please specify the number of times the health facility was visited	Number of visits..... <input type="text"/> <input type="text"/>	→ 1019
1018	Why didn't you seek care for any of your child's health problems from a health facility? Probe: Any other reasons? (CIRCLE ALL RESPONSES GIVEN)	Not felt necessary 1 No reliable service 2 Financial problem 3 Health service not easily accessible.... 4 Don't know where to go 5 Don't have friend to go 6 Didn't have any health problems 7 Others (Specify) 8 Don't know 98	

Q. #	Question	Codes	Go to Q.
1019	Was your child weighed at any time after birth?	Yes 1 No 2 Don't know 8	→ 1024 → 1024
1020	When was your baby [NAME] weighed the first time after birth?	Within 24 hours1 1-2 days.....2 3 days.....3 After 3 days4 Don't know.....8	
1021	Where was the baby weighed?	Hospital1 PHCC2 Health post3 Sub-health post.....4 Pvt. Hospital/Clinic/N. Home5 Your home6 Other/FCHV home7 Others (Specify).....96	
1022	Who weighed the baby?	Doctor.....1 Staff Nurse/ ANM.....2 MCHW 3 HA/ AHW/ CMA.....4 VHW.....5 FCHV.....6 Others (Specify).....96	
1023	How much did [NAME] weigh the first? RECORD WEIGHT IN KILOGRAMS FROM HEALTH CARD, IF AVAILABLE. OTHERWISE RECORD FROM MOTHERS RECALL.	KG FROM CARD..... <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> KG FROM RECALL..... <input type="text"/> . <input type="text"/> <input type="text"/> <input type="text"/> DON'T KNOW.....988	
1024	When your child was born, was s/he very large, larger than average, average, smaller than average, or very small?	Very large 1 Larger than average 2 Average 3 Smaller than average 4 Very small 5 Don't know 8	} 1031 → 1031
1025	Because your baby was small, did you receive extra visits from a health worker or FCHV?	Yes..... 1 No.....2 Don't know.....8	
1026	What advice did health worker or FCHV give when your baby [NAME] was smaller than other babies? Probe: What else advice? (CIRCLE ALL RESPONSES GIVEN)	Frequent breast feeding.....1 Keep baby warm..... 2 Keep baby against mother's body, skin to skin.....3 Newborn danger signs..... 4 Repeatedly weigh baby.....5 Repeated visit to health facility or health worker.....6 Others (Specify).....96 No advice.....97 Don't know.....98	
1027	Because your baby was small, was [NAME] referred to a health facility?	Yes 1 No2	→1029
1028	Did you take the baby to health facility as advised?	Yes 1 No2	

Q. #	Question	Codes	Go to Q.
1029	Because your baby was small, did you give extra care to your baby?	Yes 1 No 2	→1031
1030	What extra care did you give to your baby? (CIRCLE ALL RESPONSES GIVEN)	More frequent breastfeeding 1 Skin-to-skin care..... 2 Fed by cup or spoon.....3 Other (Specify).....6	
1031	Following your last delivery, did the health worker or FCHV talk about "keeping the baby in skin-to- skin contact with the mother?"	Yes 1 No 2	
1032	Was the baby placed in SKIN-to-SKIN contact in the first 24 hours after delivery? (IF YES, PROVE THE TIME)	Not at all1 For a little time (up to 2 hours).....2 For a moderate time (between 2 to 5 hours)..... 3 For a longer time (5-12 hours)..... 4 Most of the time (day & night, more than 12 hours).....5	

Section 11: Birth Preparedness

Interviewer: “Now, I would like to ask you some questions about how you prepared for the arrival of your child.”

Q. #	Question	Codes	Go to Q.
1101	What kind of preparation did you make beforehand for the delivery of (NAME)? Prompt: Anything else? (CIRCLE ALL RESPONSES GIVEN)	Saved money..... 1 Arranged for transport..... 2 Found blood donor.....3 Contacted with worker to help with delivery.....4 Bought clean home delivery kit.....5 Arranged food.....6 Arranged clothes.....7 Others (Specify)96 No preparation.....97	
1102	During your last pregnancy did you make specific plans for a place to deliver your child? (Tally with Q. 508)	Yes 1 No 2	→ 1104
1103	Where did you plan to deliver your child? (Tally with Q. 508)	Hospital 1 Primary health care center2 Health post 3 Sub-health post.....4 Private Hospital/clinic /N. home..... 5 NGO clinic 6 At home.....7 Others (Specify).....96	
1104	Did you make any preparation for care of the mother and newborn for the first month following the delivery?	Yes 1 No 2	→ 1106
1105	What preparations did you make for care of the mother and newborn for the first month following the delivery? Prompt: Did you do anything else to prepare? (CIRCLE ALL RESPONSES GIVEN)	Financial 1 Identification of health worker 2 Identification of facility 3 Blood 4 Others (Specify)6	
1106	During your last pregnancy, were you given a Jivan Surakchha Card by healthworker or FCHV ? SHOW CARD and ask	Yes 1 No 2	

Interview ended time: :

Thank you for your time and cooperation in answering my questions.