A Baseline Survey on Community Based Newborn Care Package in Two Districts in Rural Nepal

Submitted to

Saving Newborn Lives Program
Save the Children USA
Himalayan Country Office (HmCO)
PO Box 2218
JDA Complex, Sundhara
Kathmandu, Nepal

By

Valley Research Group (VaRG)
Post Box 4112
Kathmandu, Nepal

Phone 5-523477

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The Ministry of Health and Population, with the support of the Saving Newborn Lives program of Save the Children USA, developed a Community Based Newborn Care Package (CB-NCP) aimed to reduce neonatal mortality rates in the country. The overall objectives of the survey were to assess the current newborn health care practices and the coverage of the newborn health services provided by the community health workers and female community health volunteers in two districts, namely Dhankuta and Bardiya. Respondents were women who had given birth in the year preceding the survey. The total sample size was 1260 women, 630 in each of the districts.

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Study Team

Mr. Shailes Neupane	Team Leader
Dr. Yogendra Pradhananga	Team Member
Mr. Nebin Lal Shrestha	Team Member
Mr. Hari Sharan Giri	Computer Programmer
Mr. Bishnu Hari Devkota	Computer Support
Mr. Subodh Pathak	Computer Support
Mr. Prakash KC	Computer Support
Ms. Trishna Bajracharya	Data editing and coding
Mr. Laxman Neupane	Data editing and coding
Mr. Baburam Roka	Data editing and coding
Mr. Devendra Ghimire	Data editing and coding
Mr. Laxmi Devkota	Data editing and coding

Field Supervisors and Interviewers

Mr. Laxman Neupane	Ms. Nisha Ranamagar
Mr. Baburam Roka	Ms. Sarita Shrestha
Mr. Soma Raj Sharma	Ms. Namrata Karki
Mr. Kiran Dahal	Ms. Anjana Humagai
Mr. Laxmi Devkota	Ms. Sita Pandey
Mr. Devendra Ghimire	Ms. Dillu Rai
Mr. Balchandra Devkota	Ms. Babita Bhattarai
Mr. Rajendra Dhakal	Ms. Sarita Rijal
Ms. Shristhi Shah	Ms. Sujata Karanjit
Ms. Durga Uprety	Ms. Radhika Baniya
Ms. Prabina Adhikari	Ms. Sanita Sainju (Amatya)
Ms. Santoshi Thapa (Khadka)	Ms. Yashoda Uprety
Ms. Bhima Devi Dulal	Ms. Manita Koirala
Ms. Tara Devi Chapagain	Ms. Pramila Neupane

Abbreviations

AHW	Auxiliary Health Worker
ANC	Antenatal Care
ANM	Assistant Nurse Mid-wife
BPP	Birth Preparedness Package
CB-NCP	Community Based Newborn Care Package
CHDK	Clean Home Delivery Kit
CMA	Community Medical Auxiliary
FCHV	Female Community Health Volunteer
FPAN	Family Planning Association of Nepal
GON	Government of Nepal
HA	Health Assistant
HF	Health Facility
HP	Health Post
HW	Health Worker
KMC	Kangaroo Mother Care
KPC	Knowledge Practice and Coverage
LBW	Low Birth Weight
M&E	Monitoring and Evaluation
MCHW	Maternal and Child Health Worker
MoHP	Ministry of Health and Population
NDHS	Nepal Demographic and Health Survey
NFHP	Nepal Family Health Program
NGO	Non-Governmental Organization
NS	Not Significant
PHC ORC	Primary Health Care Outreach Clinic
PHCC	Primary Health Care Center
PNC	Postnatal Care
RDW	Recently Delivered Women
SBA	Skilled Birth Attendant
SCF USA	Save the Children Federation USA
SD	Standard Deviation
SES	Socio-Economic Status
SHP	Subhealth Post
SLC	School Leaving Certificate
SNL	Saving Newborn Lives
TAG	Technical Working Group
TBA	Traditional Birth Attendant
TT	Tetanus Toxoid
TTBA	Trained Traditional Birth Attendant
TV	Television
VaRG	Valley Research Group
VDC	Village Development Committee
VHW	Village Health Worker
VLBW	Very Low Birth Weight
WHO	World Health Organization

Executive Summary

a) Introduction

The Ministry of Health and Population (MoHP), with the support of the Saving Newborn Lives (SNL) program of Save the Children, developed a Community Based Newborn Care Package (CB-NCP) targeted to reduce the previously neglected high rates of neonatal mortality in the country. A strategic literature review and finalization of the package was conducted by a Technical Working Group based on the criteria adapted from Johnson-Masotti, et. al. This package was endorsed by the Government of Nepal (GON) for implementation in eight districts in FY 2008-2009. The interventions include behavioral change communication for newborn health; promotion of institutional delivery and clean delivery practices in case of home deliveries; three post natal care visits by FCHVs; Community Case Management of pneumonia/possible severe bacterial infection; prevention of hypothermia; recognition of post-delivery asphyxia, and initial stimulation and resuscitation of the newborn using bag and mask, if necessary.

The Technical Working Group and the M & E Sub-Committee of the CB-NCP has designed an evaluation system to assess the effectiveness of the CB-NCP program. This includes a baseline survey (before program implementation), which will be compared with an endline survey to assess changes attributable to the intervention.

b) Methodology

A 30 cluster Knowledge Practice and Coverage (KPC) survey was conducted in the rural areas of Dhankuta and Bardiya districts. A three-stage cluster sampling methodology was utilized to select the sample size. The first stage of sampling identified 30 clusters based on probability proportional to population size. Clusters were then mapped and divided into different segments in the second stage. In the third stage, the required numbers of recently delivered women (RDW) were randomly selected from the previously identified clusters. (RDW are defined as women who have given birth to a live baby or stillbirth (more than 7 months gestation) in the past 12 months preceding the survey). Thus, 30 clusters from each district were selected using the 2001 Census Data of the Central Bureau of Statistics. The total sample size is 1260 RDW, 630 in each of the districts. Data collection was conducted during the months of November and December 2008.

c) Sample Characteristics

Socio-demographic characteristics

The majority (65% in Dhankuta, 70% in Bardiya) of the RDW in both districts were between 20-29 years old with the mean age of 25.8 years in Dhankuta and 23.8 years in Bardiya. The majority (61% in Dhankuta, 66% in Bardiya) of the RDW in both districts were *Janajati* followed by Brahmin or Chhetri (31% in Dhankuta, 25% in Bardiya). Slightly over seven percent of the respondents in both districts were from the *Dalit* group. Overall, 70% of the RDW in Dhankuta and 46% in Bardiya reported ever attending school. About 63% of the RDW in Dhankuta and 51% in Bardiya were reported to be literate.

Exposure to media

Most respondents in the survey were exposed to either (or both) electronic and print media; however, a district-wise variation was noticed. More women had exposure to radio compared

with television and newspaper. More than 95% of the RDW in Dhankuta and 80% in Bardiya reported having listened to the radio before. Sixty-four percent of the RDW in Dhankuta and 51% in Bardiya listened to the radio almost every day. Over two-thirds of the RDW in Dhankuta and over half in Bardiya reported to have ever watched television. The percentage of those watching television almost every day constituted only 23% in Dhankuta and 17% in Bardiya. Slightly over a quarter in Dhankuta and about one-sixth in Bardiya reported having read the newspaper. In general, it was found that RDW in Dhankuta listen to national radio, whereas those from Bardiya listen to local FM. The preferred time for listening to the radio was morning and late afternoon.

Household utilities and housing conditions

About 78% of respondents in Dhankuta and 62% in Bardiya reported having electricity in the house. Over 85% of RDW in Dhankuta and 68% in Bardiya have access to radio and 33% in Dhankuta and 29% in Bardiya have a television set in the house. Most (84%) of the respondents in Bardiya reported having bicycles in their houses. Only a few (<4%) RDW in both districts have a telephone set in the houses.

Over three-quarters (81%) of the respondents in Dhankuta were served with private or public piped water. In Bardiya, over three-quarters (76%) mentioned private tube wells and 24% cited public or neighbors' tube wells as their drinking water source. Overall, 65% of the respondents in Dhankuta and 33% in Bardiya have a toilet facility with either a traditional pit (16% in Bardiya, 43% in Dhankuta) or ventilated improved pit latrine (17% in Bardiya, 21% in Dhankuta).

Earth, mud and dung were the main material used on the floor in almost all the houses of the responding women in both districts.

The socio-economic status (SES) index of the households of the sampled RDW was constructed using *principal component analysis*. There was almost equal distribution (about 20%) of households in each of the five SES levels in Bardiya. In Dhankuta, a higher percentage (24%) of the respondents belonged to the fourth level and the lowest percentage (16%) were in the highest level.

d) Antenatal Care and Birth Preparedness

Utilization of antenatal care (ANC)

The coverage of ANC was found to be fairly high with 83% of RDW in Dhankuta and 93% in Bardiya reporting that they received antenatal care during their last pregnancy. Utilization of antenatal services was significantly higher among the younger, literate and Brahmin or Chhetri women than their respective elder, illiterate counterparts from other castes. RDW exposed to radio or television and belonging to the high wealth index were significantly more likely to use antenatal services than their respective counterparts.

Community level trained health service providers such as ANM, HA, AHW and MCHW appeared to be the most popular sources for antenatal services in both districts. A relatively small percentage of RDW from both districts received antenatal services from skilled providers such as doctors (10% in Dhankuta, 17% in Bardiya) or nurses (16% in Dhankuta, 29% in Bardiya). Consultation with FCHV to receive pregnancy-related information and services occurred among 48% of RDW in Bardiya and 14% in Dhankuta, indicating moderate coverage in Bardiya and much lower coverage in Dhankuta with ANC services from the FCHV.

About eight in every 10 RDW in Dhankuta and nine in every 10 in Bardiya received ANC either from a skilled or trained provider. The survey results show that health posts and subhealth posts combined were the most frequently used health facilities for ANC.

Most RDW did not go to the health facilities for their first antenatal check up on time (e.g. during the first trimester). Only about 46% of the RDW in Dhankuta and 35% in Bardiya had their first antenatal check up during their first trimester. Only 51% of the RDW in Dhankuta and 57% in Bardiya received four antenatal check ups during their last pregnancy. Thus, most of the RDW did not complete the recommended number of four ANC visits, indicating inadequate use of ANC services. The low rate of use of ANC was more prominent among older, illiterate, lower caste RDW and those who were not exposed to mass media information.

Counseling and support during pregnancy

At the community level the FCHVs are expected to provide counseling and other basic services to pregnant women. About 30% of RDW in Dhankuta and 69% in Bardiya discussed their pregnancy with an FCHV. Among them, 28% of RDW in Dhankuta and 62% in Bardiya received specific information from the FCHV about where to go for antenatal check ups.

Most (72%-82%) of the RDW in both districts received the following information: the importance of the using skilled birth attendants during delivery, pregnancy related complications and places to get care for the complications during their ANC visit.

A sizeable percentage of RDW received various counseling services during their antenatal care visits. Overall results show that the proportion of RDW who received counseling on various aspects of pregnancy and newborn care varied substantially. More RDW received counseling on TT and pregnancy-related danger signs and the need for assistance of skilled or trained birth attendants during delivery compared to financial preparation for delivery, early breastfeeding and other aspects of newborn care.

Birth preparedness

Over 80% of the RDW in both districts reported that they had made some kind of preparations for their last delivery. The highest percentage (74% in Bardiya, 81% in Dhankuta) of the RDW reported making provision of foods followed by those who arranged for money (70% in Bardiya, 77% in Dhankuta) and clean cloth (62% in Bardiya, 64% in Dhankuta) respectively. However, preparations on other crucial components of the birth preparedness package such as, pre-identification of health facility or SBA, arrangement of transport, clean delivery kits and clean instruments for cord cutting were reported to have been made by only a small proportion of the women of both districts.

Overall, 82% of the RDW in Dhankuta and 76% in Bardiya reported that they discussed planning for delivery with at least one person (either a family member or outsider) during their last pregnancy.

Although the GON has instituted policies and programs that encourage women to use institutional delivery, most of the RDW in the study planned to deliver at home. Nearly half (48%) of the RDW in Dhankuta and 37% in Bardiya had planned to deliver at a health facility, while the remainder planned to deliver at home.

e) Knowledge and Use of Delivery services

Knowledge about delivery services

Almost all RDW were able to mention at least one health facility where they could go for delivery. The majority of the RDW mentioned health posts (31% in Bardiya, 38% in Dhankuta) as the facilities for delivery, wherein the services for delivery have not been established as yet. A minority (7% in Dhankutam, 24% in Bardiya) of RDW knew about the availability of delivery services at the PHCC where the government has tried to institute delivery services. The awareness of PHCCs as safe delivery places was much less in Dhankuta than in Bardiya.

The majority of the RDW in both districts expressed the need for a doctor (64% in Dhankuta 72% in Bardiya) or nurse (55% in Dhankuta, 79% in Bardiya) to be present at birth to help deliver the baby safely. More than a quarter of the RDW considered the need for a FCHV during delivery. However, a relatively small percentage of the respondents in both districts (16% in Dhankuta. 23% in Bardiya) mentioned the need for an ANM to be present during delivery. This illustrates that RDW prefer to have skilled providers, like doctors and nurses to be present during delivery to assure safe delivery. Only a few RDW indicated the need for the presence of community level care providers such as MCHW, TTBA and TBA, who were most likely to be available at the community level.

FCHVs were the community level supporters for RDW to help them complete the reproductive cycle safely by providing informational, social and basic health services. About 66% of the RDW in Bardiya and 28% in Dhankuta reported being informed by the FCHVs about where they should go for delivery. About 44% in Bardiya and 24% in Dhankuta also said that they were asked to call her at the time of delivery. About 29% of the RDW in Bardiya and 15% in Dhankuta were informed about the types of health workers to be contacted to attend the home delivery. It would appear that the FCHVs have been an effective instrument in recommending health facilities in general for delivery but inadequate in suggesting RDW seek assistance from health workers in particular.

Experienced danger signs during delivery

A higher percentage (21% in Dhankuta, and 28% in Bardiya) of RDW in both districts experienced prolonged labor during the delivery of their last child. Less than 10% of the RDW experienced other danger signs such as heavy bleeding (5% in Dhankuta, 7% in Bardiya), convulsions (3% in Bardiya, 4% in Dhankuta) or the baby's hand, leg or cord (2%) coming first in the delivery. Overall, 25% of the RDW in Dhankuta and 34% in Bardiya reported experiencing at least one of the above four common danger signs associated with delivery, indicating the prevalence of natal problems among a considerable proportion of RDW.

Among RDW who reported having experienced danger signs, about one-third in Dhankuta and over half in Bardiya consulted skilled providers, and over a quarter in both districts consulted trained providers for the management of problems. Overall, 54% of the RDW in Dhankuta and 74% in Bardiya consulted either skilled or trained providers during complications.

Utilization of delivery services

About 21% of the deliveries in Dhankuta and 30% in Bardiya were reported to have been assisted by a skilled provider. Slightly over 10% in Dhankuta and 12% in Bardiya were assisted by a trained provider. Among RDW who delivered their last child (live birth) at home, only 5% in Dhankuta and 2% in Bardiya reported receiving assistance from a skilled birth attendant.

Among RDW who had a live birth in the past 12 months, 18% in Dhankuta and 32% in Bardiya had an institutional delivery. This included hospitals (11% in Dhankuta, 12% in Bardiya), PHCCs (2% in Dhankuta, 5% in Bardiya), private clinics or nursing homes (2% in Dhankuta, 8% in Bardiya), and health posts or sub-health posts (4% in Dhankuta, 6% in Bardiya). More than three quarters (82%) of the RDW in Dhankuta and over two-thirds (68%) in Bardiya delivered at home. The practice of delivery at home is still prominent simply because the majority (82%-85%) of the RDW in both districts do not feel the need for delivering at health facilities, indicating the lack of awareness on the importance of institutional delivery. This information indicates that in spite of the government emphasis on institutional delivery, the utilization of health facilities for deliveries is still low.

Among RDW who delivered their baby at home, only 25% in Dhankuta and 34% in Bardiya reported using clean delivery kits. Thus the majority of deliveries occurred with unhygienic practices.

In most cases (>70% in both districts) spouses accompanied RDW to the health facilities for delivery.

Exposure to messages related to delivery services

Radio (71% in Bardiya, 87% Dhankuta), followed by health personnel (78% in Bardiya, 84% in Dhankuta) and FCHVs (54% in Dhankuta, 81% in Bardiya) were the predominant sources of information on maternal and newborn services in both districts. FCHVs were highlighted as one of the main sources of information by 24% of the RDW in Bardiya. However, specific messages on maternal and newborn care, such as the need for attendance by trained health personnel (41% in Bardiya, 45% in Dhankuta) and FCHVs (29% Bardiya, 35% in Dhankuta) during delivery were heard by only a limited number of RDW. The use of mass media and interpersonal communication to receive the messages was limited.

A large percentage of RDW in both districts perceived health personnel (>66%) and radio (56% in Bardiya, 63% in Dhankuta) as trusted sources of information on maternal and newborn health services. Similarly, 24% of the RDW in Dhankuta and 66% in Bardiya regarded FCHVs as the trusted sources of information.

f) Knowledge of, Attitudes toward, and Practice of Newborn Care

Cord cutting and use of clean delivery kits

Among RDW who delivered their baby at home, 25% in Dhankuta and 34% in Bardiya used clean delivery kits. Similarly, the use of "clean delivery kits" or "clean instruments such as new blade, boiled instrument" to cut the cord of the newborns who were delivered at home was prevalent among 79% of the RDW in Dhankuta and 96% in Bardiya.

Among RDW who had delivered their last child at home, 83% in Dhankuta and 92% in Bardiya reported that either a clean delivery kit, new thread, boiled string or thread was used to tie the cord of the baby. However, there were instances of use of non-sterilized and uncleaned materials to cut and tie the cord indicating the possible risk of infection among a sizeable proportion of newborns.

The risk of infection on the cord was further aggravated by use of unnecessary substances on the cord stump (13% in Dhankuta, 20% in Bardiya). The types of substances applied to the cord stump were oil, ointments, and ash or turmeric powder.

Drying, wrapping and bathing of the newborn

It is recommended that a newborn should be dried and wrapped immediately after birth. Overall, 52% of the RDW in Dhankuta and 61% in Bardiya reported that their newborn was dried before the placenta was delivered.

The practice of wrapping the newborn before the delivery of the placenta was moderate in both study districts (58% in Dhankuta, 67% in Bardiya). About one-third of the babies in Dhankuta and half in Bardiya were wrapped with clean and dry cloth. However, sizeable percentages (25% in Dhankuta, 20% in Bardiya) of the newborns were wrapped with used cloth. Only about 7% of the babies in both districts were wrapped with new cloth.

Overall, 37% of the RDW in Dhankuta and 63% in Bardiya correctly mentioned that a newborn should be bathed 24 hours after the birth. About 36% of the RDW in Dhankuta and 68% in Bardiya said they bathed their newborn 24 hours after birth.

To prevent the newborns from getting pneumonia, it is highly recommended to keep them warm immediately after birth by wrapping them, refraining from bathing for the first 24 hours, and keeping them in contact with the body. The information generated in this regard indicates that these preventive measures were not followed in a substantial number of newborn cases, indicating the possibility of newborns catching pneumonia, one of the main causes of newborn death.

Among RDW with a live birth whose baby did not cry or breathe immediately after birth, a large percentage in both districts said they rubbed or massaged the baby to make them cry or breathe easily. The majority of the babies were assisted by health workers to make them cry or breathe followed by assistance from relatives or friends.

Initiation of breastfeeding

About half (49% in Bardiya, 51% in Dhankuta) of the RDW knew about the appropriate timing (immediately or within one hour after birth) of introducing breast milk to the newborn.

Almost all the RDW who had a live birth in the past one year provided breast milk to their babies. Feeding colostrums to their baby was almost universal (96%). About 46% of the babies in Dhankuta and 64% in Bardiya were breastfed for the first time within one hour following birth. Among RDW who were attended by FCHV at home delivery, 68% in Dhankuta and 71% in Bardiya reported that they initiated breastfeeding within one hour following birth.

Although the recommendation was to keep babies exclusively breastfed until six months from birth, feeding liquid or solid food to the babies below 6 months of age was also practiced. The survey results show that exclusive breastfeeding for children below 6 months of age was estimated to be 49% in Dhankuta and 76% in Bardiya districts.

Health check ups and counseling following the birth

Overall, 40% of newborns in Dhankuta and 64% in Bardiya were checked by a health care provider before the providers left their homes or they were discharged from the health facility. Nearly half (49%) of the babies in Dhankuta and 39% in Bardiya were reported to have been checked by a skilled provider, and 30% in Dhankuta and 17% in Bardiya were checked by a trained provider. Thirteen percent of the RDW in Dhankuta and 8% in Bardiya were checked by

an FCHV. Further analysis shows that of the total live births occurring at home, 6% of the newborns in Dhankuta and 8% in Bardiya were attended by an FCHV.

A majority of the RDW received post delivery counseling on important aspects of newborn care. In both districts health providers discussed issues related to breastfeeding (89% in Dhankuta, 96% in Bardiya), nutritious food for the mother (91% in Bardiya, 93% in Dhankuta), immunization (82% in Bardiya, 87% in Dhankuta) and umbilical cord care (68% in Dhankuta, 70% in Bardiya) with RDW before they were discharged from the health facility or before the health providers, TBA or FCHV left their homes. About two-thirds (64%-70%) of the RDW also reported that they were made aware of issues related to danger signs or symptoms for newborns and mothers. A relatively smaller percentage of the RDW from both districts said that health providers discussed keeping babies warm (50% in Bardiya, 55% in Dhankuta), skin-to-skin or kangaroo method (22% in Dhankuta, 43% in Bardiya) and birth control or family planning (21% in Dhankuta, 29% in Bardiya) with them.

Exposure to messages related to immediate newborn care

Over half of the RDW in Bardiya (59%) and Dhankuta (53%) reported having heard, seen or read the message "*a newborn should be breastfed within one hour after birth*" in the last three months before the survey. Likewise, about 42% of the RDW in Dhankuta and 53% in Bardiya indicated they saw, heard or read the message "*a newborn should have their first bath delayed until at least 24 hours after birth"* in the past three months.

Check ups of newborn health

Of the RDW whose last child is either still alive or survived at least one month after birth, 79% in Dhankuta and 44% in Bardiya reported that their newborn received check up services within four weeks after they were discharged (for institutional delivery), or after the health worker left their house (for home delivery).

About 81% of the newborns in Dhankuta and 47% in Bardiya were checked by trained providers and about 17% in both districts were checked by skilled providers. 13% of the newborns in Bardiya and 2% in Dhankuta were also reported to have been checked by FCHVs.

Further analysis shows that among RDW whose newborn was more than one month of age at the time of survey or who lived to be at least one month old, 86% in Dhankuta and 52% in Bardiya reported that their infant received newborn care within four weeks of delivery from a skilled or trained provider. The percentage of RDW whose infants received care was significantly higher among literate, Brahmin or Chhetri respondents and those who belong in the higher wealth index.

Weighing and keeping the newborn warm

Only about one-fifth (19% Dhankuta, 24% Bardiya) of the babies were reported to have been weighed for the first time within 24 hours following birth, while the majority of the babies (60% in Dhankuta and 36% in Bardiya) were weighed after three days following birth. Nearly two-thirds (66%) of the babies in Dhankuta and over half (51%) in Bardiya were weighed by trained health workers, and 31% in Dhankuta and 42% in Bardiya were weighed by skilled health workers.

Among RDW with live birth, over 90% from both districts reported that the size of their child was average, larger than average or very large. About 10% of the respondents in both districts

thought that their child was smaller than average or very small, indicating the presence of low-birth-weight (LBW) babies.

Only a few (12% in Dhankuta, 19% in Bardiya) LBW babies received extra visits from a health provider, indicating less attention is given to the LBW babies by the service providers in both districts.

Overall, 15% of the RDW in Dhankuta and 35% in Bardiya reported that they received some kind of advice for LBW babies from an FCHV. Slightly over 10% of the RDW in Dhankuta and over a quarter (27%-31%) in Bardiya received advice on feeding breast milk frequently and keeping the baby warm. A smaller percentage (5%-8% in Dhankuta, 6%-14% in Bardiya) of the RDW also received advice on repeatedly weighing the baby, visiting a health facility repeatedly and danger signs associated with newborns.

Only 17% of the RDW in Dhankuta and 32% in Bardiya said that an FCHV talked with them about keeping the baby in skin-to-skin contact with the mother. Nearly one-fifth (17% in Dhankuta, 19% in Bardiya) of the RDW from both districts also reported that an FCHV referred their baby to the health facility for treatment. Among those who were referred all RDW in Dhankuta and almost all in Bardiya said that they took their baby to the health facility. The above information indicates that the FCHVs assistance to the care of LBW babies, and advisory support in keeping the low-birth-weight babies in skin-to-skin contact was minimal. However, RDW's compliance to the advice of FCHVs to take such babies to the health facilities was high.

Among RDW with a LBW baby, over two-thirds (67% in Dhankuta, 71% in Bardiya) in both districts said that they provided extra care to their baby. Among those who reported giving extra care, almost all (>97%) provided frequent breastfeeding. However, practice of one of the recommended measures of extra care i.e. keeping the babies with skin-to skin contact was observed in only a limited number of cases (3% in Dhankuta, 27% in Bardiya).

More than 77% of the RDW in both districts said they did not place their baby in skin-to-skin contact in the first 24 hours after delivery. Only about a quarter of the RDW reported providing skin-to-skin contact but most of them did so for a short duration only (up to 2 hours in total). Among the babies who had skin-to-skin contact, 57% in Dhankuta and 33% in Bardiya did so after the placenta was delivered or within the first hour following birth. Similarly, 43% of the RDW in Dhankuta and 50% in Bardiya gave their child skin contact one hour after delivery.

Knowledge about danger signs and symptoms among newborns

Virtually all the RDW in both districts were able to mention at least one type of danger sign or symptom indicating the need to seek health care for a baby less than one month old. Almost all (93% in Dhankuta, 96% in Bardiya) RDW considered fever as the danger sign or symptom requiring health care. Difficult or fast breathing was considered as a danger sign or symptom by a majority (69% in Dhankuta, 76% in Bardiya) of the RDW from both districts followed by diarrhea (44%) in Dhankuta and inability in sucking or feeding (50%) in Bardiya. Nearly a quarter (23%) of the RDW in Dhankuta and 38% in Bardiya also mentioned yellow palms or eyes/jaundice, and around one-fifth from both districts mentioned persistent vomiting (19% in Bardiya, 24% in Dhankuta) as a danger sign or symptom. The knowledge of RDW about other common danger signs and symptoms associated with newborns was found to be quite low.

Neonatal complications and treatment

Among RDW having live births whose child was still alive or survived at least one month, 18% in Dhankuta and 22% in Bardiya said that their newborn had experienced at least one of the danger signs or symptoms during their neonatal period. Fever, difficult and fast breathing, inability to suck or feed, jaundice, diarrhea and skin pustules were the common danger signs and symptoms experienced by the newborns during the neonatal period. More than 10% of the RDW in Dhankuta and 7% in Bardiya reported that their child had complications on the same day of the birth and nearly a quarter (23%) in both districts had problems within one week following birth.

Of the RDW who reported that their newborns experienced illness during the neonatal period, a great majority (78% in Dhankuta, 87% in Bardiya) sought advice or treatment outside the home. The majority (64%) of them in both districts consulted HA or AHW for the first time followed by a doctor (17% in Dhankuta, 19% in Bardiya). The percentage of those who consulted other categories of health providers constituted less than 5% in both districts. Most of the RDW reported that they visited a health post (44%) for the first time followed by sub-health post (22%) in Dhankuta, and private clinic/nursing home (35%) followed by medical shops (21%) in Bardiya. This shows that health posts or subhealth posts and their service providers were the most commonly used service facilities for first consultations in the case of newborn illnesses.

Of the newborns RDW took to the health facility or provider during neonatal period, only 15% in Dhankuta and less than 2% in Bardiya were reported to have been given Cotrimoxazole tablets. Only seven out of 13 RDW in Dhankuta said that they gave the correct dose (120 mg for 5 days) of tablets to the babies. In Bardiya, of the two RDW who received Cotrimoxazole, one gave it for 4 days, the other 5 to their sick babies. Almost all the RDW (12 out of 13) in Dhankuta and all in Bardiya reported that the conditions of their babies were improved upon completion of the last dose of Cotrim. Three of 13 RDW in Dhankuta and all the RDW in Bardiya said that they paid for the Cotrim. The above findings indicate that those RDW who received the Cotrim tablets could not administer to their babies in full/correct doses.

g) Postpartum Care

Postpartum services within a few days following delivery

Overall, 39% of the RDW in Dhankuta and 64% in Bardiya reported that their health was checked by a health care provider before the providers left their homes or they were discharged from the health facilities. More RDW received post delivery health check ups following institutional delivery than home delivery. About 52% of the RDW in Dhankuta and 42% in Bardiya were checked by skilled providers, and 28% in Dhankuta and 15% in Bardiya were checked by trained providers. About one in every 10 RDW also said that they were checked by a FCHV. Almost all the RDW reported that the health providers checked their health on the same day.

Postpartum services after a few days following delivery

Overall, 7% of the RDW in Dhankuta and 17% in Bardiya reported receiving check up services within four weeks after they were discharged from health facility (for institutional delivery) or after the health worker left their house (for home delivery). Clearly, the health check services by skilled and trained providers were inadequate at the health facility and at home.

Among RDW with a live birth and who were more than one month post delivery 33% in Dhankuta and 39% in Bardiya received postpartum care from a skilled or trained provider within four weeks following delivery. Ethnicity data shows that Janajati were less likely to receive postnatal services than the respondents of other castes. Women who belonged to a higher wealth index were significantly more likely to receive postpartum services than the women of lower wealth indices in both districts.

h) Conclusions and Recommendations

The recommendations of the study are focused on those activities that would help promote healthy newborn care behaviors and practices in the program districts.

1) Delivery of antenatal care services to all the pregnant women by skilled providers, such as doctors and nurses may not be feasible due to current resource constraints. However, coverage by such skilled providers should be considered for the future. In the meantime, the services to be delivered by trained health workers, such as ANM, HA, AHW and MCHW through health post, need to be improved to increase ANC service coverage. Since service delivery by grassroots workers like FCHVs was found to be inadequate, the mobilization and training of this cadre of workers should be improved, particularly in hill areas of the country like Dhankuta district.

2) Interpersonal communication through community level health workers and mass communication through radio needs to be intensified to encourage pregnant women to seek ANC service during the first trimester and to complete the four recommended visits. Pregnancy counseling service by FCHVs needs to be improved. Advocacy for the use of clean delivery kits should be carried out more vigorously through the community level health workers.

3) Women should be made more aware that delivery services are available at the PHCC level. Activities must be implemented to encourage women to use the assistance of TTBAs and ANMs during home delivery, which is still the predominant venue. The FCHVs should be instructed to disseminate information among pregnant women on the need to seek assistance from trained birth attendants and other health workers.

   Institutional delivery is a low priority among women. Therefore, this practice needs to be popularized by disseminating information on its importance, and concurrently the PHCC and health posts need to be equipped to provide the appropriate services. Since radio and health workers were found to be trusted sources of information, they should be used for information dissemination on institutional delivery.

4) The post delivery health check up by trained health providers needs to be strengthened to ensure the health of the postpartum mothers who deliver babies either in the health facilities or at home. Such check up services should be promoted particularly for *Janjati* mothers.

5) Use of clean delivery kits to cut cords needs to be promoted. The use of unnecessary materials on the cord stump also needs to be discouraged.

6) In order to prevent newborns from catching pneumonia, practices to keep them warm such as wrapping with clean cloth and not giving a bath in the first 24 hours after birth should be promoted. Similarly, the program on exclusive breast feeding needs to be accelerated.

7) Health check ups including counseling on the care of newborns after discharge from health facilities (in the case of institutional delivery) and after the health workers depart (in the case of home delivery) were inadequate. This component of the program needs to be improved, particularly the performance of the trained health care providers.

8) Most women are still unaware of the most crucial danger signs. Imparting knowledge about danger signs and the need for immediate attention for the management of these signs at health facilities or by community health workers should be carried out in the community.

9) Low birth weight was found to be prevalent among a notable proportion of newborns. Therefore, mothers and family members need to be encouraged by the program to follow measures such as frequent breast-feeding and keeping the baby in skin-to-skin contact for LBW and VLBW babies.

10) Since a substantial proportion of newborn babies did not receive medical attention during illness, the program should encourage mothers to take babies for treatment when danger signs arise. For this purpose, community level workers such as FCHVs and MCHWs should be reoriented on the need and methods of counseling to non-compliant mothers in seeking timely treatment of their babies.

11) A considerable proportion of RDW held a favorable perception towards maternal and newborn care measures. However, another substantial proportion of women still need to follow appropriate practices at the antenatal, delivery, postnatal and newborn care stages. Hence, the overall recommendation is to mobilize clients, family members, and community level health workers and volunteers to provide maternal and newborn support activities by themselves, and to promote better maternal and newborn care practices. In doing so, attention should be focused on illiterate, older, and low wealth index women.

Chapter 1

Introduction

1.1 Background

The health and well being of the children affect the structure and productivity of population of a country. Therefore, the implementation of programs that aim at reduction of child morbidity and mortality deserve paramount importance. While the overall health of children has improved around the world, the mortality rate of newborns has hardly changed. Each year about four million babies die within the first month of life (newborn period), and more than three million die as stillbirths (WHO 2005). Moreover, nearly all (99%) deaths occur in low- and middle-income countries.

Childhood, including neonatal, morbidity and mortality status is inseparable from the availability and use of quality care during pregnancy, delivery and the postpartum period. Complications during pregnancy and childbirth affect fetal and newborn health. Therefore, health programs that aim at prevention of peri-natal and neonatal morbidity and deaths need to consider both the maternal and neonatal health service factors adequately and appropriately. In order to achieve this goal, study-based programs need to be planned, implemented and monitored. This study was undertaken in accordance with these fundamental premises.

1.2 Newborn health in Nepal

Nepal has made notable progress in reducing under five mortality (decreased by 48% between 1996 and 2006), however, progress on reducing neonatal mortality is only modest. According to the Nepal Demographic and Health Survey (NDHS) 2006 estimate, the neonatal mortality rate is 33 per 1000 live births which is slightly more than target for the 10th National Health Plan, accounts for 54% of the under five mortality and has decreased by just 15% from 39/1000 live births in the 2001 NDHS data (MoHP 2006). Child Health experts agree that the Millennium Development Goal 4, to reduce the deaths of the children less than 5 years old by two-thirds before 2015, is unattainable without reducing the current death toll of newborns by 50% (UN 2003).

The direct causes of neonatal deaths in Nepal include neonatal infections, (sepsis, meningitis, pneumonia, tetanus, and sexually transmitted infections), birth asphyxia and trauma. The underlying causes include low birth weight and maternal factors, such as low age at first pregnancy, inadequate child spacing, low female literacy, and poor maternal health and nutrition. Other factors include low access to health care, socio-cultural factors and poverty.

The Ministry of Health and Population (MoHP) envisioned a Community Based Newborn Care Package (CB-NCP) appropriate for low and medium resource settings in order to address the fact that 82% of deliveries occur at home in the absence of skilled attendance and only 4% of newborns delivered at home receive post-natal care (Macro International 2008), The interventions include Behavioral Change Communication (BCC) at all levels for newborn health, promotion of institutional delivery and attendance of Female Community Health Volunteers (FCHV) during delivery at home, three post-natal care visits to newborns and mothers, prevention and management of hypothermia, assessment and management of Low Birth Weight (LBW) babies, treatment of infection, identification of birth asphyxia, initial stimulation and resuscitation.

As a result of the implementation of various child survival programs, slight to moderate progress has been made in the process of newborn care. A survey indicated that the Community-Based Maternal and Newborn Care (CBMNC) Program implemented in the three

terai districts (Jhapa, Banke and Kanchanpur) of Nepal demonstrated a reduction in neonatal deaths by 53%, from 18/1000 live births in the baseline to 8/1000 live births in the follow up surveys across the three districts (NFHP/VaRG 2007). The program found that some of the factors likely affecting the reduction in newborn mortality were use of clean home delivery kits or instruments; awareness about delaying the newborn's bath until 24 hours following delivery; seeking care for newborns from a trained health worker in case of any problems, breastfeeding immediately after birth and exclusive breastfeeding for children below six months of age; and providing colostrums. The strategic objectives of the program were to bring about awareness and household behavioral change favoring healthy newborn practices, increase utilization of the available newborn services and strengthen the quality of the preventive, promotive and curative services from the community to health facility level.

Rationale

The monitoring system that has been instituted intends to capture the CB-NCP activities conducted by community health workers and health institutions. However, the coverage of services, changes in behaviors and the frequency of contact with the mother could not be ascertained by the monitoring system alone. Moreover, the monitoring system assessed only the process and output of the program. Therefore, the Technical Working Group and the M & E Sub-Committee of CB-NCP has designed an evaluation system in which CB-NCP could be assessed through changes made between the Baseline and Endline Surveys. Considering the aforesaid need for monitoring and evaluation of the program, a baseline survey was proposed that would provide information on the current demographic and socio-economic characteristics of the household population and the status of the outcome and the impact of the program. The findings and information would help the policy makers, leaders of maternal and newborn health care programs of the government and implementing partners to assess the effectiveness of the program interventions, and to identify areas of prioritization within the program for future scale up efforts.

1.3 Objectives of the study

The overall objectives of the survey are to assess the current newborn health care practices and the coverage of the newborn health services provided by the Community Health Workers (MCHW/VHW) and FCHVs.

The specific objectives of the study are to:

a) assess the perception of and household behaviors for delivery at health institutions and skilled attendance at birth;

b) assess the perception of and household behaviors for clean delivery practices and CDK use during home delivery and essential newborn care;

c) examine the current status of utilization of postnatal health services by mother and newborn;

d) assess the perception among postpartum mothers of newborn and maternal postpartum danger signs and care seeking behavior toward FCHV, Community Health Worker (MCHW/VHW) or appropriate health facility;

e) assess the level of awareness of and household behaviors for providing extra-care to LBW and VLBW; and

f) assess the coverage of newborn services at the community level through FCHV and community health workers and health facilities, and the establishment of effective referral services at all levels.

Chapter 2

Methodology and Data Collection

2.1 Study population

All respondents in the study were recently delivered women (RDW). RDW are defined as women who have delivered a live birth or dead infant of more than 7 months gestation in the past 12 months prior to the survey date. The study was conducted in the rural areas of Dhankuta and Bardiya districts. Municipal areas of the respective study districts have been excluded from the sample frame. Data required for the present study was collected using quantitative techniques.

2.2 Sample design

Three-stage cluster sampling was used to select the required sample population. The first stage of sampling identified the clusters (wards) following the probability proportional to size (PPS) method, followed by mapping of the clusters and division into different segments in the second stage. In the third stage, the required number of RDW was selected from the previously identified clusters (wards).

Selection of clusters

In selecting the clusters, all the VDCs of the two study districts were listed separately in alphabetical order together with ward-wise households. Then 30 clusters (wards) were selected from each district following the PPS method from the list prepared for the study purpose. Thus, a total of 60 clusters (30 from each district) were selected. The clusters were selected in Kathmandu using the 2001 Census Data of the Central Bureau of Statistics.

Segmentation of clusters

Upon arrival at the respective clusters, the field team prepared a sketched map of each sampled cluster and divided each cluster into 3 to 5 segments depending on population size and geographical area covered by the cluster. Then they prepared a detailed sketched map of each segment together with the number of households of each cluster. Mapping and segmentation of sampled clusters was done in consultation with local leaders and key informants of the respective clusters. Upon adding up the households of each segment, the field team chose one segment randomly. Then they spun a pen at a centrally located area of the sampled segment and walked from the center of the segment in the direction shown by the pen head and assigned a number to each of the houses located within 20 meters of the path up to the edge of the settlement. From this list, they chose an index house for interview using a random number table.

Selection of RDW

Upon selection of the index house, the interviewers administered a screening questionnaire to the head of the household to determine if there was a woman aged 15-49 years in that household. If an ever-married woman was present in the household, interviewers administered a second set of screening questions consisting of information about the birth history of the responding woman in the last three years preceding the survey date. This was done to determine the existence and availability of RDW in the index house. Where an eligible woman was present in the index house at the time of survey, the interview was conducted with that woman, then they proceeded to the next nearest house to determine if there was a RDW. This process was repeated until 21 RDW were interviewed in the sampled cluster. In the case of more than one RDW present in the sampled household, one woman only was selected

randomly for the interview. In order to get 630 RDW from each district, it was necessary to visit 3439 households in Dhankuta and 3945 households in Bardiya with the average of 5.5 households in Dhankuta and 6.3 households in Bardiya to find each eligible woman. There was at least one RDW in each of the 644 households out of 3439 households visited in Dhankuta and in 642 households out of 3945 visited in Bardiya. However, 26 RDW could not be interviewed from 26 (14 in Dhankuta and 12 in Bardiya) households. The reasons for not being able to interview these 26 RDW were: the field team could not meet them even after visiting three times to their houses (n=9), they were at their parent's homes at the time of survey (n=8), they were unwilling to participate in interview because of their work (n=8) and the RDW was sick (n=1). Table 2.1 presents distribution of clusters, households and RDW included in the study.

Table 2.1 Distribution of clusters, households and respondents

Description	Dhankuta	Bardiya
Number of cluster	30	30
Number of households visited	3439	3945
Number of households having women who had given birth in the last three years	644	642
Number of RDW successfully interviewed	630	630

2.3 Description of instruments

Three sets of survey tools consisting of two screening questionnaires to be administered among the head of the households and among women aged 15-49 years, and one main questionnaire to be administered to RDW, were developed and used to collect the required information. Final versions of the survey questionnaires are presented in Annex 1. A brief description of each set of survey questionnaires is given below:

a) Screening questionnaire -1

Screening questionnaire – 1 was administered among the head or senior member of the household. This questionnaire contained space to record names and information regarding the marital status of women (both unmarried and ever married) aged 15-49 who usually live in the household. This information helped identify the number of ever-married women residing in the household at the time of survey.

b) Screening questionnaire -2

Screening questionnaire –2 was administered among all ever-married women of the sampled households who were identified using screening questionnaire - 1. Information regarding the births, including still births, of all of the ever married women of the sampled household in the last 3 years prior to the survey date including date of birth of each child, current living status, if not living age at death, timing of pregnancy loss, etc. was collected. The purpose of administering this questionnaire was to identify the existence of eligible RDW in the sample household.

c) Questionnaire for RDW

This questionnaire was administered to women between 15-49 years of age who had given birth or had pregnancy loss of at least 7 months in the last 12 months preceding the survey date. There are eight sections in the RDW questionnaire. The contents of the RDW questionnaire are as follows:

- Socio-demographic characteristics of the respondents
- Economic characteristics of the respondents

- Use of antenatal services
- Birth preparedness
- Delivery care and immediate newborn care
- Postnatal care for mothers
- Postnatal care for newborns
- Sick newborn care

To ensure that the behaviors and practices of RDW related to the above sections were not missed, the questionnaire featured spontaneous responses followed by further probing with specific questions the answers to which were categorized as prompted responses.

2.4 Design and pre-testing of instruments

Draft versions of the survey questionnaires prepared earlier by the Technical Working Group (TAG) and SC USA was reviewed by the study team and further refined in consultation with TAG and SC USA. The final draft of the survey instruments was translated into Nepali and pre-tested among 20 RDW prior to their use in the field for data collection. Questionnaire pre-testing was done in the rural settings of Kavre and Lalitpur districts. After pre-testing, the survey questionnaires were modified, wherever necessary, and finalized upon consultation with TAG and SC USA. This field-testing helped detect problems in wording, the flow of questions and response coding.

2.5 Field organization and data collection

The study was conducted under the overall supervision and constant guidance of the senior team members. They were assisted by a number of administrative and field staff. The field staff were selected from among those who had previous experience in data collection. Nine teams (5 teams in Dhankuta and 4 in Bardiya) each consisting of 2-3 female interviewers and one supervisor were mobilized for data collection. Prior to field mobilization they were given training for six days by senior team members. In addition, TAG members, including officials of SCF USA, also provided input during the training. Data was collected during November and December 2008. Senior researchers also visited some of the study areas to supervise the fieldwork and obtain first hand information.

2.6 Data cleaning and analysis

Filled-in questionnaires were edited and coded, and entered into the computer. Data was entered/processed using FOXPRO and SPSS software packages. Data entry was done directly from the completed questionnaires. The data was validated by a computer processing team consisting of a computer programmer and data entry personnel. The computer programmer constantly supervised/monitored the data entry activities. The cleaned data set was then transferred to SPSS and a SPSS system file was prepared for output generation

Data has been analyzed using simple frequency tables and cross tabulations. Final tables were designed and generated in consultation with the Technical Working Group and SC USA. Relationships between the selected variables have been analyzed using Chi-square. Data have been presented in the form of tables and graphs.

Chapter 3

Characteristics of Respondents

Information regarding the socio-demographic and economic characteristics of the recently delivered women including possession of selected household items such as radio, television, bicycle, telephone and electricity facility, housing conditions and water and sanitation was collected in this survey. This chapter presents the findings on these aspects.

3.1 Socio-demographic characteristics

Age composition

Table 3.1 shows the age distribution of RDW. The majority (65%-70%) of the RDW in both districts were in the peak fertile age i.e. between 20-29 years old. Nearly a quarter (23%) of the women in Dhankuta and about 15% in Bardiya were 30-49 years of age. The mean age of responding women was slightly higher in Dhankuta (25.8 years) than in Bardiya (23.8 years).

Table 3.1 Percent distribution of RDW by age group

Age in completed years	Dhankuta	Bardiya
15-19	12.1	15.4
20-24	36.0	45.2
25-29	28.6	24.4
30-34	11.0	11.4
35-39	8.6	2.5
40-44	3.3	0.8
45-49	0.5	0.2
Median	**25.8**	**23.8**
SD	**6.2**	**4.9**
Total (n)	**630**	**630**

Ethnicity and religion

Table 3.2 depicts the ethnic composition of the recently delivered women included in the survey. For the purposes of the study, ethnicity/caste has been divided in four broad categories namely, Brahmin or Chhetri, Janajati, Dalit and other. The majority (61%-66%) of the respondents in both study districts were Janajati. Brahmin or Chhetri constituted 31% in Dhankuta and 25% in Bardiya. Slightly over 7% of the respondents in both districts were from *Dalit* group.

Table 3.2 Percent distribution of RDW by ethnicity/caste

Ethnicity	Dhankuta	Bardiya
Brahmin/Chhetri	30.8	24.8
Janajati	61.3	65.6
Dalit	7.9	7.3
Other	-	2.4
Total (n)	**630**	**630**

Almost all (98%) the RDW in Bardiya and over 70% in Dhankuta were Hindu. Over one-fifth of the women in Dhankuta reported Kirat and another 9% Buddhism as their religion. A few (about 1%) of the respondents were Christian and Muslim (Table not shown).

Educational attainment

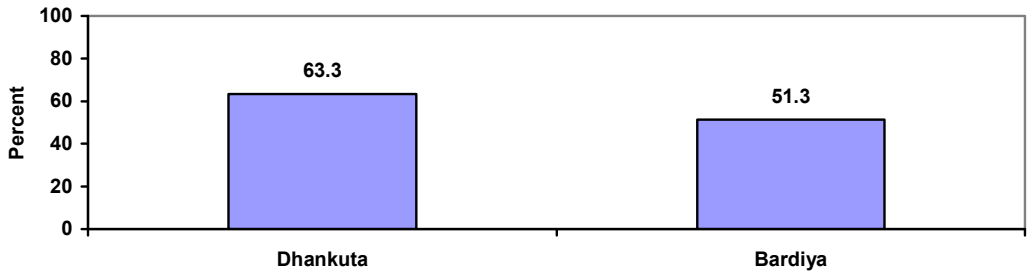
Overall, 70% of the RDW in Dhankuta and 46% in Bardiya reported ever attending school or college. However, a very small percent (12% in Dhankuta and 6% in Bardiya) have passed SLC or above level of education. The majority of the RDW in Dhankuta reported having attained some primary or secondary education. Respondents with no schooling or a low level of education dominated the study population in Bardiya (Table 3.3).

Table 3.3 Percent distribution of RDW by level of education

Level of education	Dhankuta	Bardiya
No schooling	30.3	54.4
Some primary	24.1	17.6
Some secondary	33.7	22.4
SLC or above	11.9	5.6
Total (n)	**630**	**630**

To confirm the status of literacy, respondents who reported never attending school or had only some primary level of education were shown a text *Churot Khanu Ramro Bani Hoina*, and asked if they could read it. Those women who were not able to read the entire text with ease are defined as illiterate for the purpose of the study. Data presented in Figure 3.1 shows that with this measure 63% of the RDW in Dhankuta and 51% in Bardiya were reported to be literate. Thus, the study represented almost equal proportions of literate and illiterate RDW.

Figure 3.1 Percentage of literate respondents by districts



n= 630 in each district

3.2 Exposure to media

Exposure to electronic and print media

Exposure of RDW to electronic (radio and television) and print (newspaper) media was also assessed in the survey. Nearly two-thirds (64%) of the RDW in Dhankuta and over half (51%) in Bardiya affirmed listening to the radio almost every day. About 5% in Dhankuta and 19% in Bardiya, however, reported not listening to the radio at all (Table 3.4). The percentage of RDW who watched television almost every day constituted only 23% in Dhankuta and 17% in Bardiya indicating that respondents in both study districts have less opportunity to watch television. Nearly one-third (32%) of the respondents in Dhankuta and about half (46%) in Bardiya reported not watching television at all.

Table 3.4 Percent distribution of RDW by frequency of listening to the radio and watching television

Description	Dhankuta (n= 630)	Bardiya (n=630)
Frequency of listening to the radio		
Almost every day	64.4	51.4
At least once a week	12.2	14.0
Less than once a week	18.6	15.4
Not at all	4.8	19.2
Frequency of watching TV		
Almost every day	22.7	17.1
At least once a week	12.7	15.1
Less than once a week	32.7	21.6
Not at all	31.9	46.2

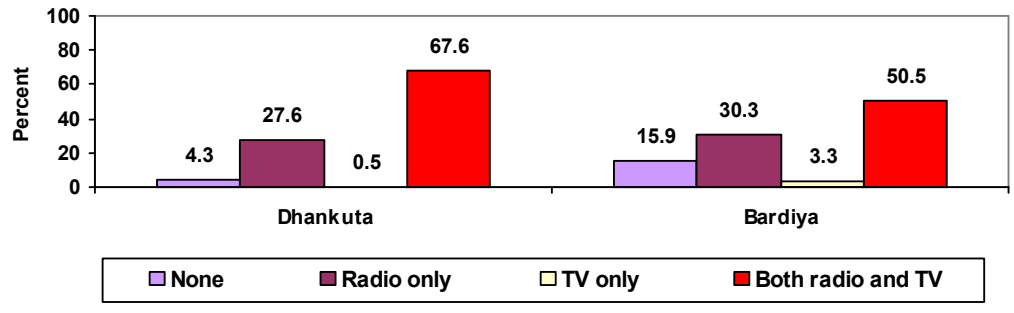
With regard to newspaper or magazine exposure, the majority (73%-86%) of the RDW, with a higher percentage in Bardiya, reported not reading the newspaper or magazines. A very small proportion (about 2%) of the respondents said they usually read the newspaper or magazines once a week and 25% in Dhankuta and 12% in Bardiya read less than once a week (Table 3.5). The above information shows that exposure to print media was not as frequent as exposure to radio.

Table 3.5 Percent distribution of RDW by frequency of reading newspaper or magazine

Frequency of reading newspaper	Dhankuta	Bardiya
Almost every day	0.3	0.6
At least once a week	2.5	1.6
Less than once a week	24.6	12.1
Not at all	72.5	85.7
Total (n)	**630**	**630**

Figure 3.2 further shows exposure to radio and television among the RDW included in the study. Two-thirds (68%) of the respondents in Dhankuta and half (51%) in Bardiya were exposed to both the radio and television. More than a quarter of the RDW in both districts were exposed to radio only. Less than 5% of the respondents in Dhankuta and 16% in Bardiya had exposure to neither radio nor television.

Figure 3.2 Percentage of RDW by exposure to radio and television



n= 630 in each district

Radio stations and television channel

Respondents were also asked about the radio station that they listened to the most. Radio Nepal (74%) was found to be the most popular radio station followed by Kantipur in Dhankuta while

local FM stations such as Phulbari FM (28%), Bheri FM (24%) and Bageshwari FM were the stations listened to the most by the respondents of Bardiya. Only 20% of the respondents in Bardiya reported to have listened to Radio Nepal and 3% mentioned Kantipur (Table not shown).

About 3 in every 10 RDW in both districts reported listening to the radio in the morning (6 am to 10 am), and over two-fifths in Dhankuta and nearly a quarter in Bardiya listened in the evening (4 pm to 8 pm). The above findings indicate that women in the study areas mostly listened to the radio either in the morning or in the evening.

Table 3.6 Percent distribution of RDW by the time of the day listening to the radio

Ratio listening time	Dhankuta	Bardiya
6:00-9:59 am	27.5	32.2
10:00 am-1:59 pm	10.7	11.0
2:00-3:59 pm	13.5	24.8
4:00-7:59 pm	40.8	23.0
8:00 pm-5:59 am	6.0	3.9
Do not know	1.5	5.1
Total (n)	**600**	**509**

With respect to television, most of the RDW in both districts (52% in Dhankuta and 41% in Bardiya) reported that they mostly watched Nepal television. Only a small percent (7% in Dhankuta and <1% in Bardiya) reported watching Kantipur Television and less than one percent mentioned Nepal One. However, 32% in Dhankuta and 46% in Bardiya said they did not watch any one television channel most frequently (Table not shown).

3.3 Household utilities

Information regarding household possessions and housing characteristics of the responding women was also collected in the survey. This section presents findings on these aspects.

Possession of household items

Over three-quarters (78%) of the respondents in Dhankuta and three-fifths (62%) in Bardiya reported having electricity facility in their houses. Over 85% of the RDW in Dhankuta and 68% in Bardiya have access to radio and 33% in Dhankuta and 29% in Bardiya reported having a television set in the house. Most (84%) of the respondents in Bardiya reported having a bicycle in the house. Only a few (<4%) RDW in both districts reported having a telephone set in the house (Table not shown).

Water and sanitation

The source of drinking water for over three-quarters (81%) of the respondents in Dhankuta was private or public piped water followed by spring, kuwa, river, stream or stone tap for 19% of the respondents. In Bardiya, over three-quarters (76%) mentioned private tube wells and 24% stated public or neighbors' tube well as their drinking water source (Table not shown).

Overall, 65% of the respondents in Dhankuta and 33% in Bardiya reported that they had a toilet on the premises. Among those who reported having toilets in the house, most had either a traditional pit (16% Bardiya, 43% Dhankuta) or ventilated improved pit latrine (17% Bardiya, 21% Dhankuta). More than one-third (35%) of the RDW in Dhankuta and two-thirds (67%) in Bardiya reported not having toilet in the house (Table not shown).

Housing condition

Information regarding the housing conditions of the respondents was also collected in the survey. Thatch and metal composed the main materials for roofing of the houses in Dhankuta, and thatch and tiles or *Khapada* in Bardiya. Earth, mud and dung were the main material used on the floor in almost all the houses of the responding women in both districts. The most common materials used for walling was stone (63%) and bamboo with mud (28%) in Dhankuta whereas bamboo with mud (69%) followed by bricks (11%) and cement (9%) were the commonly used materials in Bardiya (Table not shown).

Socio-economic status index

The socio-economic status (SES) index of the households of the sampled RDW was constructed using *principal component analysis* (PCA). The PCA is a multivariate statistical technique, which uses household asset data, such as ownership of durable assets, infrastructure and housing characteristics, to create the SES indices. PCA is used to determine the weights for the various asset variables that are used to calculate the value of the asset index. The weights are the standardized first principal component of the variance-covariance matrix of the observed household assets. The regression equation to create asset index is as follow.

$$A_i = W_{1i}X_{1i} + W_{2i}X_{2i} + \ldots\ldots + W_{ki}X_{ki}$$

Where,

A_i is the asset index of the i^{th} household
X_{ki} is the k^{th} asset of the i^{th} household and
W_{ki} is the weight of the k^{th} asset of the i^{th} household.

PCA works best when the distribution of variables varies across households. Variables with low standard deviations would carry a low weight from the PCA. For example, an asset which all households own or which no households own (i.e. zero standard deviation) would show no variation between households and would be zero weighted. The dependent variable in the regression line is the household socio-economic score. These scores are categorized to get broad SES status.

For this, STATA statistical software package was used. The wealth index was constructed by considering specific variables such as housing characteristics (drinking water source, type of toilet, roof, floor and wall materials) and ownership of selected household items (electricity, bicycle, telephone, television and radio). The wealth index was calculated separately for each district. Based on the value of the wealth index calculated for each household, households were then ranked into wealth quintiles. Data presented in Table 3.7 shows almost equal distribution (about 20%) of households in each of the five SES levels in Bardiya. In Dhankuta, a higher percentage (24%) of the respondents belonged to the fourth level and the lowest percentage (16%) were under the highest level.

Table 3.7 Percent distribution of RDW by their socio-economic status index

SES Index	Dhankuta	Bardiya
Lowest	21.0	20.2
Second	19.4	20.8
Middle	19.7	19.4
Fourth	24.3	19.7
Highest	15.7	20.0
Total (n)	**630**	**630**

Chapter 4

Antenatal Care and Birth Preparedness

This chapter describes the utilization of antenatal services by RDW during their last pregnancy and the kind of preparations made for the delivery of their last child. Information related to use of antenatal services including number and timing of ANC visits, source of antenatal services and type of advice and services received from health service providers was sought in the survey. Information related to arrangement of money, transport, food and safe delivery items and skilled health providers for the delivery of their last child was also sought in the survey. This chapter presents survey findings on these aspects.

4.1 Utilization of ANC

Overall, 83% of the RDW in Dhankuta and 93% in Bardiya who have given birth in the last 12 months reported that they received antenatal care during their last pregnancy. The utilization of antenatal services is further analyzed on the basis of selected background characteristics of the RDW. Utilization of antenatal services was significantly higher among the younger, literate and Brahmin or Chhetri women than their respective counterparts (elder, illiterate and other castes). RDW who were exposed to radio or television and who belonged to the high SES index were significantly more likely to use antenatal services than their respective counterparts (Table 4.1).

Table 4.1 Percent distribution of RDW who received antenatal services during their last pregnancy by selected back ground characteristics

Background characteristics	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
Age of RDW (in years)	*		*	
15-19	93.4	76	94.8	97
20-24	88.5	227	95.4	285
25-29	86.1	180	92.9	154
30-34	76.8	69	84.7	72
35-49	57.7	78	90.9	22
Literacy	*		*	
Illiterate	68.0	231	90.6	307
Literate	92.2	399	96.0	323
Ethnicity	*		*	
Brahmin/Chhetri	96.9	194	98.1	156
Janajati	76.2	386	91.8	413
Dalit and other	86.0	50	91.8	61
Exposure to radio/TV	*		*	
None	22.2	27	91.0	100
Radio only	77.6	174	89.0	191
TV only	100.0	3	95.2	21
Both radio and TV	89.4	426	96.5	318
SES Index	*		*	
Lowest	68.9	132	87.4	127
Second	83.6	122	90.8	131
Middle	79.0	124	91.8	122
Fourth	90.8	153	97.6	124
Highest	96.0	99	99.2	126
Total	**83.3**	**630**	**93.3**	**630**

**Significant at <.05 level* *ns= Not significant*

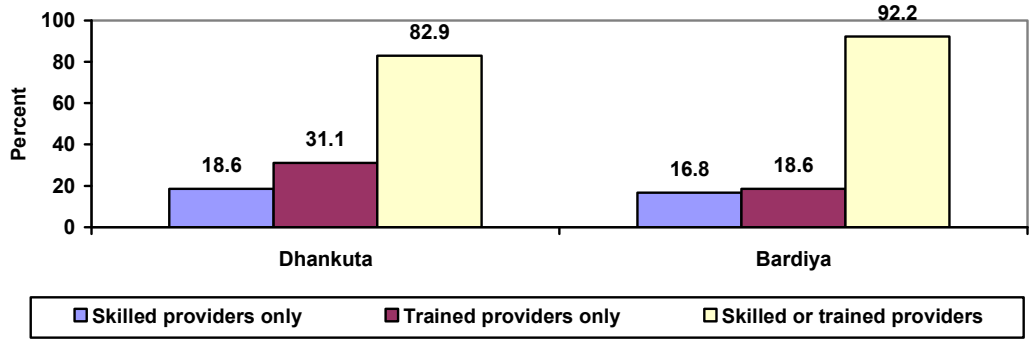
RDW were also asked to mention the sources from which they received antenatal services during their last pregnancy; and data was collected using both the "prompted" and "unprompted" questions. The results are presented in Table 4.2. Community level trained health service providers such as ANM, HA, AHW or MCHW appeared to be the most popular sources for antenatal services in both districts. A relatively small percentage of the RDW from both districts reported receiving antenatal services from skilled providers such as a doctor (10%-17%) and nurse (16%-29%). Consultation with FCHV for pregnancy related information and services in the study areas was also found to be more common in Bardiya (48%) than in Dhankuta (14%).

Table 4.2 Percent distribution of RDW by persons consulted for antenatal services during their last pregnancy

Persons consulted	Dhankuta (n=630)			Bardiya (n=630)		
	Yes (un-prompted)	Yes (pr-ompted)	Total	Yes (un-prompted)	Yes (pr-ompted)	Total
Doctor	8.4	1.6	10.0	15.6	1.3	16.9
Nurse	14.6	1.7	16.3	24.8	4.3	29.1
ANM	27.8	1.6	29.4	29.8	3.5	33.3
HA/AHW	35.1	5.6	40.7	16.7	4.9	21.6
MCHW	30.8	1.4	32.2	37.6	5.7	43.3
VHW	5.7	1.0	6.7	6.5	6.0	12.5
FCHV	9.2	5.1	14.3	25.1	22.5	47.6
TTBA	0.5	0.8	1.3	0.5	0.6	1.1
TBA	0.2	0.5	0.7	0.3	1.0	1.3
NGO clinic	0.2	-	0.2	1.4	-	1.4
Medical shopkeeper	-	-	-	0.5	-	0.5

Further analysis shows that 19% of the RDW in Dhankuta and 17% in Bardiya received antenatal check ups from skilled providers only. Likewise, 31% of the RDW in Dhankuta and 19% in Bardiya received such services from trained providers only. However, over eight in every 10 RDW in Dhankuta and nine in every 10 in Bardiya received ANC either from a skilled or trained provider (Figure 4.1).

Figure 4.1 Percentage of RDW who received antenatal services from the skilled and trained providers during their last pregnancy



n= 630 in each district

Regarding sources of antenatal services, the majority of RDW in both districts reported that they received ANC from a subhealth post (30%-33%) or a health post (25%-35%). About one-sixth of the RDW in both districts reported receiving ANC from a hospital. The percentage of RDW who received ANC from PHCC was much higher in Bardiya (19%) than in Dhankuta (5%). The PHC/ORC was also found to be a more popular source for antenatal services in Bardiya (28%)

than in Dhankuta (7%) (Table 4.3). The above information reveals that health post and subhealth post combined were the most frequently used health facilities for ANC.

Table 4.3 Percent distribution of RDW by source of antenatal services during their last pregnancy

Source of antenatal services	Dhankuta (n=630)			Bardiya (n=630)		
	Unprom-pted	Promp-ted	Total	Unprom-pted	Promp-ted	Total
Hospital	14.1	-	14.1	15.9	1.0	16.9
PHCC	5.1	-	5.1	17.8	1.1	18.9
Health post	34.8	-	34.8	24.0	0.6	24.6
Subhealth post	33.0	0.3	33.3	28.4	1.9	30.3
PHC/ORC	6.3	0.2	6.5	24.9	3.5	28.4
Private clinic/ nursing home	5.1	-	5.1	7.8	1.0	8.8
Pharmacy	2.4	0.3	2.7	1.0	0.6	1.6
Own home	4.9	1.3	6.2	9.7	2.9	12.6
TBA home	-	-	-	0.8	1.0	1.8
NGO clinic	-	-	-	6.3	-	6.3
FCHV home	2.9	-	2.9	16.8	-	16.8
Do not remember/DK			16.7			6.7

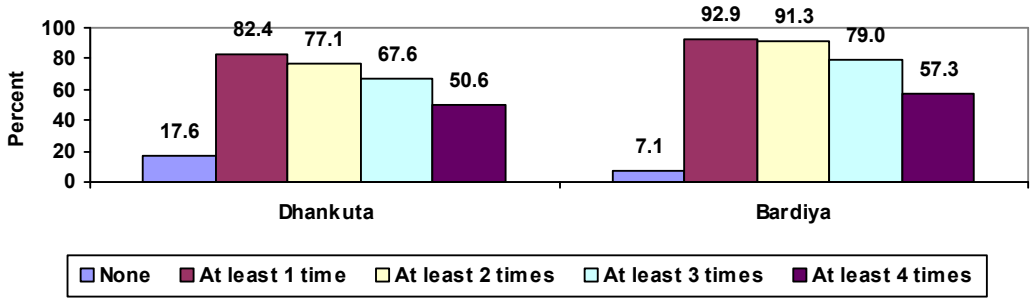
RDW were also asked when they had their first antenatal check up during last pregnancy. Nearly half (46%) of the RDW in Dhankuta and over one-third (35%) in Bardiya had first antenatal care during their first trimester. Over 58% of the respondents in Bardiya and 37% in Dhankuta had their first antenatal check up only after three months of pregnancy (Table 4.4).

Table 4.4 Percent distribution of RDW by timing of receiving first antenatal care during their last pregnancy

Number of months pregnant	Dhankuta	Bardiya
Not received	16.7	6.7
Less than four months	46.2	35.2
Four months or more	37.1	58.1
Total (n)	**630**	**630**

Over 80% of the RDW in Dhankuta and nearly 93% in Bardiya reported receiving ANC at least once followed by 77% in Dhankuta and 91% in Bardiya did so at least twice. Two-thirds of the RDW in Dhankuta and over three-quarters in Bardiya reported receiving ANC at least three times. However, only 51% *(95% CI: 43.5%, 59.7%)* of the RDW in Dhankuta and 57% *(95% CI: 52.1%, 63.5%)* in Bardiya reported receiving the recommended number of four antenatal check ups during their last pregnancy (Figure 4.2).

Figure 4.2 Percentage of RDW by number of times receiving antenatal check ups during last pregnancy



n= 630 in each district

The utilization of pregnancy check ups by RDW at least four times during their last pregnancy is further analyzed on the basis of selected background characteristics. Utilization of antenatal check ups at least four times was significantly higher among younger and literate women in both districts than elder and illiterate ones. Use of antenatal services at least four times was significantly higher among Brahmin or Chhetri than the respondents of other castes. RDW who were exposed to both the radio and television and belonged to the highest wealth index were more likely to receive antenatal check ups at least four times than their respective counterparts.

Table 4.5 Percent distribution of RDW who received pregnancy check ups at least four times during their last pregnancy by selected background characteristics

Background characteristics	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
Age of RDW (in years)	*		*	
15-19	60.5	76	63.9	97
20-24	56.8	227	62.5	285
25-29	53.3	180	58.4	154
30-34	44.9	69	40.3	72
35-49	29.5	78	22.7	22
Literacy	*		*	
Illiterate	34.6	231	46.3	307
Literate	61.4	399	68.7	323
Ethnicity	*		*	
Brahmin/Chhetri	66.0	194	69.2	156
Janajati	43.8	386	55.9	413
Dalit and other	56.0	50	41.0	61
Exposure to radio/TV	*		*	
None	7.4	27	36.0	100
Radio only	44.3	174	52.4	191
TV only	33.3	3	33.3	21
Both radio and TV	57.5	426	69.5	318
SES Index	*		*	
Lowest	41.7	132	38.6	127
Second	46.7	122	54.2	131
Middle	43.5	124	50.8	122
Fourth	59.5	153	66.1	124
Highest	68.7	99	79.4	126
Total	**51.6**	**630**	**57.8**	**630**

**Significant at <.05 level* *ns= Not significant*

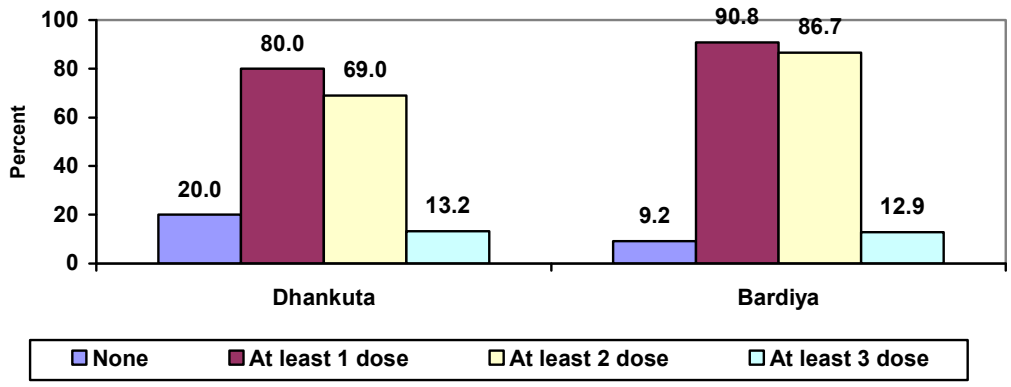
RDW who reported receiving ANC were also asked about type of services they received at least once during their pregnancy check ups. The interviewers read out four basic services to the respondents that should be provided to the women during an antenatal visit. The majority of the RDW in both districts reported that their blood pressure was measured (92%) and they were weighed (90%) during their antenatal visit. However, a relatively smaller percentage of the respondents in both districts reported giving a urine sample (26%-40%) and blood sample (19%-26%) during the antenatal visit indicating that the program should encourage health providers to provide basic care particularly sample collection for laboratory testing to the pregnant women during pregnancy check ups. Further analysis shows that only 16% of the RDW in Dhankuta and 24% in Bardiya received all four focused ANC visits during their last pregnancy.

Table 4.6 Percent distribution of RDW by type of antenatal care received during their last pregnancy, among those who receive ANC at least once

Types of antenatal care received	Dhankuta (n=525)	Bardiya (n=588)
Were you weighed?	89.5	89.6
Was your blood pressure measured?	92.0	91.5
Did you give a urine sample?	26.3	40.1
Did you give a blood sample?	18.5	26.2
Receiving all four of the above	***16.0***	***24.0***

Overall, 80% of the RDW in Dhankuta and 91% in Bardiya reported receiving at least one dose of TT vaccine during their last pregnancy. Those receiving at least two doses of TT constituted 69% in Dhankuta and 87% in Bardiya district. Only 13% of the RDW in both districts reported receiving TT vaccines at least three times (Figure 4.3). It seems that a substantial proportion (31% in Dhankuta and 13% in Bardiya) of RDW did not receive the minimum dose of two TT vaccinations during their pregnancy period.

Figure 4.3 Percentage of RDW by number of TT vaccines taken during last pregnancy



Only 1 RDW in Bardiya said do not know
n= 630 in each district

Differentials on utilization of TT vaccines by the RDW during their last pregnancy were further analyzed according to selected background characteristics. Younger women were more likely to get TT vaccines than elder ones, however the observed difference was statistically significant only in Dhankuta district. Significantly, a higher percentage of literate women compared to illiterate women reported receiving TT vaccines. Ethnicity data shows that women who belonged to Brahmin or Chhetri castes were more likely to receive it, though the observed difference was statistically significant in Dhankuta district only. Exposure to media was also found to be significantly associated with utilization of TT vaccines particularly in Dhankuta. Positive association was also observed between the SES index of RDW and utilization of TT vaccines. More RDW within higher wealth indices used TT than those of lower wealth indices (Table 4.7).

Table 4.7 Percent distribution of RDW by number of TT vaccines taken during last pregnancy by selected background characteristics

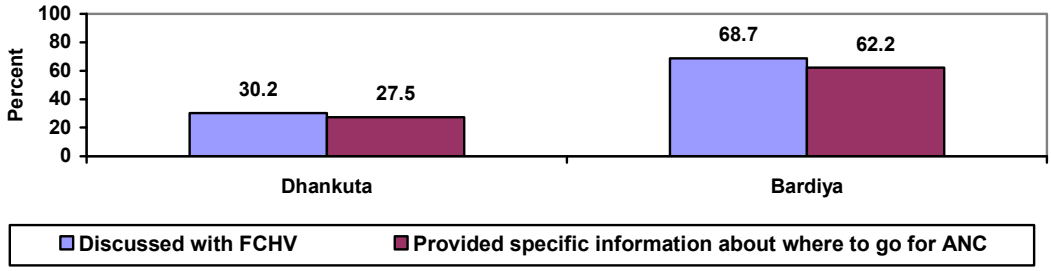
Background characteristics	Dhankuta					Bardiya				
	None	1	2	3+	Number	None	1	2	3+	Number
Age of RDW (in years)	*					ns				
15-19	9.2	10.5	64.5	15.8	76	6.2	6.2	73.2	14.4	97
20-24	14.1	10.1	62.6	13.2	227	7.4	4.2	74.7	13.3	285
25-29	17.8	13.9	54.4	13.9	180	8.4	1.9	79.2	10.4	154
30-34	26.1	5.8	53.6	14.5	69	18.1	4.2	65.3	12.5	72
35-49	47.4	11.5	33.3	7.7	78	22.7	9.1	50.0	18.2	22
Literacy	*					*				
Illiterate	36.4	12.1	43.3	8.2	231	13.4	5.2	72.0	9.4	307
Literate	10.5	10.3	63.2	16.0	399	5.3	3.1	75.2	16.1	323
Ethnicity	*					ns				
Brahmin/Chhetri	5.2	11.9	67.5	15.5	194	5.1	1.3	79.5	14.1	156
Janajati	28.0	10.1	50.3	11.7	386	10.2	5.1	71.9	12.6	413
Dalit and other	16.0	14.0	54.0	16.0	50	13.1	4.9	70.5	11.5	61
Exposure to radio/TV	*					ns				
None	77.8	3.7	14.8	3.7	27	14.0	5.0	66.0	15.0	100
Radio only	27.0	9.8	55.2	8.0	174	13.1	4.2	71.7	11.0	191
TV only	-	33.3	66.7	-	3	14.3	-	81.0	4.8	21
Both radio and TV	13.6	11.7	58.7	16.0	426	5.0	4.1	76.7	13.8	318
SES Index	*					*				
Lowest	33.3	9.8	46.2	10.6	132	17.3	7.1	63.0	11.8	127
Second	23.0	9.8	60.7	6.6	122	11.5	3.8	71.0	13.7	131
Middle	22.6	9.7	50.0	17.7	124	10.7	2.5	75.4	11.5	122
Fourth	11.8	15.7	58.8	13.7	153	4.8	4.8	80.6	9.7	124
Highest	8.1	8.1	65.7	18.2	99	1.6	2.4	78.6	17.5	126
Total	**20.0**	**11.0**	**55.9**	**13.2**	**630**	**9.2**	**4.1**	**73.7**	**12.9**	**630**

**Significant at <.05 level* *ns= Not significant*

4.2 Counseling and support during pregnancy

At the community level the FCHVs are expected to provide counseling and other basic services to pregnant women. Information about interpersonal communication between the FCHVs and responding women during their last pregnancy was also sought in the survey. About 30% of RDW in Dhankuta and 69% in Bardiya had discussed their pregnancy with an FCHV. Among them, 28% of RDW in Dhankuta and 62% in Bardiya reported that they received specific information from FCHV about where to go for antenatal check ups (Figure 4.4). The information indicates that a much higher proportion of RDW who consulted FCHVs had received informational services on pregnancy from the FCHVs.

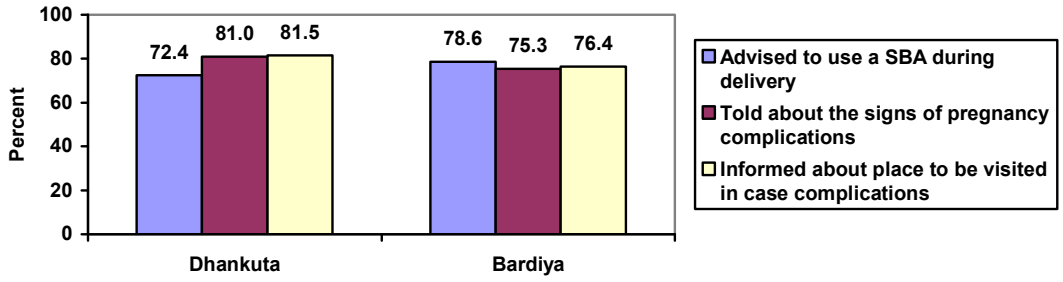
Figure 4.4 Percentage of RDW who discussed about their pregnancy with FCHV and received specific information from FCHV about where to go for antenatal check ups



n= 630 in each district

RDW who received pregnancy check ups during their last pregnancy were also asked about the informational support they received from others during their last pregnancy. Most of the RDW had received the three most important pieces of information i.e. advice on using a skilled birth attendant during delivery, information on signs of pregnancy complications and places to go for the management of complications. The majority (72% in Dhankuta and 79% in Bardiya) of RDW received advice to use a skilled birth attendant during delivery. Similarly, over 80% of the RDW in Dhankuta and 75% in Bardiya said health providers explained about pregnancy related complications. Almost the same percentage of the RDW also affirmed that they were informed about the places they should go in case of pregnancy related complications (Figure 4.5).

Figure 4.5 Percentage of RDW by type of informational support received from others during their last pregnancy, among RDW who received ANC during last pregnancy



n= 525 in Dhankuta and 588 in Bardiya

RDW who received pregnancy check ups during their last pregnancy were further asked about the type of counseling services they received from health service providers. The types of counseling expected to be provided by a service provider to women during pregnancy check ups were read out by the interviewers to the RDW. The majority (90%) of RDW from both districts reported receiving counseling on tetanus toxoid vaccination. Over two-thirds (68%-73%) reported receiving counseling on pregnancy related danger signs and over 60% received counseling on the need for receiving assistance from a skilled or trained provider during delivery (Table 4.8). About half (43%-56%) of RDW reported receiving counseling on financial preparation for delivery and feeding breast milk to the newborn immediately after birth. Counseling on wrapping newborns and the use of clean delivery kits was received by about two-fifths (37%-40%) of the women in both districts. RDW who received counseling on essential newborn care, postpartum family planning, and arrangement of transport and blood for emergencies constituted less than 30%. Overall results show that the proportion of RDW who received counseling on various aspects of pregnancy and newborn care varied substantially. More RDW received counseling on TT and pregnancy related danger signs and the need for assistance of skilled birth attendant (SBA) during delivery than on financial preparation for delivery, early breastfeeding and other aspects of newborn care. The above findings clearly show the need for encouraging health personnel to provide counseling on different aspects to women during their ANC visits.

Table 4.8 Percent distribution of RDW by type of antenatal and postnatal care counseling received during their last pregnancy

Types of counseling received	Dhankuta	Bardiya
Tetanus toxoid vaccination	90.3	90.3
Danger signs during pregnancy	72.6	68.0
Using a skilled birth attendant/trained health worker	60.6	61.1
Breastfeeding immediately after birth	42.7	53.9
Financial preparation for your delivery	55.6	53.6
Wrapping the newborn	39.8	39.3
CHDK	37.0	37.2
Essential newborn care	25.7	27.9
Family planning	20.0	23.1
Identifying emergency transport options	15.2	17.0
Arranging for blood in case of emergency	10.5	13.6
Total (n)	**525**	**588**

4.3 Birth preparedness

Information regarding type of preparations made by the RDW or their families for the delivery of their last child was also collected. Over 80% of the RDW in both districts reported that they had made some kind of preparations for their delivery (Table not shown). Table 4.9 shows data on kinds of preparations made by RDW for the delivery of their last child. The highest percentage (74%-81%) of RDW reported making provisions for food followed by arrangement for money (70%-77%) and clean cloth (62%-64%). Preparations on other components of the birth preparedness package such as pre-identification of health facility or SBA, arrangement of transport, clean delivery kit and clean instruments for cord cutting was reported to have been made by a smaller proportion of women in both districts. This information indicates that, for delivery at home, a large proportion of RDW undertook minor preparations, such as those for food and cloth. However, crucial preparations affecting the newborn, such as arrangement for clean health delivery kit (CHDK), including clean instruments for cord cutting were done by a smaller proportion of RDW in both districts.

Table 4.9 Percent distribution of RDW who reported making specific preparations for the delivery of their last child

Kind of preparations made	Dhankuta (n=630)			Bardiya (n=630)		
	Unprom-pted	Promp-ted	Total	Unprom-pted	Promp-ted	Total
HF/SBA identification	11.0	18.3	29.3	7.3	23.8	31.1
Transport	2.2	8.1	10.3	4.3	7.9	12.2
Money	59.2	17.8	77.0	62.4	7.1	69.5
Food	67.3	13.8	81.1	59.4	14.6	74.0
Clean delivery kit	7.6	12.2	19.8	7.8	9.7	17.5
Clean instrument for cord cutting	5.4	26.3	31.7	2.7	19.2	21.9
Clean cloths	20.0	44.1	64.1	35.7	26.3	62.0

Overall, 82% of the RDW in Dhankuta and 76% in Bardiya reported that they discussed planning for delivery with at least one person (either a family member or outsider) during their last pregnancy. A majority (70%-79%) of them had discussed it with husbands followed by over two-fifths (43%) with mothers-in-law and nearly one-third (29%-32%) with friends or relatives. However, only about 10% of the RDW in both districts reported that they discussed it with FCHVs (Table 4.10). This indicates that immediate family communication on planning for

delivery was more prominent than communication with outsiders, including FCHVs and health workers.

Table 4.10 Percent distribution of RDW by type of person they discussed about plan for their recent delivery

Persons with whom they discussed	Dhankuta (n=630)			Bardiya (n=630)		
	Unprom-pted	Promp-ted	Total	Unprom-pted	Promp-ted	Total
Husband	76.5	2.2	78.7	69.2	1.1	70.3
Mother in law	36.0	6.8	42.8	34.0	9.4	43.4
Friends/relative	8.6	20.0	28.6	14.8	17.6	32.4
Mother	7.5	10.6	18.1	4.4	9.2	13.6
FCHV	4.1	6.8	10.9	5.2	7.9	13.1
Other health care worker	1.1	1.3	2.4	1.4	0.3	1.7
Other family members and relatives	3.5	-	3.5	4.1	-	4.1
Other (TBA; medical shopkeeper)	-	-	-	0.6	-	0.6
No one			17.9			24.4

RDW were also asked whether they had pre-identified the place for the delivery of their last child. Overall, 61% of the respondents in Dhankuta and 66% in Bardiya reported that they had pre-identified the place for delivery. Those who responded affirmatively were then asked about the place where they had planned to deliver their last child. Nearly half (48%) of the RDW in Dhankuta and 37% in Bardiya had planned to deliver at a health facility while the rest had planned to deliver at home. A higher percentage (28% in Dhankuta and 13% in Bardiya) pre-identified a hospital for delivery followed by a health post (12% in Dhankuta and 8% in Bardiya). Less than 10% had planned to deliver their baby at PHCC, subhealth post or private clinic/nursing home (Table 4.11). The above findings imply that a sizeable percentage of the RDW in the study areas still plan to deliver at home indicating the need for encouraging institutional delivery for the safety of both the mother and newborn.

Table 4.11 Percent distribution of RDW by place where they had planned for the delivery of their last child

Description	Dhankuta	Bardiya
Whether planned the place for delivery		
Yes	60.5	66.0
No	39.5	34.0
Total (n)	**630**	**630**
Places pre-identified for delivery		
Hospital	27.6	12.7
PHCC	3.1	7.7
Health post	12.1	8.2
Subhealth post	4.2	3.8
Private clinic/nursing home	1.3	4.1
Your home	51.7	63.2
Other (medical shop)	-	0.2
Total (n)	**381**	**416**

Chapter 5

Delivery Services

One of the objectives of the present survey was to assess the perceptions and household behavior regarding delivery at a health institution and in the presence of skilled birth attendants. In this context, information on several aspects of delivery care was collected from RDW. Questions related to knowledge about sources of delivery services, danger signs associated with delivery, utilization of delivery services and exposure to various behavior change communication messages related to delivery were included in the survey. This chapter provides information on the above aspects.

5.1 Knowledge about delivery services

Knowledge about source of delivery service

In order to assess knowledge about the sources of delivery services, RDW were asked to name the health facility in their community where they could go to deliver their child. Data presented in Table 5.1 shows that almost all RDW were able to mention at least one such source. Community level health facilities (health post or subhealth post) were the most commonly known sources for delivery services in both Dhankuta (75%) and Bardiya (47%) districts. About a quarter (24%) of the RDW in Bardiya and 7% in Dhankuta mentioned PHCC and nearly one-fifth (16%-19%) stated that a hospital was available in their community for delivery services. The information reveals that a majority of RDW were unaware of the main community level health facilities, i.e. PHCC, where delivery services were expected to be made available.

Table 5.1 Percent distribution of RDW by knowledge about the sources for delivery services in their community

Knowledge about sources for delivery services	Dhankuta	Bardiya
Health post	37.6	31.3
PHCC	7.0	24.3
Hospital	15.9	19.0
Subhealth post	37.0	15.6
Private clinic/nursing home	1.7	4.9
Medical shop; medical shopkeeper	0.5	4.4
Your home	0.3	0.2
FCHV home	-	0.2
Do not know	-	0.2
Total (n)	**630**	**630**

RDW were also asked about persons who should be present at birth to deliver the baby safely. The majority of respondents in both districts felt the need for the presence of a doctor (64%-72%) and nurse (55%-79%) at birth to help deliver the baby safely. More than a quarter (27%-29%) of the RDW considered the need for the presence of a FCHV during delivery. However, a relatively small percentage of respondents in both districts (16% in Dhankuta and 23% in Bardiya) mentioned ANM. About half of the RDW also considered help from their friends and relatives during delivery to be necessary (Table 5.2). RDW preferred to have skilled providers, such as a doctor and nurse, to be present during delivery to assure that the delivery was safe. Only a few RDW felt the need for community level care providers such as MCHW, TTBA and TBA at delivery.

Table 5.2 Percent distribution of RDW by opinion regarding the persons to be present at birth to help deliver the baby safely

Persons to be present at birth (Multiple Response)	Dhankuta	Bardiya
Doctor	64.1	71.7
Nurse	54.6	79.0
ANM	15.9	23.2
HA/AHW	25.7	6.3
MCHW	16.2	13.3
VHW	1.6	0.2
FCHV	27.1	29.0
TTBA	7.3	35.4
TBA	4.8	26.7
Relatives/friends	49.2	50.0
Family members	7.0	0.2
Other (medical shopkeeper; traditional healers)	0.6	0.6
Nobody	1.0	0.0
Total (n)	**630**	**630**

Information from FCHVs

FCHVs help RDW complete the reproductive cycle safely by providing information, social support and basic health services at the community level. In this context, RDW were asked if their FCHVs provided specific information on where to go for delivery, to call them at the time of delivery and the type of health workers to be contacted to attend at home in case of home delivery during their last pregnancy. The results are presented in Table 5.3. Nearly two-thirds (66%) of the RDW in Bardiya and over a quarter (28%) in Dhankuta reported being informed by the FCHVs about where they should go for delivery. Over two-fifths (44%) in Bardiya and about a quarter (24%) in Dhankuta also affirmed that they were asked to call her at the time of delivery. About 29% of the RDW in Bardiya and 15% in Dhankuta said that they were informed about the type of health workers to be contacted to attend at home delivery. It seems that the FCHVs are an effective instrument for recommending that RDW go to health facilities for delivery but inadequate in suggesting that they seek assistance of health workers.

Table 5.3 Percent distribution of RDW who were given specific information related to delivery

FCHV provided specific information	Dhankuta (n=630)	Bardiya (n=630)
On where to go for delivery	28.4	65.6
To call her at the time of delivery	23.7	43.7
About which health worker to contact to attend a home birth if you chose to deliver at home	15.1	29.2

5.2 Experiencing danger signs during delivery

RDW were asked if they had experienced any danger signs during the delivery of their last child. Of the four listed major danger signs, a high percentage of respondents in both districts (21% in Dhankuta and 28% in Bardiya) reported having experienced prolonged labor. Less than 10% of RWD had also experienced other kinds of danger signs such as heavy bleeding (5%-7%), convulsions (3%-4%) and abnormal presentation (2%). Overall, 25% *(95% CI: 20.1%, 30.0%)* of the RDW in Dhankuta and 34% *(95% CI: 28.5%, 38.7%)* in Bardiya reported experiencing at least one of the above four common danger signs associated with delivery indicating prevalence of natal problems among a considerable proportion of RDW.

Table 5.4 Percent distribution of RDW experiencing danger signs during the delivery of their last child

Type of danger signs experienced	Dhankuta (n=623)			Bardiya (n=625)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Prolonged labor (>8 hours)	17.0	4.3	21.3	23.5	4.8	28.3
Heavy bleeding	4.5	0.8	5.3	5.6	1.8	7.4
Convulsions	2.6	1.8	4.4	1.3	1.4	2.7
The baby's hand, leg or cord came out first	2.1	0.3	2.4	1.3	0.3	1.6
At least one of the above			***25.0***			***33.6***
Other ±	2.4	-	2.4	1.9	-	1.9
No problems			**73.5**			**65.4**

± Other includes: heart pain; breast infection; diarrhea; lower abdominal pain; cesarean section; white fluid discharge; high fever; vomiting; swelling in hands and legs; no movement of fetus; urinary problem.

RDW (n= 165 in Dhankuta and 216 in Bardiya) who reported having experienced danger signs during the delivery of their last child were then asked about the persons whom they consulted for the management of such problems. About a quarter (24%) of the RDW in Dhankuta consulted HA or AHW followed by nurses (19%) and doctors (18%) (Table 5.5). In Bardiya, a higher proportion (38%) of RDW consulted nurses, 30% doctors and 24% ANM. The percentage of RDW who consulted FCHV was 12% in Dhankuta and 17% in Bardiya. The practice of consulting friends, relatives or neighbors was also common in both study districts. For instance, half of the RDW in Dhankuta and nearly two-thirds in Bardiya reported consulting friends, relatives or neighbors when they had problems during last delivery. About 14% of RDW from Dhankuta and 2% from Bardiya reported that they did not consult anyone when they had problems. The above information suggests that there is a need for informing people about the importance of consulting health providers in case of complications during delivery.

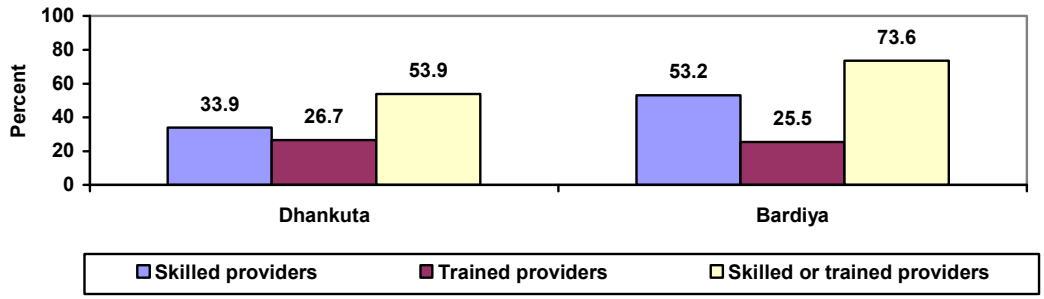
Table 5.5 Percent distribution of RDW by persons consulted for the management of problems experienced during the delivery of last child

Persons consulted	Dhankuta (n=165)			Bardiya (n=216)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Doctor	17.0	0.6	17.6	26.9	2.8	29.7
Nurse	18.8	0.6	19.4	31.5	6.9	38.4
ANM	12.7	-	12.7	23.1	0.9	24.0
HA/AHW	23.0	0.6	23.6	16.2	1.9	18.1
MCHW	4.8	0.6	5.4	5.6	0.4	6.0
VHW	1.2	-	1.2	1.9	-	1.9
FCHV	10.3	1.8	12.1	13.0	3.7	16.7
TTBA	0.6	-	0.6	7.4	1.9	9.3
TBA	4.2	1.2	5.4	14.4	3.2	17.6
Other HW	-	-	-	1.4	0.9	2.3
Dhami Jhakri (traditional healers)	8.5	4.2	12.7	1.4	3.7	5.1
Consulted relative/neighbor/friend	44.8	4.8	49.6	42.6	23.1	65.7
Bought medicine from pharmacy	-	1.2	1.2	8.8	3.2	12.0
Given medicine at home	0.6	0.6	1.2	-	0.5	0.5
No one			13.9			1.9

Further analysis shows that one-third of the RDW in Dhankuta and over half (53%) in Bardiya consulted skilled providers (such as a doctor, nurse or ANM) when they had problems during the delivery of the last child (Figure 5.1). Slightly over a quarter had consulted trained

providers (such as HA, AHW, MCHW or VHW) for the management of problems. Overall, more than half (54%) of the RDW in Dhankuta and nearly three-quarters (74%) in Bardiya reported consulting either a skilled or trained provider during complications. Consultation with unskilled persons was also noticeable, since half of the RDW in Dhankuta and slightly more than half in Bardiya reported consulting relatives, friends or neighbors.

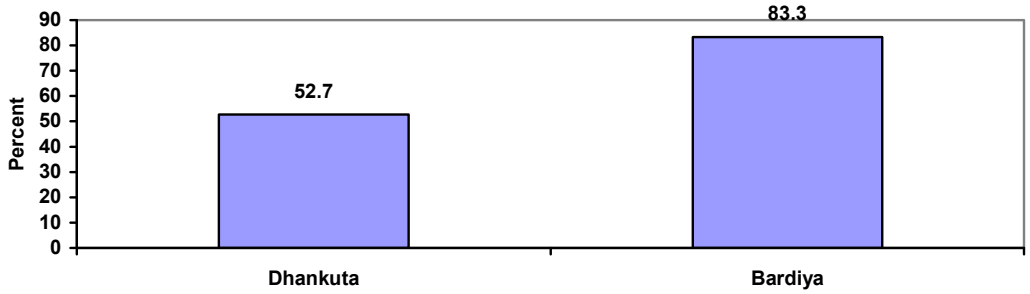
Figure 5.1 Percentage of RDW who consulted skilled or trained providers for the management of problems that they experienced during the delivery of the last child



n= 165 in Dhankuta and 216 in Bardiya

RDW (n=165 in Dhankuta and 216 in Bardiya) who had experienced complications during the delivery of their last child were further asked if they were referred due to complications during the delivery of their last child. In response, only half (53%) of the RDW in Dhankuta and 83% in Bardiya reported that they were referred for the problems (Figure 5.2). The above findings indicate a sizeable number of complication cases were not referred in both districts. This finding calls for orienting health workers or other providers on the need for referral services for complications associated with delivery.

Figure 5.2 Percentage of RDW who were referred for the problems appeared during the delivery of last child



N= 165 in Dhankuta and 216 in Bardiya

Among RDW who were referred, the majority (75% in Dhankuta and 51% in Bardiya) were referred to government health facilities such as hospitals, PHCC, health posts or subhealth posts for their problems. Likewise, 7% in Dhankuta and 20% in Bardiya reported being referred to a private clinic or nursing home (Table 5.6). This information indicates that government health facilities were the predominant place for referrals.

Table 5.6 Percent distribution of RDW by places they were referred for the complications appeared during last delivery

Places visited	Dhankuta (n=87)			Bardiya (n=180)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Hospital	43.7	-	43.7	28.3	0.6	28.9
PHCC	4.6	-	4.6	8.3	1.1	9.4
Health post	21.8	1.1	22.9	11.7	-	11.7
Subhealth post	3.4	-	3.4	1.1	-	1.1
Private clinic/nursing home	6.9	-	6.9	19.4	0.6	20.0
Your home	17.2	-	17.2	15.6	1.7	17.3
TBA home	-	-	-	3.3	1.1	4.4
FCHV home	2.3	2.3	4.6	6.1	0.6	6.7
Medical shop; called medical shopkeeper at home	1.1	-	1.1	13.9	-	13.9
Called AHW at home; called ANM at home; called MCHW at home	5.7	-	5.7	3.3	-	3.3
Other ±	3.4	-	3.4	-	-	-

± *Other includes: gave birth on the way to health facility; traditional healer; no where*

5.3 Utilization of delivery services

This section examines the utilization of delivery services by RDW during the delivery of their last child. About 21% of the deliveries in Dhankuta and 30% in Bardiya were reported to have been assisted by a skilled provider (doctor, nurse or ANM) and 11% in Dhankuta and 12% in Bardiya were assisted by a trained provider (HA, AHW, MCHW or VHW). Utilization of traditional birth attendants in Bardiya was much more common than in Dhankuta as nearly one-third of the RDW in Bardiya compared to 5% in Dhankuta reported seeking assistance from them during their last pregnancy (Table 5.7). Further analysis shows that among RDW (n=511 in Dhankuta and 428 in Bardiya) who delivered their last child (live births) at home, 5.3% *(95% CI: 1.0%, 9.6%)* in Dhankuta and 2.1% *(95% CI: 0.3%-3.9%)* in Bardiya reported receiving assistance from a skilled birth attendant. Assistance sought from unskilled and untrained persons was also noticeably high in both districts (54% in Dhankuta and 17% in Bardiya).

Table 5.7 Percent distribution of RDW by persons assisting during delivery of the last child, among RDW with live birth

Persons assisted during delivery	Dhankuta	Bardiya
Doctor	10.9	14.1
Nurse	3.2	8.2
ANM	6.8	7.8
HA/AHW	7.9	7.8
MCHW	2.6	4.0
VHW	0.5	0
FCHV	5.9	8.2
TTBA/TTBA	5.3	32.5
Relative/friends, family members, medical shop keeper, traditional healers	54.3	17.0
Nobody	2.6	0.5
Total (n)	**623**	**625**

Table 5.8 further shows differentials on the utilization of skilled providers during the delivery of the last child according to selected background characteristics of the responding women. Younger and literate women in both study districts were significantly more likely to receive assistance from

skilled personnel during delivery than their older and illiterate counterparts. Utilization of skilled providers was significantly higher among Dalit women in Dhankuta and Brahmin or Chhetri in Bardiya than other categories of women. Likewise, use of a skilled provider was much higher among RDW who were exposed to media and belonged to the highest wealth index than their respective counterparts.

Table 5.8 Percent distribution of RDW by the status of assistance received from skilled personnel (*doctor, nurse or ANM*) during delivery of their last child by selected background characteristics

Background characteristics	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
Age of RDW (in years)	*		*	
15-19	26.3	76	37.9	95
20-24	25.7	226	29.4	282
25-29	19.6	179	28.6	154
30-34	18.2	66	27.8	72
35-49	7.9	76	22.7	22
Literacy	*		*	
Illiterate	10.7	225	21.2	306
Literate	26.9	398	38.6	319
Ethnicity	*		*	
Brahmin/Chhetri	28.1	192	43.1	153
Janajati	16.0	382	26.5	411
Dalit and other	32.7	49	21.3	61
Exposure to radio/TV	*		*	
None	4.0	25	18.0	100
Radio only	12.2	172	20.1	189
TV only	33.3	3	14.3	21
Both radio and TV	25.5	423	41.0	315
SES Index	*		*	
Lowest	10.1	129	23.8	126
Second	14.0	121	25.4	130
Middle	15.4	123	19.7	122
Fourth	22.5	151	30.6	124
Highest	48.5	99	51.2	123
Total	**21.0**	**623**	**30.1**	**625**

**Significant at <.05 level* *ns= Not significant*

Of the 623 RDW in Dhankuta and 625 in Bardiya who had given live birth in the past 12 months, 18% in Dhankuta and 32% in Bardiya had an institutional delivery such as at a hospital (11% in Dhankuta, 12% in Bardiya), PHCC (2% in Dhankuta, 5% in Bardiya), private clinic or nursing home (2% in Dhankuta, 8% in Bardiya) or health post/subhealth post (4% in Dhankuta, 6% in Bardiya) (Table not shown). This information indicates that despite the governmental emphasis on institutional delivery the utilization of health facilities for delivery purposes was still low. More than three quarters (82%) of the RDW in Dhankuta and over two-thirds (68%) in Bardiya had delivered at home (Table 5.9). Further analysis shows that the proportion of literate women who delivered their last child at a health facility was significantly higher than their illiterate counterparts. By ethnicity, *Dalit* in Dhankuta and Brahmin or Chhetri in Bardiya were significantly more likely to deliver their baby at a health facility than the women of other castes. The analysis also shows a strong association between exposure to media and the use of a health facility for delivery; the use of a health facility was higher among exposed women than among non-exposed ones. Significantly, a higher percentage of women belonging to

higher wealth index had an institutional delivery compared to those of lower index. Data further reveal that more women among younger age cohorts had an institutional delivery than older women in both districts, however the observed difference was not statistically significant.

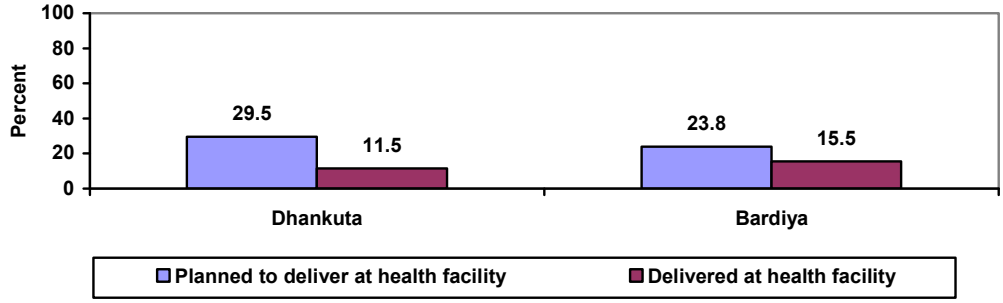
Table 5.9 Percent distribution of RDW by place of delivery of their last child by their selected background characteristics

Background characteristics	Dhankuta			Bardiya		
	At health facility	Home or other	Number	At health facility	Home or other	Number
Age of RDW (in years)	ns			ns		
15-19	21.1	78.9	76	41.1	58.9	95
20-24	22.1	77.9	226	32.3	67.7	282
25-29	17.3	82.7	179	27.3	72.7	154
30-34	13.6	86.4	66	27.8	72.2	72
35-49	7.9	92.1	76	22.7	77.3	22
Literacy	*			*		
Illiterate	8.0	92.0	225	23.2	76.8	306
Literate	23.6	76.4	398	39.5	60.5	319
Ethnicity	*			*		
Brahmin/Chhetri	22.9	77.1	192	42.5	57.5	153
Janajati	14.7	85.3	382	28.5	71.5	411
Dalit and other	24.5	75.5	49	24.6	75.4	61
Exposure to radio/TV	*			*		
None	4.0	96.0	25	20.0	80.0	100
Radio only	13.4	86.6	172	24.9	75.1	189
TV only	33.3	66.7	3	14.3	85.7	21
Both radio and TV	20.6	79.4	423	40.3	59.7	315
SES Index	*			*		
Lowest	12.4	87.6	129	23.0	77.0	126
Second	13.2	86.8	121	28.5	71.5	130
Middle	13.0	87.0	123	25.4	74.6	122
Fourth	19.2	80.8	151	32.3	67.7	124
Highest	35.4	64.6	99	48.8	51.2	123
Total	**18.0**	**82.0**	**623**	**31.5**	**68.5**	**625**

**Significant at <.05 level* *ns= Not significant*

As discussed in Chapter 4, about 30% (n=184) of RDW in Dhankuta who had given live birth had planned to deliver their last child at a health facility. The corresponding figure for Bardiya was 24% (n=149). Figure 5.3 shows data on percentage of RDW who planned for institutional delivery and those who actually delivered at the health facility by district. Of the 30% of RDW in Dhankuta who had planned to deliver at a health facility only 12% reported actually delivering at a health facility. Similarly, 16% out of 24% of RDW in Bardiya who had planned for delivery actually delivered at a health facility. This finding indicates that there was a discrepancy between planned and actual delivery. Not all RDW who planned to deliver at health facilities could do so in reality.

Figure 5.3 Percentage of RDW who planned to deliver at health facility and actually delivered at health facility, among RDW with live birth



n= 623 in Dhankuta and 625 in Bardiya

Information regarding the use of clean delivery kits by women during their last delivery was also sought during the study. Among RDW who delivered at home, 25% *(95% CI: 18.4%, 32.1%)* in Dhankuta and 34% *(95% CI: 25.4%, 42.3%)* in Bardiya reported using clean delivery kits. This finding indicates the need for educating women on the importance of using clean delivery kits especially those who deliver at home. Further analysis of data reveals that younger and literate women were significantly more likely to use clean delivery kits than their older and illiterate counterparts. Similarly, a higher proportion of RDW who belonged to Brahmin or Chhetri castes reported using clean delivery kits, though the observed difference was statistically significant only in Dhankuta district. Use of clean delivery kits was also significantly higher among women who were exposed to both radio and television and those who belonged to the highest socio-economic index (Table 5.10).

Table 5.10 Percent distribution of RDW who used clean delivery kits during the delivery of their last child, among RDW with live birth and who had home delivery

Background characteristics	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
Age of RDW (in years)		*		*
15-19	30.0	60	39.3	56
20-24	31.3	176	40.8	191
25-29	27.7	148	25.0	112
30-34	19.3	57	23.1	52
35-49	5.7	70	29.4	17
Literacy	*		*	
Illiterate	11.1	207	26.0	235
Literate	34.9	304	43.5	193
Ethnicity	*		ns	
Brahmin/Chhetri	38.5	148	42.0	88
Janajati	19.3	326	31.3	294
Dalit and other	24.3	37	34.8	46
Exposure to radio/TV	*		*	
None	4.2	24	22.5	80
Radio only	16.1	149	22.5	142
TV only	0	2	44.4	18
Both radio and TV	31.0	336	46.3	188
SES Index	*			
Lowest	8.0	113	29.9	97
Second	18.1	105	19.4	93
Middle	28.0	107	29.7	91
Fourth	32.8	122	47.6	84
Highest	48.4	64	49.2	63
Total	**25.2**	**511**	**33.9**	**428**

**Significant at <.05 level* *ns= Not significant*

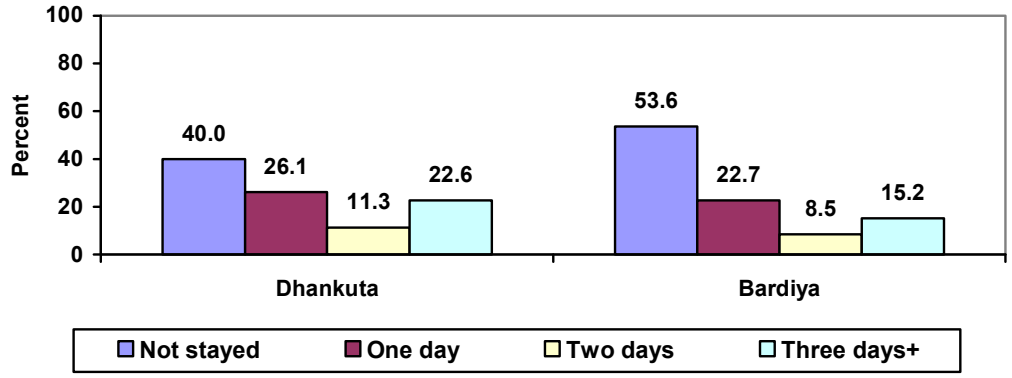
RDW who had an institutional delivery for their last child were further asked about the persons who accompanied them to the health facility for delivery. Over 70% of the RDW in both districts reported that they were accompanied by their husbands. A sizeable percentage of the RDW also reported being accompanied by mothers-in-law (35%-51%) and fathers-in-law (14%-23%). About two-thirds (67%-69%) of the RDW also mentioned other relatives who accompanied them at that time (Table 5.11).

Table 5.11 Percent distribution of RDW persons who accompanied them while going to the health facility for delivery

Persons who accompanied (Multiple Response)	Dhankuta	Bardiya
Husband	70.4	71.4
Other relative	68.7	67.1
Mother-in-law	34.8	50.7
Father-in-law	13.9	23.0
Mother/father	13.0	10.8
FCHV	6.1	11.7
TBA/TTBA	0.9	12.2
Self	1.7	-
Other (friends/neighbors)	2.6	0.5
Total (n)	**115**	**213**

RDW were also asked about the number of days they stayed at the health facility following the birth of their last child. Over two-fifths of the RDW in Dhankuta and over half in Bardiya reported that they returned home on the same day following the birth of their child. About a quarter of the RDW in both districts stayed only one day and one-tenth stayed two days. Nearly a quarter of the RDW in Dhankuta and one-sixth in Bardiya reported staying 3 days or more (Figure 5.4). The shorter stay at the health facility after delivery shows that majority of the RDW who delivered at the health facility did not have a complicated delivery.

Figure 5.4 Percentage of RDW number of days stayed at health facility following the birth of the last child, among those who delivered live birth at health facility



n=115 in Dhankuta and 211 in Bardiya

RDW who had a live birth in the past 12 months from the survey date but did not have an institutional delivery were further asked about their reasons for not using a health facility. The majority (82%-85%) of respondents in both districts said they did not think it was necessary to deliver at the health facility. This response was followed by 'not customary' (10%-19%). A sizeable percentage of RDW were also concerned with accessibility (11%-16%), cost (7%-14%) and availability (4%-13%) of services. Some (4%) RDW from both districts also stated that they called a health worker at home (Table 5.12). The above information clearly shows that the main reason for not having an institutional delivery was due to the lack of awareness on the need for institutional delivery.

Table 5.12 Percent distribution of RDW by reasons for not delivering their last child at the health facility, among RDW with live births

Reasons for not delivering last child at health facility (Multiple Response)	Dhankuta	Bardiya
Not necessary	82.1	84.7
Not customary	10.0	19.1
Cost too much	6.9	13.8
Facility not open	4.3	12.8
Too far / no transportation	15.7	11.4
Called health worker at home	4.7	3.6
Called medical shopkeeper at home; called TBA at home	0.0	1.7
Husband / family did not allow	1.0	1.2
Do not trust facility / poor quality service	1.4	0.7
Other ±	1.8	3.4
Total (n)	**508**	**417**

± Other includes: given birth before due date; premature birth; given birth on the way to health facilty; shamful; no one initiated.

5.4 Exposure to messages related to delivery services

This section discusses the level of exposure of RDW to maternal and newborn health information. All RDW were asked where they got information on maternal and newborn health services. Their responses are presented in Table 5.13 in both *unprompted* and *prompted* response categories. Radio (71%-87%) followed by health personnel (78%-84%) and female community health volunteers (54%-81%) were reported as the main sources of information on maternal and newborn services in both districts. A sizeable percentage of the respondents from both districts also claimed to have obtained information about these matters from posters or pamphlets (38%-55%) and television (30%-41%). It is to be noted that about 24% of the RDW in Bardiya also mentioned TBA. However, very small percentages of the RDW from both districts mentioned NGO workers, BPP flip chart and street drama performance as their information sources. The above information indicates that the RDW received messages on maternal and newborn health sources from a variety of mass media and interpersonal communications and that the predominant sources were radio and health personnel.

Table 5.13 Percent distribution of RDW by source of information on maternal and newborn health services

Source of information on maternal and newborn health services	Dhankuta (n=630)			Bardiya (n=630)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
FCHV	25.2	28.7	53.9	53.0	28.3	81.3
Other health personnel	47.3	36.2	83.5	50.0	27.6	77.6
Radio	61.1	25.9	87.0	52.2	19.2	71.4
Posters/pamphlets	5.1	49.7	54.8	4.8	33.5	38.3
TV	20.3	21.1	41.4	14.9	15.1	30.0
TBAs	0.8	6.7	7.5	7.9	15.7	23.6
BPP flip chart	0.5	7.6	8.1	-	11.7	11.7
Friends/relatives/neighbors	7.3	-	7.3	7.1	-	7.1
NGO workers	0.8	3.3	4.1	2.5	4.0	6.5
Street dramas	-	3.2	3.2	0.3	4.6	4.9
Newspaper/ magazine	5.4	10.3	15.7	1.1	3.7	4.8
BPP Key Chain	2.7	-	2.7	-	-	-
Other±	2.1	-	2.1	4.0	-	4.0
None/No where	**2.7**	-	**2.7**	**3.7**	-	**3.7**

± *Other includes: teacher; books; mothers group; women's group; training.*

A large percentage of the RDW in both districts perceived health personnel (>66%) and radio (56%-63%) as trusted sources for getting information on maternal and newborn health services. About a quarter (24%) of the RDW in Dhankuta and two-thirds (66%) in Bardiya regarded FCHV as trusted sources of information. A sizeable percentage (17%-23%) of RDW also considered television as trusted sources for getting such information (Table 5.14).

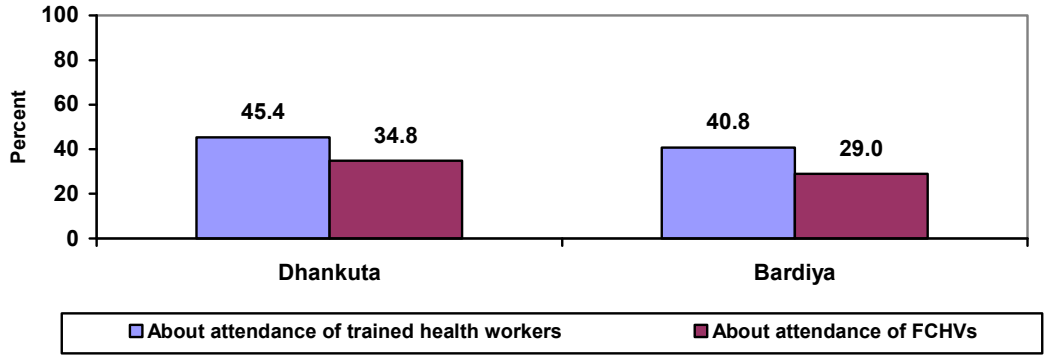
Table 5.14 Percent distribution of RDW by perception on the trusted sources of information on maternal and newborn health services

Opinion on the trusted sources of information (Multiple Response)	Dhankuta	Bardiya
Other health personnel	66.3	66.7
FCHV	24.0	66.0
Radio	62.9	55.9
TV	23.0	16.5
Posters/pamphlets	5.9	3.5
TBA	0.6	3.3
NGO workers	0.3	2.1
Newspaper/ magazine	2.7	0.6
BPP flip chart	-	0.5
Friends/relatives/neighbors	1.3	0.5
Street dramas	-	0.2
Jeevan Surakchha Key Chain	1.0	-
Other±	0.3	0.1
None	2.7	3.7
Total (n)	**630**	**630**

± *Other includes: teacher; books; mothers group; women's group; training.*

RDW with live births in the last 12 months were asked if they had seen, heard or read any messages about the attendance of a *trained health worker* or *FCHV* on the radio, television, newspaper or anywhere else in the past three months. In response, nearly half (45% in Dhankuta and 41% in Bardiya) of the RDW affirmed having seen, heard or read messages about attendance of a trained health worker. However, the percentage of RDW who were exposed to the messages about the attendance of FCHVs was relatively low (35% in Dhankuta and 29% in Bardiya) in both districts (Figure 5.5).

Figure 5.5 Percentage of RDW by exposure to messages related to the attendance of a trained health workers or FCHVs during delivery



n= 623 in Dhankuta and 625 in Bardiya

Data presented in Table 5.15 shows that radio (31%-42%) followed by health personnel (25%) and friends (19%-25%) were commonly cited sources for messages about attendance of a trained health worker in the last three months prior to the survey. FCHVs were also mentioned as a source by about 16% of RDW in Dhankuta and 27% in Bardiya. It seems that awareness of the need for attendance of a trained health worker and FCHV was low and radio, TV and health personnel were used only in a limited extent for messages on these subjects.

Table 5.15 Percent distribution of RDW by sources from where they got messages on attendance of a trained health workers during delivery

Sources of message	Dhankuta (n=623)			Bardiya (n=625)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Radio	37.2	4.8	42.0	26.1	4.5	30.6
FCHV	10.8	5.0	15.8	20.6	6.1	26.7
Other health personnel	18.0	6.6	24.6	15.2	9.6	24.8
Friends	6.6	12.3	18.9	12.1	12.5	24.6
TV	8.2	4.3	12.5	7.2	3.7	10.9
TBAs	-	0.8	0.8	4.3	4.2	8.5
Posters/pamphlets	1.8	8.2	10.0	1.0	6.2	7.2
Family members; neighbors	0.3	-	0.3	2.9	-	2.9
BPP flip chart	0.2	2.4	2.6	-	1.9	1.9
NGO workers	-	0.5	0.5	0.6	0.6	1.2
Other±	0.8	-	0.8	0.5	-	0.5
Nobody			53.3			58.1

± *Other includes: mothers group; newspaper or magazine; books.*

Chapter 6

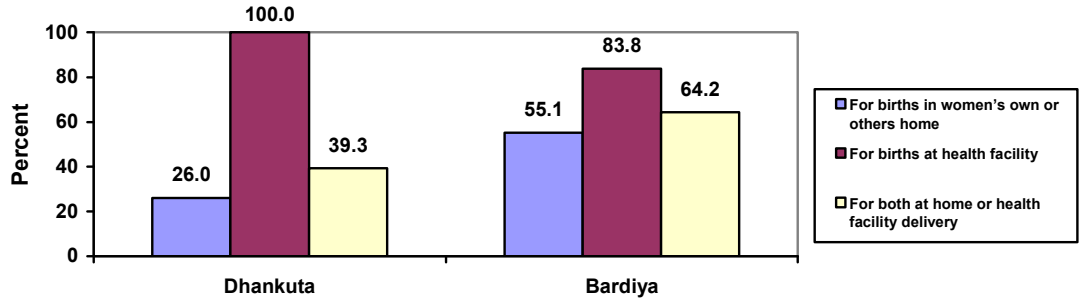
Postpartum Care

One of the objectives of the CB-NCP Program is to inform and encourage mothers in the program areas to utilize postnatal health services. This survey attempted to examine the current status of use of postnatal health services among women who delivered babies 12 months prior to the survey. A series of questions related to the utilization of postnatal health services, such as source of postnatal services, timing of first and subsequent postnatal check ups, and type of services received from health facilities and providers, were asked of the responding women. The results are presented in this chapter.

6.1 Early postnatal care visit

RDW who had given a live birth were asked if they were checked by any of the health care providers before the health professional, FCHV or TBA left their house (for those who delivered at home) or before they were discharged (in case of institutional delivery). Overall, 39% of the RDW in Dhankuta and 64% in Bardiya reported that they were checked by a health care provider before the providers left their homes or they were discharged from the health facilities (Figure 6.1). Looking at the health facility separately, all of the RDW in Dhankuta and an overwhelming majority (84%) in Bardiya were given a check up before they were discharged. Post delivery health check ups of RDW were less common in the case of home deliveries than in the case of institutional deliveries.

Figure 6.1 Percentage of RDW by post-delivery check up by the health care providers before the health professional, FCHV or TBA left their house or they were discharged following the birth of their last child, among RDW with live birth



n= 623 (511 home delivery & 112 institutional delivery) in Dhankuta and 625 (428 home delivery & 197 institutional delivery) in Bardiya

RDW who reported being checked by a provider before they were discharged or before the provider left the house were asked about the person who checked them at that time. Slightly over half (52%) of the RDW in Dhankuta and 42% in Bardiya reported being checked by skilled providers (doctor, nurse or ANM), and 28% in Dhankuta and 15% in Bardiya were checked by trained providers (HA, AHW, MCHW or VHW). About one in every 10 RDW also said that they were checked by FCHV. Similarly, about one-third (34%) of the RDW in Bardiya and 8% in Dhankuta reported that they were checked by traditional birth attendant (Table 6.1). To the question, *"how long after delivery did the first check take place?"*, almost all the RDW reported that the health providers checked their health on the same day (Table not shown). A great

proportion of RDW received basic health check up services from either skilled or trained providers before they were separated from the health care providers.

Table 6.1 Percent distribution of RDW by persons who checked them before the health professional, FCHV or TBA left their house or before they were discharged following the birth of their last child

Persons who checked	Dhankuta	Bardiya
Doctor	22.9	18.2
Nurse	12.2	12.5
ANM	16.7	11.0
HA/AHW	20.0	11.0
MCHW	5.7	3.7
VHW	2.0	-
FCHV	12.7	8.7
TTBA/TTBA	7.8	33.7
Relatives/friends/ medical shop; medical shopkeeper	-	1.2
Total (n)	**245**	**401**

RDW who reported being checked by a health provider before they were discharged from the health facility or before the health provider left the house were also asked about the type of services they received. The results are presented in Table 6.2. The majority (87%-94%) of RDW in both districts reported that their body was examined. Over four-fifths (83%-87%) said that they were checked for heavy bleeding. Other types of services they received were related to checking their breasts (63%-79%) and fever condition (56%-65%). About a quarter of RDW also said that they were referred to a health center or hospital. Thus, a great majority of RDW received the most essential check up services within a few days following delivery, i.e. overall physical examination and signs of heavy bleeding (a life threatening condition at the post delivery stage).

Table 6.2 Percent distribution of RDW by type of services received from the health service providers following the birth of their last child

Type of services provided	Dhankuta (n=245)			Bardiya (n=401)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Examined your body	80.0	13.9	93.9	78.8	8.0	86.8
Checked for heavy bleeding	38.8	47.8	86.6	37.4	45.9	83.3
Checked breasts	17.1	45.7	62.8	34.7	44.6	79.3
Checked for fever	24.5	40.0	64.5	21.7	34.7	56.4
Referred to a health center/hospital	3.3	25.3	28.6	2.7	20.7	23.4
Immunization	0.8	-	0.8	1.7	-	1.7
Other±	-	-	-	0.5	-	0.5

± *Other includes: oil massage; provided Vitamin A capsules.*

6.2 Late postnatal care visit

RDW who were more than one month post-delivery were asked if any health provider, FCHV or TBA checked on their health when the health care provider, FCHV or TBA left their home (for home delivery) or after they were discharged (for institutional delivery). Overall, 7% (n=43 out of 582) of the RDW in Dhankuta and 17% (n=100 out of 574) in Bardiya reported receiving check up services within four weeks after discharge or the health worker left their house (Table not shown). It seems that post-discharge from health facility or post-provider separation from home health check up services to the RDW were very inadequate. Among those who received services (n=43 in Dhankuta and 100 in Bardiya) over 75% in Dhankuta and 41% in Bardiya received services once and 19% in Dhankuta and 37% in Bardiya received services 2-3 times. On average, each RDW in Dhankuta received check up services 1.4 times

and in Bardiya 2.3 times (Table not shown). Those who reported receiving check ups within four weeks were asked about persons who checked them during that time. Data presented in Table 6.3 shows that the majority (56% in Dhankuta and 22% in Bardiya) of RDW received check up services from trained providers (MCHW, HA, AHW, CMA or VHW) and 21% in Dhankuta and 14% in Bardiya received services from skilled providers (doctor, staff nurse or ANM). About a quarter (23%-25%) of the RDW in both districts also reported receiving services from FCHV. Utilization of TBA for postnatal check up was also found to be common in Bardiya (35%).

Table 6.3 Percent of RDW by persons who checked them within four weeks after the health professional, FCHV or TBA left their house or they were discharged from health facility, among RDW with more than one month post-delivery

Persons who checked	Dhankuta	Bardiya
Doctor	4.7	7.0
Staff nurse	2.3	1.0
ANM	14.0	6.0
MCHW	18.6	5.0
HA	2.3	2.0
AHW / CMA	34.9	13.0
VHW	0	2.0
FCHV	23.3	25.0
Trained TBA	-	7.0
Untrained TBA	-	28.0
Medical shopkeeper	-	4.0
Total (n)	**43**	**100**

RDW with more than one month post-delivery who reported receiving check up services within one month following delivery were further asked about the type of services they received from the providers. The great majority (85%-94%) of RDW in both districts said that they were examined by the service providers. Over half (51%-56%) of the RDW in Dhankuta and about two-thirds (68%-73%) in Bardiya reported being checked for heavy bleeding, and on breasts (Table 6.4).

Table 6.4 Percent of RDW by type of services received from the health professional, FCHV or TBA when they left their house or they were discharged from health facility following the birth of their last child, among RDW with more than one month post-delivery

Type of services provided	Dhankuta (n=43)			Bardiya (n=100)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Examined body	75.6	8.9	84.5	79.8	13.8	93.6
Checked for heavy bleeding	26.7	24.4	51.1	35.8	36.7	72.5
Checked breasts	20.0	35.6	55.6	30.3	37.6	67.9
Checked for fever	20.0	35.6	55.6	22.9	42.2	65.1
Referred to a health center/hospital	-	11.1	11.1	4.6	22.0	26.6
Provided iron tablets; provided vitamin A capsules	4.4	-	4.4	12.8	-	12.8

6.3 Early or late postnatal care visits

Respondents were asked if any providers checked on their health before they were discharged from the health facility (for institutional delivery) or before the provider left the house (for home delivery). They were also asked if any providers checked on their health when they were discharged from health facility (for institutional delivery) or after the provider left the house (for home delivery). Responses obtained from these two questions were further analyzed and

results are presented in Table 6.5. Among RDW with live birth and who were more than one month post delivery 33% *(95% CI: 26.2%, 38.8 %)* in Dhankuta and 39% *(95% CI: 32.1%, 45.2%)* in Bardiya received postpartum care from a skilled or trained provider within four weeks following delivery. The proportion of RDW who received postpartum services from skilled or trained personnel within four weeks was significantly higher among younger cohorts and literates than their respective counterparts. Ethnicity data shows that Janajati were less likely to receive postnatal services than the respondents of other castes. Exposure to media also has a strong effect on the utilization of postpartum services. In both districts, women belonging to a higher wealth index were significantly more likely to receive postpartum services than women belonging to a lower wealth index.

Table 6.5 Percent distribution of RDW who received postpartum care within four weeks of delivery from a skilled or trained personnel by their selected background characteristics, among RDW with live birth who were more than one month post delivery

Background characteristics	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
Age of RDW (in years)	*		*	
15-19	38.6	70	44.8	87
20-24	41.1	207	43.6	259
25-29	29.9	164	32.9	140
30-34	28.8	66	28.8	66
35-49	12.0	75	22.7	22
Literacy	*		*	
Illiterate	18.0	217	26.1	280
Literate	41.1	365	50.7	294
Ethnicity	*		*	
Brahmin/Chhetri	46.0	176	58.2	141
Janajati	24.8	359	32.2	379
Dalit and other	40.4	47	33.3	54
Exposure to radio/TV	*		*	
None	4.2	24	20.7	92
Radio only	19.1	162	28.8	170
TV only	33.3	3	15.0	20
Both radio and TV	39.7	393	51.7	292
SES Index	*		*	
Lowest	22.4	125	21.8	119
Second	21.7	115	28.6	119
Middle	24.1	112	33.3	114
Fourth	39.4	142	42.6	108
Highest	60.2	88	68.4	114
Total	**32.5**	**582**	**38.7**	**574**

**Significant at <.05 level* *ns= Not significant*

Chapter 7

Immediate Newborn Care and Newborn Care

The main objectives of the CB-NCP program are to increase awareness and bring about household behavioral change towards healthy newborn practices, increase utilization of the available newborn services and strengthen the quality of the preventive, promotive and curative services from the community to the health facility level. In order to examine knowledge, attitudes and practices towards newborn care, a series of questions were asked to all responding women included in the study. The first section presents findings on immediate newborn care The second section describes exposure of respondents to messages related to immediate newborn care. Findings on newborn care practices during first month are discussed in the third section.

7.1 Immediate newborn care

A series of questions related to immediate newborn care were asked of all RDW during the interview. Information related to materials used for cord cutting; drying, wrapping and bathing the newborn; initiation of breastfeeding; and health check ups and counseling following the birth; was collected. This section presents findings on these aspects.

a) Cord cutting and use of clean delivery kits

In order to prevent a newborn from infections it is necessary to cut the cord with a new or sterilized instrument. RDW with live births in the past 12 months were asked about the type of instruments used to cut the cord of the newborn. Among RDW with live births about one-third (31%) in both districts reported using clean delivery kits and over two-fifths (43% in Dhankuta and 45% in Bardiya) used a new blade to cut the cord of the newborn. A sizeable percentage of the respondents particularly those in Dhankuta (20%) than in Bardiya (3%) reported using non-sterilized instruments such as a used blade, sickle, scissor or bamboo sheet to cut the cord of their newborn indicating risk of infection among a sizable proportion of newborns (Table not shown).

Overall, among RDW who delivered at home, 25% in Dhankuta and 34% in Bardiya reported using clean delivery kits. The practice of use of "clean delivery kits or clean instruments such as new blade, boiled instrument" to cut cord of the newborn who were delivered at home was prevalent among 79% *(95% CI: 71.0%, 87.1%)* of the RDW in Dhankuta and 96% *(95% CI: 94.7%, 97.8%)* in Bardiya. Table 7.1 shows differentials on the use of "clean delivery kit" and "clean delivery kit or clean instruments" to cut the cord of the newborns who were delivered at home according to the background characteristics of the mothers. The use of clean delivery kits or clean instruments to cut the cord of the newborn was significantly higher among RDW with lower age cohorts, literates and who belonged to Brahmin or Chhetri castes compared to their respective counterparts; however no significant difference was observed for the women of Bardiya with respect to the use of "CDK or clean instruments". Women who had exposure to media and who belonged to the highest SES index were significantly more likely to use clean delivery kits or clean instruments to cut the cord of their babies, however the observed difference was not statistically significant for the use of "CDK or clean instruments" among the women of Bardiya district.

Table 7.1 Percent distribution of RDW who used clean delivery kits or new instruments to cut newborn's cord during last delivery by their selected background characteristics, among RDW who delivered at home

Background characteristics	Dhankuta			Bardiya		
	CDK	CDK or clean instruments	Number	CDK	CDK or clean instruments	Number
Age of RDW (in years)	*	*		*	ns	
15-19	30.0	86.7	60	39.3	98.2	56
20-24	31.3	87.5	176	40.8	97.4	191
25-29	27.7	78.4	148	25.0	95.5	112
30-34	19.3	70.2	57	23.1	92.3	52
35-49	5.7	60.0	70	29.4	94.1	17
Literacy	*	*		*	ns	
Illiterate	11.1	67.6	207	26.0	95.7	235
Literate	34.9	86.8	304	43.5	96.9	193
Ethnicity	*	*		ns	ns	
Brahmin/Chhetri	38.5	93.9	148	42.0	95.5	88
Janajati	19.3	70.9	326	31.3	96.6	204
Dalit and other	24.3	91.9	37	34.8	95.7	46
Exposure to radio/TV	*	*		*	ns	
None	4.2	37.5	24	22.5	96.3	80
Radio only	16.1	76.5	149	22.5	93.7	142
TV only	-	100.0	2	44.4	94.4	18
Both radio and TV	31.0	83.0	336	46.3	98.4	188
SES Index	*	*		*	ns	
Lowest	8.0	69.9	113	29.9	94.8	97
Second	18.1	80.0	105	19.4	95.7	93
Middle	28.0	76.6	107	29.7	96.7	91
Fourth	32.8	83.6	122	47.6	97.6	84
Highest	48.4	89.1	64	49.2	96.8	63
Total	**25.2**	**79.1**	**511**	**33.9**	**96.3**	**428**

**Significant at <.05 level* *ns= Not significant*

Information regarding the use of materials to tie the cord was collected from all RDW who had given a live birth in the past 12 months. Among RDW who had delivered their last child at home, 83% in Dhankuta and 92% in Bardiya reported that either clean delivery kit, new thread, boiled string or thread was used to tie the cord of the baby. A sizeable percentage (16% in Dhankuta and 8% in Bardiya) of RDW who delivered at home reported using unboiled used string or thread to tie the cord of the newborn (Table not shown). Among RDW who delivered at home and did not use clean delivery kits, 68% in Dhankuta and 16% in Bardiya said that they cut the cord on the surface of a metal coin. Over 10% in Dhankuta and 42% in Bardiya did not place the cord on any surface. Some RDW also said they used wood, bamboo sheet or leaf for this purpose (Table not shown)

Previous studies reveal that it is common in rural communities to apply unhygienic substances to the stump after the baby's cord is cut. RDW included in the present study were also asked if any substances were used on the stump after cutting the cord of their newborn. The survey results indicate the presence of practices of applying some substances on the stump of the cord in the study districts. Among RDW with live birth, 13% in Dhankuta and 20% in Bardiya reported applying any substances. The types of substances applied to the cord stump were: oil (11% in

Dhankuta and 16% in Bardiya), ointment (2% in each district) and ash or turmeric powder (<1% in Dhankuta and 2% in Bardiya) (Table not shown).

The use of substances on the cord stump is further analyzed on the basis of the selected background characteristics of the RDW. The results show that younger women in Bardiya were significantly less likely to use substances on the cord stump, however, in Dhankuta no significant differences were observed by age. Application of any substance on the cord stump was significantly lower among literate RDW than illiterate RDW. By ethnicity, Brahmin or Chhetri women in Bardiya were significantly less likely to apply any substance than the women of other castes. However, no significant difference was observed on the application of substances on the cord stump with respect to women's exposure to media or their wealth index (Table 7.2).

Table 7.2 Percent distribution of RDW who applied anything on the stump after the baby's cord was cut by their selected background characteristics

Background characteristics	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
Age of RDW (in years)	ns		*	
15-19	17.1	76	16.8	95
20-24	15.0	226	18.4	282
25-29	6.7	179	28.6	154
30-34	16.7	66	13.9	72
35-49	15.8	76	22.7	22
Literacy	*		*	
Illiterate	16.9	225	24.8	306
Literate	11.1	398	16.0	319
Ethnicity	ns		*	
Brahmin/Chhetri	12.5	192	16.3	153
Janajati	12.8	382	18.0	411
Dalit and other	18.4	49	45.9	61
Exposure to radio/TV	ns		ns	
None	16.0	25	27.0	100
Radio only	10.5	172	22.2	189
TV only	-	3	19.0	21
Both radio and TV	14.0	423	17.1	315
SES Index	ns		ns	
Lowest	14.7	129	20.6	126
Second	12.4	121	23.8	130
Middle	8.9	123	18.9	122
Fourth	15.9	151	15.3	124
Highest	13.1	99	22.8	123
Total	**13.2**	**623**	**20.3**	**625**

**Significant at <.05 level* *ns= Not significant*

b) Drying, wrapping and bathing of newborn

Drying the newborn

It is recommended that a newborn be dried and wrapped immediately after birth and bathed only after 24 hours following birth. The study also attempted to identify current practices on these aspects in the study districts. Overall, 52% *(95% CI: 44.8%, 58.8%)* of RDW in Dhankuta and 61% *(95% CI: 52,6%, 69.0%)* in Bardiya reported that their newborn was dried before the delivery of the placenta (Table 7.3). The percentage of RDW who dried their newborn was

significantly higher among younger, literate and Brahmin or Chhetri castes compared to their respective counterparts in Dhankuta district. However, no strong association was observed on drying of the newborns by age, literacy status or ethnicity of the respondents in Bardiya district. However, a strong association between the drying of newborn and media exposure of the RDW was observed in both districts. Data stratified by wealth index of the respondents suggest that a higher percentage of RDW with higher SES index dried their newborn before delivering the placenta; however, the observed difference was statistically significant in Dhankuta district only.

Table 7.3 Percent distribution of RDW who dried the newborn before the placenta was delivered by their selected background characteristics, among RDW with live birth

Background characteristics	Dhankuta		Bardiya	
	Drying	Number	Drying	Number
Age of RDW (in years)	*		ns	
15-19	55.3	76	52.6	95
20-24	58.8	226	61.0	282
25-29	48.0	179	61.0	154
30-34	50.0	66	73.6	72
35-49	38.2	76	50.0	22
Literacy	*		ns	
Illiterate	41.3	225	59.5	306
Literate	57.8	398	62.1	319
Ethnicity	*		ns	
Brahmin/Chhetri	64.1	192	61.4	153
Janajati	46.1	382	58.9	411
Dalit and other	49.0	49	72.1	61
Exposure to radio/TV	*		*	
None	28.0	25	52.0	100
Radio only	50.6	172	56.1	189
TV only	100.0	3	57.1	21
Both radio and TV	53.4	423	66.7	315
SES Index	*		ns	
Lowest	39.5	129	65.1	126
Second	49.6	121	60.0	130
Middle	47.2	123	68.9	122
Fourth	58.9	151	56.5	124
Highest	65.7	99	53.7	123
Total	**51.8**	**623**	**60.8**	**625**

**Significant at <.05 level* *ns= Not significant*

Wrapping the newborn

The practice of wrapping the newborn before delivering the placenta was moderate in both study districts. About 58% *(95% CI: 50.7%, 66.2%)* of RDW in Dhankuta and 67% *(95% CI: 57.6%, 75.5%)* in Bardiya reported that their newborn was wrapped with cloth before the placenta was delivered. RDW were also asked about the condition of the cloth used for wrapping the baby. Data presented in Table 7.4 reveal that about one-third of newborns in Dhankuta and half in Bardiya were wrapped with clean and dry cloth. However, a sizeable percentage (25% in Dhankuta and 20% in Bardiya) of newborns were wrapped with used cloth. About 7% of the RDW in both districts said their baby was wrapped with new cloth.

Table 7.4 Percent distribution of RDW by conditions of cloth used for the wrapping of their baby born in the last 12 months prior to the survey

Conditions of cloth used (Multiple Response)	Dhankuta	Bardiya
Clean cloth	32.4	50.6
Dry cloth	35.2	48.3
Used cloth	24.9	20.2
New cloth	7.4	6.9
Wet cloth	-	0.2
Not wrapped or do not know	41.6	33.4
Total (n)	**623**	**625**

Table 7.5 shows differentials on the wrapping of newborn before the placenta was delivered according to selected background characteristics. There was significant association on the wrapping of the newborn with literacy status, ethnicity or caste, media exposure and SES index of RDW in Dhankuta district. However, in Bardiya, with the exception of media exposure, no significant difference was observed on the wrapping of the newborn with respect to background characteristics.

Table 7.5 Percent distribution of RDW who wrapped the newborn before the placenta was delivered by their selected background characteristics, among RDW with live birth

Background characteristics	Dhankuta		Bardiya	
	Wrapping	Number	Wrapping	Number
Age of RDW (in years)	ns		ns	
15-19	65.8	76	64.2	95
20-24	61.1	226	64.9	282
25-29	58.1	179	68.8	154
30-34	54.5	66	75.0	72
35-49	47.4	76	54.5	22
Literacy	*		ns	
Illiterate	48.4	225	68.3	306
Literate	64.1	398	64.9	319
Ethnicity	*		ns	
Brahmin/Chhetri	66.7	192	70.6	153
Janajati	54.2	382	63.7	411
Dalit and other	59.2	49	75.4	61
Exposure to radio/TV	*		*	
None	32.0	25	58.0	100
Radio only	57.6	172	59.8	189
TV only	66.7	3	61.9	21
Both radio and TV	60.3	423	73.7	315
SES Index	*		ns	
Lowest	45.0	129	68.3	126
Second	54.5	121	63.8	130
Middle	56.1	123	73.8	122
Fourth	64.2	151	64.5	124
Highest	74.7	99	62.6	123
Total	**58.4**	**623**	**66.6**	**625**

**Significant at <.05 level* *ns= Not significant*

Placement of newborn immediately after birth

To the question where was the newborn placed immediately after delivery, about 36% of RDW in Dhankuta reported that the newborn was given to someone else followed by 29% reporting that the newborn was placed on the cot and 19% on the floor. In Bardiya, about 45% of newborns were placed on the cot followed by 20% on the floor and 14% were given to someone else. Only about one in every 10 newborns in both districts was reported to have been kept by the mother herself (Table 7.6).

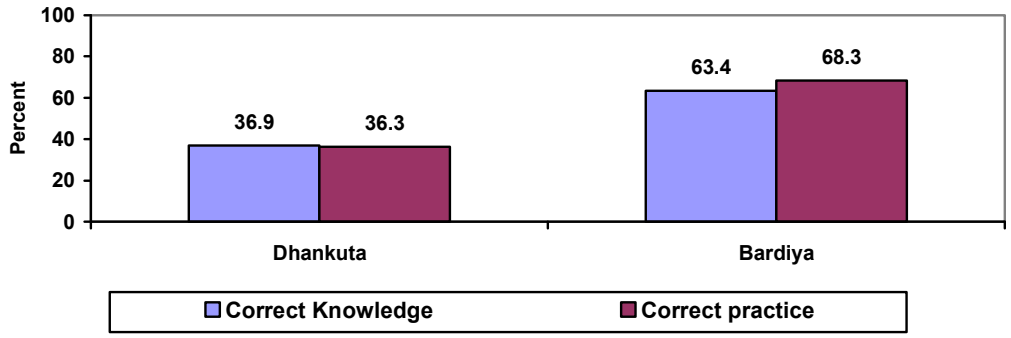
Table 7.6 Percent of RDW by placement of their newborn immediately after delivery

Placement of baby immediately after birth	Dhankuta	Bardiya
On a cot	28.7	45.0
On the floor	18.9	19.7
With someone else	35.6	14.4
On the mothers abdomen	10.0	13.1
Plastic	1.1	2.1
Mat, jute bag	2.7	1.4
Other (table, bullock card; rice)	-	1.0
Do not know	2.9	3.4
Total (n)	**623**	**625**

Bathing the newborn

It is recommended that a newborn should be given their first bath only 24 hours after the birth. In order to assess their knowledge and current practice, all RDW were asked about the appropriate timing of bathing the newborn including the time when they first bathed their last child. Overall, 37% of RDW in Dhankuta and 63% in Bardiya correctly mentioned that a newborn should only be bathed 24 hours after the birth (Figure 7.1). More than one-third (37%) of the RDW in Dhankuta and 14% in Bardiya incorrectly stated that a child should be bathed immediately after birth, and another 14% in Dhankuta and 10% in Bardiya mentioned within 24 hours after the birth (Table not shown). Overall, 36% of the RDW in Dhankuta and 68% in Bardiya reported bathing their newborn 24 hours after birth.

Figure 7.1 Percentage of RDW by correct knowledge (24 hours after birth) about timing of bathing newborn and who bathed their last child 24 hors after birth, among RDW with live birth

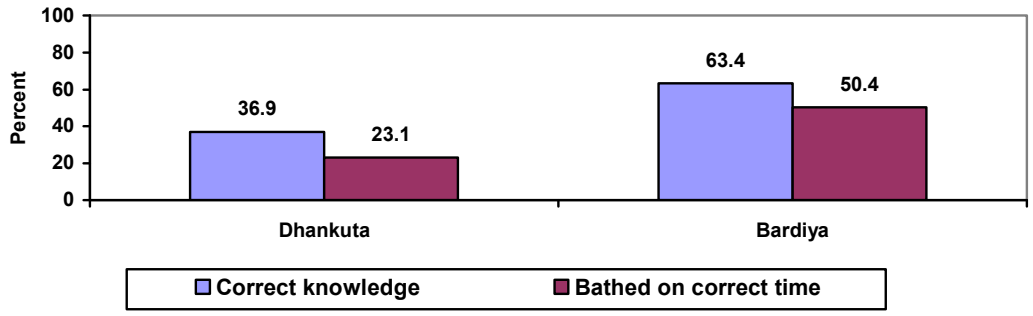


n= 623 in Dhankuta and 625 in Bardiya

Figure 7.2 shows data on the percentage of RDW who had correct knowledge about timing of first bathing of the newborn and who actually first bathed their baby 24 hours following birth. Of the 37% RDW who had correct knowledge about first bathing of the baby only 23% in Dhankuta

reported that they bathed their baby after 24 hours following birth. The corresponding figure in Bardiya was 50% out of 63% RDW who had correct knowledge. The above findings indicate the discrepancies in correct knowledge and actual practice on bathing the newborn in the recommended timeframe. To prevent newborns from contracting pneumonia it is highly recommended that they be kept warm immediately after birth by wrapping, keeping in body contact and not bathing within 24 hours. The information generated in this regard indicates that these preventive measures were not followed in a substantial number of newborn cases. The above findings thus call for increasing knowledge about the appropriate timing of bathing the newborn; and also encouraging the adoption of correct practices by those who are already aware of the correct timing.

Figure 7.2 Percentage of RDW by correct knowledge about timing of first bathing the newborn and who actually bathed their recent birth on recommended time



n= 623 in Dhankuta and 625 in Bardiya

c) Crying of baby after birth

Among RDW with live birth over 94% in Dhankuta and 87% in Bardiya reported that their baby cried or breathed immediately after birth. However, 4% (n=27) in Dhankuta and 10% (n=61) in Bardiya said that their babies did not cry immediately after birth. These respondents were asked if they had to take any action to help the baby cry or breathe easily. In response, over 80% of the RDW in Dhankuta and 90% in Bardiya reported that they had to take some measures. A large percentage of RDW in both districts (52% in Dhankuta and 64% in Bardiya) said they rubbed or massaged the baby to make them cry or breathe easily. Likewise, 7% of RDW in Dhankuta cleared the baby's mouth and 10% (n=6) in Bardiya resuscitated using a bag and masks. All these 6 deliveries took place at health facilities. A majority of newborns (41% in Dhankuta and 57% in Bardiya) were assisted by health workers to make them cry or breathe followed by relatives or friends (30% in Dhankuta and 12% in Bardiya).

Table 7.7 Percent distribution of RDW whose baby cried or breathed easily immediately after birth and type of help provided for crying or easy breathing the baby

Description	Dhankuta	Bardiya
Whether baby cried or breathed easily		
Yes	94.2	86.9
No	4.3	9.8
Do not know	1.4	3.4
Total (n)	**623**	**625**
Type of help provided for crying or breathing		
Rubbed/massaged	51.9	63.9
Resuscitation using a bag and mask	-	9.8
Mouth-to-mouth resuscitation	3.7	3.3
Mouth cleared	7.4	-
Other±	11.1	11.5
Nothing	18.5	8.2
Do not know	7.4	3.3
Total (n)	**27**	**61**
Persons helped to cry or breathe		
Nurse	14.8	16.4
ANM	7.4	14.8
HA/AHW	14.8	13.1
Relatives/friends	29.6	11.5
TBA	-	9.8
Doctor	3.7	8.2
MCHW	-	4.9
FCHV	3.7	4.9
TTBA	-	3.3
Other (medical shopkeeper)	-	3.3
Nobody	25.9	9.8
Total (n)	**27**	**61**

± *Other includes: sprinkling water on the body/ wiping with wet cloth/ shaking the baby in upside down position.*

d) Initiation of breastfeeding

It is recommended that a newborn should be breastfed immediately after birth. In order to assess their knowledge on early breastfeeding all RDW were asked about the timing of introducing breast milk to the newborn. Among RDW with live birth, about half (49%-51%) in both districts knew that a child should be breastfed immediately after birth (Table 7.8). Likewise, 22% in Dhankuta and 38% in Bardiya said that breastfeeding should be initiated after the placenta was delivered. However, a higher percentage (20%) of the RDW in Dhankuta than those in Bardiya (6%) thought that newborns should be breastfeed only after bathing them. This finding implies little knowledge among RDW in the study areas about the appropriate timing of initiating breastfeeding.

Table 7.8 Percent distribution of RDW by knowledge about the timing of initiating the breast milk to the newborn

Knowledge about the timing of initiating breast milk	Dhankuta	Bardiya
Immediately after the birth	51.4	48.6
After the placenta is out	22.2	37.9
After bathing the new born	20.1	5.8
After 24 hours after birth	0.8	3.2
Do not know	5.6	4.5
Total (n)	**623**	**625**

RDW were also asked whether they initiated breastfeeding before the placenta was delivered. Only 14% of the women in Dhankuta and 10% in Bardiya reported initiating breastfeeding before the delivery of placenta. Further analysis by caste or ethnicity of the respondents shows that Dalit women in Dhankuta and Janajati in Bardiya were significantly less likely to initiate breastfeeding before delivering the placenta (Table 7.9).

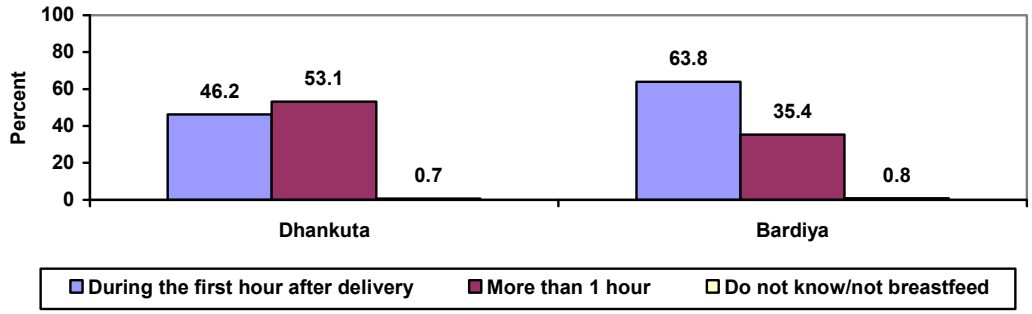
Table 7.9 Percent distribution of RDW who initiated breastfeeding to their newborn before the placenta was delivered by ethnicity

Ethnicity	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
	*		*	
Brahmin/Chhetri	10.4	192	15.0	153
Janajati	17.0	382	7.1	411
Dalit and other	8.2	49	16.4	61
Total	**14.3**	**623**	**9.9**	**625**

**Significant at <.05 level* *ns= Not significant*

Almost all RDW who had given live birth in the past year reported that they provided breast milk to the baby. The vast majority (96%) of the RDW from both districts also affirmed giving colostrums (*biguti*) to the baby (Table not shown). Data presented in Figure 7.3 shows that 46% of newborns in Dhankuta and 64% in Bardiya were breastfed for the first time within one hour following birth. However, over half (53%) of the babies in Dhankuta and one-third (35%) in Bardiya were initiated one hour after the delivery. Further analysis shows that among RDW who were attended by FCHV at home delivery, 68% *(95% CI: 48.6%, 86.5%)* in Dhankuta and 71% *(95% CI: 56.3%, 84.8%)* in Bardiya reported that they initiated breastfeeding to their child within one hour following birth. However, there was still a sizeable proportion of RDW who did not breastfeed their babies within one hour following delivery. The above findings indicate the need for increasing knowledge about the importance of initiating breastfeeding immediately or within one hour after birth.

Figure 7.3 Percentage of RDW by initiation of breastfeeding to their child born in the past 12 months, among RDW with live births



n= 623 in Dhankuta and 625 in Bardiya

RDW whose youngest child was alive were asked about types of liquid and solid foods they fed them in the daytime the day before and the night preceding the survey day. There were 22 liquid and solid food items listed in the questionnaire, and information regarding the consumption of these items by the child during the specified period was obtained on the basis of respondent's "spontaneous" as well as "after probing" responses. The results are presented in Table 7.10 on the basis of two broad age groups (0-5 months and 6-11 months old) of the baby. With respect to the liquid items, a higher percentage of children of both age categories had consumed *plain water*, *daal* and *non-breast milk* in both districts. With respect to solid food, more than 80% of children aged 6-11 months in both districts were given *bhaat* followed by 40% who were given "biscuits" during the specified time period. A relatively small percentage of the children below 6 months of age were given solid foods in both districts. However, nearly one fifth of the RDW in Dhankuta reported that they provided *lito* to their baby below 6 months of age. It is recommended that children below 6 months of age should be given mother's milk only (i.e. exclusive breastfeeding) for health reasons. Further analysis shows that exclusive breastfeeding for children below 6 months of age was estimated at 49% in Dhankuta and 76% in Bardiya districts indicating the need for informing community members about the importance of exclusive breastfeeding for newborns.

Table 7.10 Percent distribution of RDW by type of liquid and solid foods given to their child who born 12 months prior to survey in the day or night preceding the survey date

Type of liquid or solid items given	Dhankuta (n=608)			Bardiya (n=611)		
	0-5 months	6-11 months	Total	0-5 months	6-11 months	Total
Liquid items given						
Plain water	44.2	95.4	71.4	15.9	91.7	53.5
Honey	3.2	3.7	3.5	1.3	3.0	2.1
Non-breast (animal) milk	26.7	61.3	45.1	8.4	28.7	18.5
Infant formula	1.8	2.2	2.0	1.0	0.7	0.8
Expressed breastmilk	7.4	25.7	17.1	1.0	-	0.5
Fruit juice	4.6	24.5	15.1	-	3.0	1.5
Daal	15.1	72.8	45.7	6.5	74.9	40.4
Yogurt or mohi	1.4	7.4	4.6	-	3.6	1.8
Tea	1.4	20.7	11.7	1.0	6.3	3.6
Ghee	13.0	31.0	22.5	0.6	2.6	1.6
Other liquids using a bottle	0.4	4.0	2.3	0.3	0.3	0.3
Other liquids (horlicks; rice water; beans soup; herbal medicines; lactogen; jand)	0.7	0.9	0.8	1.9	2.0	2.0
Solid items given						
Jaulo	10.5	47.4	30.1	2.6	11.6	7.0
Lito	24.2	16.7	20.2	2.9	12.9	7.9
Biscuits	10.9	44.0	28.5	3.2	39.3	21.1
Noodles	2.1	9.3	5.9	0.6	4.3	2.5
Fruits	4.6	29.1	17.6	0.6	6.6	3.6
Vegetables	9.5	60.1	36.3	1.6	38.6	20.0
Bread	0.7	5.6	3.3	1.3	27.1	14.5
Bhaat	15.4	83.6	51.6	4.9	86.8	45.5
Meat, fish or eggs	3.5	21.4	13.0	-	9.2	4.6
Other solid items (corn rice; millet porridge or Dhindo)	1.4	1.2	1.3	-	0.3	0.2
Exclusive breastfeeding	***49.1***	***0.9***	***23.5***	***76.3***	***2.0***	***39.4***
Total (n)	**285**	**323**	**608**	**308**	**303**	**611**

The practice of exclusive breastfeeding was further analyzed according to the age of the infants. Exclusive breastfeeding by age of the infant demonstrates an expected pattern i.e., proportion of women who exclusively feed breastmilk decreases with increase in age of infants. Over 90% of the infants below one month of age were exclusively breastfed in both districts, the proportion recorded decreasing with the increase in the age of the infant as depicted in Table 7.11.

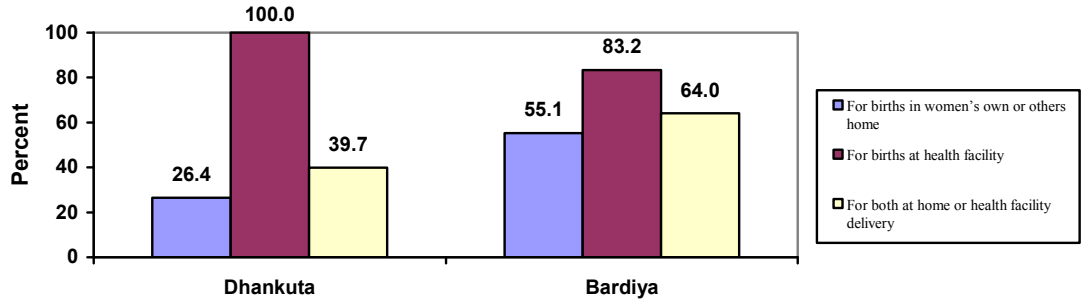
Table 7.11 Percent distribution of RDW who exclusively breastfed their newborn below 6 months by age of the baby

Infant exclusive breastfeeding at zero to five months by infant's age (Age in months)	Dhankuta		Bardiya	
	Number	Percent	Number	Percent
0	40	90.0	49	91.8
1	42	66.7	56	96.4
2	43	58.1	59	86.4
3	52	42.3	56	71.4
4	54	37.0	43	69.8
5	54	16.7	45	33.3
Total	**285**	**49.1**	**308**	**76.3**

e) Early PNC for newborn (within 24 hours or before discharge)

RDW who had given a live birth in the past 12 months were asked if their newborn was checked by any of the health care providers before the health professional, FCHV or TBA left the house (for those who delivered at home) or before they were discharged (in case of institutional delivery). Data presented in Figure 7.4 shows that 40% of the newborn in Dhankuta and 64% in Bardiya were checked by a health care provider before the providers left the homes or they were discharged from the health facility.

Figure 7.4 Percentage of RDW whose newborn was checked by any of the health care providers before the health professional, FCHV or TBA left their house or they were discharged from the health facility following the birth, among RDW with live birth



n= 623 (511 home delivery & 112 institutional delivery) in Dhankuta and 625 (428 home delivery & 197 institutional delivery) in Bardiya.

RDW who reported that their baby was checked by a provider before they were discharged or before the provider left the house were then asked about the person who checked their baby at that time. Nearly half (49%) of the babies in Dhankuta and 39% in Bardiya were reported to have been checked by a skilled provider (doctor, nurse or ANM), and 30% in Dhankuta and 17% in Bardiya were checked by a trained provider (HA, AHW, MCHW or VHW). Thirteen percent of the RDW in Dhankuta and 8% in Bardiya reported that unskilled providers, such as FCHV, checked their babies. 8% of newborns in Dhankuta and 35% in Bardiya were checked by TBA (Table 7.12). Further analysis shows that of the total live births occurring at home, 6.3% *(95% CI: 3.4%, 9.1* %) of newborns in Dhankuta and 7.7% *(95% CI: 4.2%, 11.2%)* in Bardiya were attended by an FCHV. To the question, *"how long after delivery did the first check up of the baby take place?"*, almost all (98% in Dhankuta and 99% in Bardiya) RDW reported that their babies were checked on the same day (Table not shown).

Table 7.12 Percent distribution of RDW by persons who checked their baby before the health professional, FCHV or TBA left their house or before they were discharged from the health facility following the birth of their last child

Persons who checked baby's health (Multiple Response)	Dhankuta	Bardiya
Doctor	18.6	17.3
Nurse	15.8	12.0
ANM	15.0	10.0
HA/AHW	22.3	12.8
MCHW	5.7	4.0
VHW	2.0	-
FCHV	13.0	8.3
TTBA, TBA	7.7	34.5
Relatives/friends	-	1.3
Total (n)	**247**	**400**

RDW who reported that their newborn was checked by a health provider before they were discharged from the health facility or before the health provider left the house were asked about the type of check up services provided to their newborn at that time. The vast majority (89%-95%) of RDW in both districts reported that the body of the newborn was examined by a health provider. Over two-thirds (69%-70%) of the RDW in Dhankuta and over three-quarters (77%-85%) in Bardiya said that the health worker checked the umbilical cord and observed breastfeeding. Slightly over half (52%) in Dhankuta and 37% in Bardiya said their newborn was weighed by the health worker. Over a quarter (27%-29%) of the newborns were also reported to have been referred to health facilities by the health worker at that time (Table 7.13).

Table 7.13 Percent distribution of RDW by type of check up services provided by the health providers to their newborn before discharging the baby from health facility or before leaving from RDW house after the birth

Type of check up services provided	Dhankuta (n=247)			Bardiya (n=400)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Examined the baby's body	83.4	11.7	95.1	77.0	11.8	88.8
Observed breastfeeding	14.6	54.3	68.9	39.3	45.8	85.1
Checked the umbilical cord	24.3	45.3	69.6	33.3	44.0	77.3
Weighed the baby	40.1	11.7	51.8	27.0	10.0	37.0
Referred to a health center/hospital	2.8	26.3	29.1	2.3	24.5	26.8
Immunization	-	-	-	1.3	-	1.3

RDW were also asked if the health care providers discussed their own or their babies' health before they were discharged from the health facility or the health providers, TBA or FCHV left the homes. Results are presented in Table 7.14 in the form of "unprompted" as well as "prompted" responses. The majority of RDW in both districts reported that health providers discussed issues related to breastfeeding (89%-96%), nutritious food for the mother (91%-93%), immunization (82%-87%) and umbilical cord care (68%-70%). About two-thirds (64%-70%) of the RDW also reported that they discussed issues related to danger signs or symptoms of newborns and mothers. Relatively a smaller percentage of the RDW from both districts said that health providers discussed keeping the baby warm (50%-55%), skin-to-skin or kangaroo method (22%-43%) and birth control or family planning (21%-29%). The above findings suggest that post delivery communication on most important aspects of newborn care occurred with a great majority of RDW.

Table 7.14 Percent distribution of RDW type of mother and newborn health issues discussed by the health providers

Type of mother and newborn health issues discussed	Dhankuta (n=247)			Bardiya (n=400)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Breast feeding	55.1	33.6	88.7	75.5	20.8	96.3
Nutritious food for mother	58.3	34.4	92.7	51.3	39.5	90.8
Immunization	38.1	49.0	87.1	38.8	43.0	81.8
Danger signs/symptoms for newborn	12.1	51.4	63.5	11.3	59.0	70.3
Umbilical cord care	11.3	56.3	67.6	26.0	44.0	70.0
Danger signs/symptoms for mother	19.8	46.2	66.0	11.0	52.5	63.5
Keep baby warm (except STS or KMC)	16.2	38.9	55.1	12.3	38.0	50.3
Skin-to-skin/kangaroo method	4.5	17.8	22.3	8.3	35.0	43.3
Birth control/family planning	4.0	17.4	21.4	2.5	26.8	29.3
Other±	1.2	-	1.2	0.5	-	0.5

± *Other includes: advised for not doing heavy work; advised for taking rest; advised for not going out.*

RDW were then asked about the type of advice on breastfeeding the health providers gave before discharging them or before the providers (health providers, FCHVs or TBA) left the home. A higher percentage of RDW in both districts reported that health providers gave advice on giving colostrums (50%-71%) followed by breastfeeding immediately or as soon as possible (45%-55%), and eating nutritious food (37%-41%). The other types of advice given by the providers were on: feeding breast milk exclusively (35%-36%), frequent breastfeeding leads to more milk produced by mother (30%-37%) and ways of breastfeeding the newborn (21%-27%). A very small percentage of RDW stated that health workers gave information on breast or nipple care/cleaning, eating vegetables, not giving formula to the infant, and benefits of breast milk for newborns (Table 7.15). The above findings show that the coverage of issues on breastfeeding during postpartum counseling was primarily focused on giving colostrums to the newborn. The other aspects of breastfeeding practice were covered inadequately.

Table 7.15 Percent distribution RDW by type of specific information on breastfeeding provided by the health providers

Type of specific information on breast feeding provided (Multiple Response)	Dhankuta	Bardiya
Give colostrums	49.8	70.5
Breastfeed immediately/as soon as possible	44.5	55.0
Mother should eat nutritious food	41.3	37.0
More frequent breastfeeding leads to more milk produced by mother	30.0	36.5
Breastfeed exclusively	35.6	34.5
How to breastfeed	21.1	26.5
Mother should eat vegetables	11.3	18.0
Other ways to increase milk production	8.5	16.3
Do not give formula	4.9	12.3
Benefits of breast milk for newborn, *is good, the best*	10.5	7.0
Mother should plan breastfeeding together with family	1.6	2.0
Give food/drink besides breast milk	4.0	1.3
Breast/nipple care/cleaning	15.8	9.3
Other±	0.4	-
Not discussed any thing (not applicable)	11.3	3.8
Total (n)	**247**	**400**

± *Other includes: taking colostrums out; not feeding breast milk in laying position.*

RDW were also asked about the type of specific advice related to umbilical cord care that the health providers gave them during discussions. A higher percentage (58%-62%) of the RDW in both districts stated that health providers advised them not to put anything on the cord. 16% of RDW in Dhankuta and 22% in Bardiya said that they received advice for not covering the cord (Table 7.16).

Table 7.16 Percent distribution RDW by type of specific information on cord care provided by the health providers

Type of specific information on cord care provided (Multiple Response)	Dhankuta	Bardiya
Do not put anything on the cord	61.5	58.0
Do not cover the cord	15.8	21.8
Clean with soap and water	4.0	12.0
Clean with alcohol	-	3.5
Provided with microform/betadine	2.8	2.3
Clean with oil; applying oil	1.6	1.0
Apply powder on cord; apply Sindoor on cord	-	0.8
Other±	3.2	1.0
Not discussed any thing (not applicable)	32.4	30.0
Total (n)	**247**	**400**

± Other includes: bringing child to the health facility in case of infection; taking care of cord; not applying milk on cord; give warm compress on cord; keeping cord dry.

Information on types of specific advice on keeping the newborn warm given by the providers before discharging or before leaving the home was also collected in the survey. The survey results show that a higher percentage of RDW received advice on covering the newborn with a blanket (25%-43%), covering the newborn's head with a cap (32%-37%) and putting on socks (13%-24%). Only a small percentage of RDW reported receiving other kinds of advice (Table 7.17).

Table 7.17 Percent distribution RDW by type of specific information on keeping newborn warm provided by the health providers

Type specific information on ways of keeping the newborn warm provided (Multiple Response)	Dhankuta	Bardiya
Cover head with hat/cap	32.4	36.8
Cover with blanket	42.9	25.3
Put on socks	24.3	13.3
Delay bathing	14.6	12.0
Put on mothers breast/abdomen	6.9	9.8
Put on gloves	20.2	9.8
Skin-to-skin contact/kangaroo	3.2	2.0
Apply warm water compress	6.9	1.5
Oil massage	3.6	1.0
Other±	1.6	0.8
Not discussed any thing (not applicable)	44.9	49.8
Total (n)	**247**	**400**

± Other includes: protect from cold; not leaving child on the floor; covering with warm cloths.

The above information reveals that a considerable proportion of RDW were not advised by the service providers on care of cords and various ways of keeping the newborn warm in order to prevent them from getting pneumonia.

7.2 Exposure to messages related to immediate newborn care

In order to assess exposure to messages related to immediate newborn care, all RDW who had given a live birth in the past one year were asked if they had heard, seen or read the message "*a newborn should be breast fed within one hour after birth*" in the last three months from the survey time. Over half of the RDW, with a higher percentage in Bardiya (59%) than in Dhankuta (53%), reported hearing, seeing or reading the message. Radio (40%-44%) followed by health personnel (31%-37%) were the main sources of information. Likewise, 44% of the RDW in Bardiya and 18% in Dhankuta mentioned FCHVs as their information source (Table 7.18).

Table 7.18 Percent distribution of RDW by exposure to messages on "a newborn should be breastfed within on hour after birth" in the past three months prior to the survey

Sources of message	Dhankuta (n=623)			Bardiya (n=625)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Have heard the messages			**52.8**			**59.2**
Sources						
FCHV	10.9	7.1	18.0	32.6	11.0	43.6
Radio	38.7	5.3	44.0	33.0	6.7	39.7
Health personnel	19.4	11.9	31.3	22.9	13.8	36.7
Friends	5.8	13.3	19.1	19.4	17.0	36.4
TBAs	0.3	1.8	2.1	11.0	7.0	18.0
Posters/pamphlets	2.4	10.3	12.7	0.8	12.0	12.8
TV	8.7	5.8	14.5	6.6	4.6	11.2
Family members; relatives; neighbors	0.6	-	0.6	4.5	-	4.5
BPP flip chart	-	2.9	2.9	-	2.2	2.2
NGO workers	0.3	0.8	1.1	0.5	0.6	1.1
Street dramas	-	-	-	1.0	-	1.0
Other ±	1.6	-	1.6	0.8	-	0.8
Have not heard the message	-	47.2	-	40.8		

± Other includes: mothers group; book; newspaper or magazine; BPP key chain.

RDW were also asked about their exposure to the messages related to timing of bathing the newborn. Overall, more than two-fifths (42%) of the RDW in Dhankuta and half (53%) in Bardiya reported seeing, hearing or reading the message "*a newborn should have their first bath delayed until at least 24 hours after birth"* in the past three months. Over three-quarters (34%-39%) of the RDW reported hearing the message on the radio followed by health workers (30%-34%) and FCHV (14%-39%). A sizeable number of RDW also mentioned friends (13%-29%) and television (10%-13%) as their information source (Table 7.19).

Table 7.19 Percent distribution of RDW by exposure to the message on "*a newborn should have their first bath delayed until at least 24 hours after birth" in the past three months*"

Sources of message	Dhankuta (n=623)			Bardiya (n=625)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Have heard the messages			**42.2**			**52.5**
Sources						
FCHV	9.1	5.3	14.4	31.2	8.0	39.2
Radio	28.4	5.5	33.9	34.7	4.5	39.2
Health personnel	22.6	7.2	29.8	22.9	11.2	34.1
Friends	3.9	9.0	12.9	15.7	13.0	28.7
TBAs	0.5	1.1	1.6	10.4	4.6	15.0
TV	6.3	6.7	13.0	6.2	3.7	9.9
Posters/pamphlets	2.7	6.7	9.4	1.0	8.2	9.2
BPP flip chart	0.6	1.4	2.0	0.2	2.1	2.3
NGO workers	0.6	0.3	0.9	0.6	1.4	2.0
Family members; relatives; neighbors	0.3	-	0.3	1.8	-	1.8
Street dramas	-	-	-	-	0.8	0.8
Other±	1.3	-	1.3	1.3	-	1.3
Have not heard the message			57.8			47.5

± *Other includes: newspaper or magazine; mothers group; health related books; BPP key chain; Jeevan Chakra book.*

Though a sizeable number of RDW were exposed (mostly through radio and health workers) to the two most important messages on newborn care i.e. breastfeeding within one hour after birth and delaying the first bath until at least 24 hours, there was still a considerable proportion of RDW who were not exposed to such messages.

7.3 Newborn care during first month

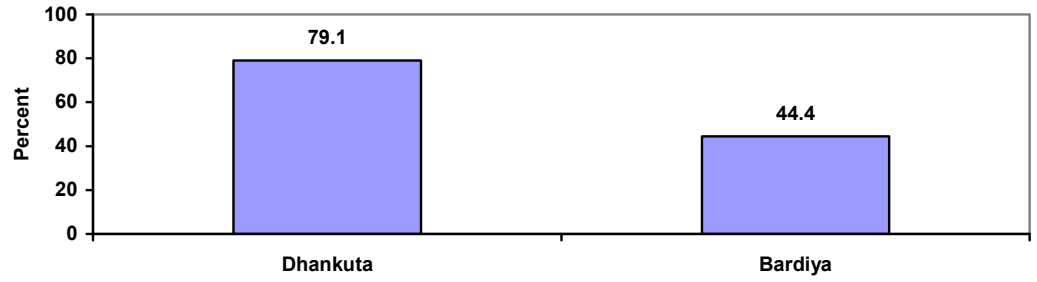
This section presents findings on the type of health care provided to the newborn within one month following birth. The level of knowledge of respondents regarding the danger signs and symptoms among newborns are examined. Incidence of problems or complications among newborns within one month following birth and the management or treatment of these complications is also discussed in this section.

a) Check ups of newborn health

Late PNC for newborn

RDW whose last child was either still alive or who survived at least one month after birth were asked if any health providers, FCHV or TBA checked their newborn's health after the providers left the home (for home delivery) or after they were discharged (for institutional delivery). Overall, 79% *(95% CI: 69.7%, 88.5%)* of the RDW in Dhankuta and 44% *(95% CI: 33.5%, 55.3%)* in Bardiya reported that their newborn received check up services within four weeks after they were discharged or the health worker left the house (Figure 7.5).

Figure 7.5 Percentage of RDW whose newborn was checked by any of the health care providers after the health professional, FCHV or TBA left their house or they were discharged following the birth, among RDW whose newborn was either alive or survived at least one moth after birth



n= 612 in Dhankuta and 613 in Bardiya

Among RDW whose newborn was checked within four weeks, 84% in Dhankuta and 43% in Bardiya said that their baby was checked only once followed by 13% in Dhankuta and 32% in Bardiya who said that they were checked twice. The rest (4% in Dhankuta and 25% in Bardiya) were checked thrice (Table 7.20). More than three-quarters (81%) of the newborns in Dhankuta and nearly half (47%) in Bardiya were checked by the trained providers (MCHW, HA, AHW, CMA or VHW) and nearly one-fifth (>17%) were checked by skilled providers (doctor, staff nurse or ANM). About 13% of the newborns in Bardiya and 2% in Dhankuta were also reported to have been checked by FCHVs.

Table 7.20 Percent distribution of RDW by number of times and type of provider who checked their newborn within four weeks after birth, among RDW whose newborn was either still alive or survived at least one month after birth

Description	Dhankuta (n=484)	Bardiya (n=272)
Number of times checking newborn		
1	83.7	42.6
2	12.6	32.0
3+	3.7	25.4
Persons who checked		
Doctor	1.4	8.5
Staff nurse	4.1	3.3
ANM	11.4	6.3
MCHW	25.6	9.2
HA	3.7	2.6
AHW / CMA	28.1	29.0
VHW	23.6	6.6
FCHV	1.9	12.9
Trained TBA	-	5.5
Untrained TBA	-	12.5
Relative/friend	0.2	-
Medical shop	-	3.9

RDW (whose newborn was either still alive or survived at least one month of age) were also asked about the type of services their newborn received within one month following the birth. The majority (79%-87%) of RDW in both districts reported that their newborn's body was examined at that time. Over three-quarters (80%) of newborns in Dhankuta and one-third

(35%) in Bardiya were reported to have been weighed. More than half of the RDW in Bardiya and one-tenth in Dhankuta said that health workers checked the umbilical cord and observed breastfeeding (Table 7.21).

Table 7.21 Percent distribution of RDW by type of services the newborn received from health providers within four weeks after birth, among RDW whose newborn was either still alive or survived at least one month after birth

Type of services provided to newborn	Dhankuta (n=484)			Bardiya (n=272)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Examined the baby's body	57.6	20.9	78.5	82.4	4.8	87.2
Checked the umbilical cord	2.7	13.6	16.3	21.7	30.9	52.6
Observed breastfeeding	3.1	9.9	13.0	18.4	33.5	51.9
Weighed the baby	67.8	12.0	79.8	25.7	8.8	34.5
Taken temperature using thermometer	5.6	10.7	16.3	9.6	18.4	28.0
Referred to a health center/hospital	0.6	7.6	8.2	2.2	22.1	24.3
Taken temperature without thermometer	1.2	13.6	14.8	5.9	18.4	24.3
Given polio; given BCG; immunization	43.0	-	43.0	8.5	-	8.5

RDW were asked if any providers checked their newborn's health before they were discharged from the health facility (for institutional delivery) or before the provider left the house (for home delivery). They were also asked if any providers checked on their newborn's health when they were discharged from health facility (for institutional delivery) or after the provider left the house (for home delivery). Responses obtained from these two questions were further analyzed and results are presented in Table 7.22. Among RDW with live birth and whose newborn was more than one month of age at the time of survey or who died after one month following birth, 86% *(95% CI: 78.0%, 94.0%)* in Dhankuta and 52% *(95% CI: 44.9%, 58.6%)* in Bardiya reported that their infant received newborn care within four weeks of delivery from a skilled or trained provider. Newborns of younger mothers were more likely to receive services from a skilled or trained provider compared to newborns of mothers of older age; however, the observed difference was statistically significant only in Dhankuta district. Similarly, the percentage of RDW who received infant care was significantly higher among literate and Brahmin or Chhetri women than their respective counterparts. A higher proportion of women who had exposure to both radio and television and who belonged to a higher wealth index were receiving newborn care within four weeks following delivery than other categories of respondents.

Table 7.22 Percent distribution of RDW whose baby received newborn care within four weeks of delivery from a skilled or trained personnel by selected background characteristics, among RDW whose newborn was at least one month old at the time of survey or who was survived at least one month

Background characteristics	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
Age of RDW (in years)	*		ns	
15-19	91.3	69	58.5	82
20-24	90.6	203	55.3	257
25-29	88.3	162	45.3	139
30-34	81.5	65	44.6	65
35-49	67.1	73	47.6	21
Literacy	*		*	
Illiterate	81.1	212	41.6	274
Literate	88.9	360	61.4	290
Ethnicity	*		*	
Brahmin/Chhetri	93.1	174	67.9	140
Janajati	81.9	353	47.2	371
Dalit and other	91.1	45	41.5	53
Exposure to radio/TV	*		*	
None	39.1	23	38.9	90
Radio only	77.7	157	44.6	166
TV only	66.7	3	31.6	19
Both radio and TV	92.3	389	61.2	289
SES Index	*		*	
Lowest	76.0	125	40.7	118
Second	85.7	112	45.7	116
Middle	80.7	109	45.0	111
Fourth	92.1	139	55.2	105
Highest	97.7	87	72.8	114
Total	**86.0**	**572**	**51.8**	**564**

**Significant at <.05 level* *ns= Not significant*

b) Weighing and keeping the newborn warm

Weighing newborn

Over 81% of RDW in Dhankuta and 61% in Bardiya said that their baby was weighed at any time after the birth. It is recommended that a newborn should be weighed within 24 hours following birth. However, the survey results show that only about one-fifth (19%-24%) of the babies were reported to have been weighed for the first time within 24 hours following birth while the majority of babies (60% in Dhankuta and 36% in Bardiya) were weighed after three days following birth. In Dhankuta, nearly 66% of the babies were weighed at a health post or subhealth post followed by 19% at hospital or PHCC and 11% at outreach clinic or immunization center. In Bardiya, nearly 30% of the babies were weighed at a hospital or PHCC and outreach clinic or immunization center, and 26% at a health post or subhealth post (Table 7.23). Nearly two-thirds (66%) of the babies in Dhankuta and over half (51%) in Bardiya were weighed by trained health workers and 31% in Dhankuta and 42% in Bardiya were weighed by skilled health workers.

Table 7.23 Percent distribution of RDW by timing of weighing newborn the first time including place and persons who weighed their newborns

Description	Dhankuta	Bardiya
Timing of weighing		
Within 24 hours	19.3	23.7
1-2 days	1.3	0.6
3 days	1.1	0.5
After 3 days	59.7	35.8
Do not know	-	0.5
Not weighed	18.6	38.9
Total (n)	**623**	**625**
Place of weighing		
Outreach clinic; immunization center	10.7	29.6
Hospital	14.4	21.7
Subhealth post	33.9	13.6
Health post	31.8	12.6
PHCC	4.5	7.6
Private clinic/ nursing home	2.0	7.3
Your home	2.6	5.8
Other/TBA home	-	0.5
Other (medical shop)	0.2	1.3
Total (n)	**507**	**382**
Persons who weighed		
Staff nurse	16.2	25.9
MCHW	22.9	23.8
VHW	17.8	16.0
ANM	12.8	13.9
AHW / CMA	21.7	8.6
FCHV	2.0	6.3
Doctor	1.6	2.4
HA	3.4	2.4
Trained TBA	-	1.3
Relative/ friend	0.2	0.3
Other (medical shop; self)	1.6	0.3
Total (n)	**507**	**382**

Table 7.24 further analyzes the differentials on weighing the baby within 24 hours following birth according to selected background characteristics of respondents. Literate women and those belonging to a higher wealth index were significantly more likely to weigh their baby within 24 hours after birth in both districts compared to their illiterate and lower SES counterparts. Ethnicity data indicate that weighing of the newborn within 24 hours after birth was higher among Brahmin or Chhetri and lower among Janajati in both districts; however the observed difference was statistically significant only in Bardiya. Exposure to media also has a strong effect on weighing of the newborn within 24 hours of delivery in Bardiya district.

Table 7.24 Percent distribution of RDW whose infant was weighed within 24 hours following birth by selected background characteristics, among RDW with live birth

Background characteristics	Dhankuta		Bardiya	
	Percent	Number	Percent	Number
Age of RDW (in years)	ns		ns	
15-19	23.7	76	31.6	95
20-24	22.1	226	23.4	282
25-29	20.1	179	22.1	154
30-34	15.2	66	20.8	72
35-49	7.9	76	13.6	22
Literacy	*		*	
Illiterate	10.2	225	17.6	306
Literate	24.4	398	29.5	319
Ethnicity	ns		*	
Brahmin/Chhetri	24.0	192	39.9	153
Janajati	16.5	382	18.2	411
Dalit and other	22.4	49	19.7	61
Exposure to radio/TV	ns		*	
None	4.0	25	13.0	100
Radio only	16.9	172	15.9	189
TV only	33.3	3	9.5	21
Both radio and TV	21.0	423	32.7	315
SES Index	*		*	
Lowest	11.6	129	13.5	126
Second	12.4	121	16.2	130
Middle	18.7	123	15.6	122
Fourth	17.9	151	29.0	124
Highest	40.4	99	44.7	123
Total	**19.3**	**623**	**23.7**	**625**

**Significant at <.05 level* *ns= Not significant*

Low birth weight (LBW)

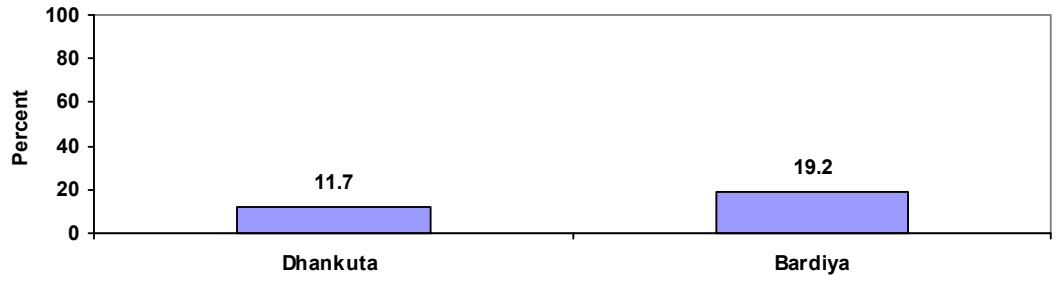
Information regarding the size of the newborn at the time of birth was also sought from all RDW who had given live birth 12 months preceding the survey. Among RDW with live birth, over 90% from both study districts were of the opinion that the size of their child was average, larger than average or very large. About 10% (n=60 in Dhankuta and 52 in Bardiya) of the respondents in both districts thought that their child was smaller than average or very small (Table 7.25).

Table 7.25 Percent distribution of RDW by opinion regarding the size of their child at birth

Perception on size of the newborn	Dhankuta	Bardiya
Very large	5.0	3.5
Larger than average	29.5	28.0
Average	55.9	60.2
Smaller than average	7.7	7.5
Very small	1.8	0.8
Do not know	0.2	-
Total (n)	**623**	**625**

RDW who considered their newborn to be smaller than average or very small (low-birth-weight) compared to other newborns were further asked if they received extra visits from any of the health providers. In response, only about 12% of the RDW in Dhankuta and 19% in Bardiya said that they received extra visits from a health worker for their low-birth-weight baby indicating less attention given to the low-birth-weight babies by the service providers in both districts (Figure 7.6).

Figure 7.6 Percentage of RDW who received extra visits for their low-birth-weight baby from a health providers



n= 60 in Dhankuta and 52 in Bardiya)

FCHVs are supposed to provide basic informational support on maternal and child health related matters to the community. In this context, RDW were also asked about the type of advice they received from FCHV for their low-birth-weight baby. Only 15% of the RDW in Dhankuta and 35% in Bardiya reported receiving some kind of advice from FCHV. Slightly over 10% of the RDW in Dhankuta and over a quarter (27%-31%) in Bardiya reported receiving advice on frequent breastfeeding and keeping the baby warm. A smaller percentage (5%-8% in Dhankuta and 6%-14% in Bardiya) of RDW also received advice on repeatedly weighing the baby, visiting a health facility repeatedly and danger signs associated with newborns (Table 7.26). FCHVs informational assistance to RDW for the care of low-birth-weight babies was not that prominent especially in Dhankuta.

Table 7.26 Percent distribution of RDW by type of advices received from FCHV for their low-birth-weight baby

Type of advices given by the FCHV (Multiple Response)	Dhankuta	Bardiya
Frequent breast feeding	13.3	30.8
Keep baby warm	11.7	26.9
Repeatedly weigh baby	8.3	13.5
Newborn danger signs	5.0	5.8
Repeated visit	6.7	5.8
Other (child died within one hour after birth)	-	1.9
FCHV not visited	68.3	40.4
No advice	16.7	25.0
Total (n)	**60**	**52**

RDW with a low-birth-weight baby who received advice from an FCHV were further asked whether the FCHV talked to them about keeping the baby in skin-to-skin contact with the mother. Only 17% of the RDW in Dhankuta and 32% in Bardiya responded affirmatively. Nearly one-fifth (17%-19%) of the RDW from both districts also reported that the FCHV referred their baby to the health facility for treatment. Among those who were referred all RDW in Dhankuta and 5 out of 6 in Bardiya reported that they took their baby to the health facility (Table 7.27). The above information indicates that the FCHV's advisory support to

keep low-birth-weight babies in skin-to-skin contact was minimal. However, RDW's compliance to the advice of FCHVs to take such babies to the health facilities was higher.

Table 7.27 Percent distribution of RDW reporting that FCHV talked with them on keeping the baby skin-to-skin contact and referred to a health facility

Description	Dhankuta	Bardiya
Whether FCHV talked to keep the baby skin-to-skin contact		
Yes	16.7	32.3
No	83.3	67.7
Total (n)	**18**	**31**
Whether referred the baby to a health facility		
Yes	16.7	19.4
No	83.3	80.6
Total (n)	**18**	**31**
Whether taken the baby to health facility		
Yes	100.0	83.3
No	-	16.7
Total (n)	**3**	**6**

Information regarding the care of low-birth-weight children was also sought in the survey. Among RDW with a low-birth-weight baby, over two-thirds (67%-71%) in both districts said that they provided extra care. Among those who provided extra care, almost all (>97%) reported breastfeeding more frequently and 3% in Dhankuta and 27% in Bardiya provided skin-to-skin care. Some RDW also said that they fed the baby by cup or spoon, oil massaged and kept the baby warm.

Table 7.28 Percent distribution of RDW who provided extra care to their low-birth-weight baby

Description	Dhankuta	Bardiya
Whether given extra care to the baby		
Yes	66.7	71.2
No	33.3	28.8
Total (n)	**60**	**52**
Type of extra care given (Multiple Response)		
More frequent breastfeeding	97.5	97.3
Skin-to-skin care	2.5	27.0
Fed by cup or spoon	10.0	2.7
Other (oil massage; keeping warm)	12.5	10.8
Total (n)	**40**	**37**

RDW with low-birth-weight babies were also asked whether they provided skin-to-skin contact to their baby in the first 24 hours after delivery. More than three-quarters (77%) of the RDW in both districts said they did not place their baby in skin-to-skin contact during that period. Only about a quarter of RDW reported providing skin-to-skin contact but most of them did so for a short duration only (up to 2 hours in total). Among those who placed the baby in skin-to-skin contact, 57% in Dhankuta and 33% in Bardiya did so after the placenta was delivered or within the first hour following birth. About 43% of the RDW in Dhankuta and 50% in Bardiya placed their child in skin-to-skin contact one hour after delivery (Table 7.29).

Table 7.29 Percent distribution of RDW who placed their newborn in skin-to-skin contact in the first 24 hours after delivery

Description	Dhankuta	Bardiya
Whether the baby placed in skin-to-skin contact in the first 24 hours after delivery		
Not at all	76.7	76.9
A little (up to 2 hours total)	15.0	13.5
Moderate amount (between 2 to 5 hours total)	3.3	3.8
A lot (more than 5 but less than 12 hours)	1.7	1.9
Most of the time (day & night, more than 12 hours)	3.3	3.8
Total (n)	**60**	**52**
Initiation of skin-to-skin contact for the first time		
Before the cord tied	-	-
After the cord tied, before the placenta delivered	-	16.7
After the placenta delivered, within the first hour after birth	57.1	33.3
After one hour after delivery	42.9	50.0
Total (n)	**14**	**12**

RDW were also further asked about number of days they provided skin-to-skin contact to their newborn continuously or intermittently any time after the birth. Over three-quarters of the RDW in both districts said they did not keep their baby in skin-to-skin contact. Nearly one-fifth did so intermittently 1-5 days and the rest (about 5%) did so up to 12 days (Table not shown). Only 2 RDW in Bardiya said they provided skin-to-skin contact to their newborn for 24 hours a day (Table not shown). RDW (n=15 in Dhankuta and 12 in Bardiya) who reported providing skin-to-skin contact to their low-birth-weight baby were further asked who else provided skin-to-skin contact for the baby. One-third of the RDW in Dhankuta and two-thirds in Bardiya said no one in their family did. RDW in both districts said their mothers-in-law (33% in Bardiya and 40% in Dhankuta) and other family members (17% in Bardiya and 53% in Dhankuta) provided skin-to-skin contact to the newborn. One-third of the RDW in Dhankuta also mentioned husbands who provided skin-to-skin contact to the baby (Table not shown).

c) Knowledge about danger signs and symptoms among newborn

This section deals with the knowledge of RDW on the danger signs and symptoms, for a baby below one month of age, that determine the need for seeking health care. Almost all the RDW in both districts were able to mention at least one type of danger sign or symptom indicating the need to seek health care for a baby less than one month old. The average number of danger signs or symptoms known by the RDW was 3.4 in Dhankuta and 4.0 in Bardiya district (Table 7.30). Almost all (93%-96%) RDW considered fever as a danger sign or symptom for which health care should be sought. Difficult or fast breathing was considered a danger sign or symptom by a majority (69%-76%) of the RDW from both districts followed by diarrhea (44%) in Dhankuta and inability in sucking or feeding (50%) in Bardiya. Nearly a quarter (23%) of the RDW in Dhankuta and 38% in Bardiya also mentioned yellow palms or eyes/jaundice and around one-fifth from both districts mentioned persistent vomiting (19%-24%) as danger signs or symptoms. Knowledge of RDW about other common danger signs and symptoms associated with newborns, presented in Table 7.30, was found to be quite low indicating the need for imparting knowledge to the community about these danger signs and symptoms.

Table 7.30 Percent distribution of RDW by knowledge about danger signs or symptoms indicating the need to seek health care for a baby less than a month of age

Knowledge about newborn danger signs (Multiple Response)	Dhankuta	Bardiya
Fever	93.3	95.7
Difficult/fast breathing	68.7	76.2
Unable to suckle/feed	26.0	50.2
Yellow palms/soles/eyes/jaundice	23.4	38.1
Diarrhea	44.0	33.3
Persistent vomiting	23.6	18.9
Pus from cord	8.0	14.2
Failure to pass urine	3.5	11.7
Skin pustules	11.9	7.5
Very small baby/below normal weight	3.4	7.5
Baby does not cry at birth	3.5	6.7
Baby cries stridently	8.0	6.9
Red/discharging eyes	4.0	6.4
Unconsciousness	0.3	5.8
Lethargy	1.9	5.6
Skin around cord red	4.0	4.6
Convulsions	1.1	3.5
Shivering/cold baby/low temperature	13.5	1.9
Bluish palms and soles	0.8	1.9
Average number known	***3.4***	***4.0***
Pneumonia	2.9	4.5
Cough	12.2	1.8
Other±	1.6	1.4
Do not know	0.3	0.3
Total (n)	**623**	**625**

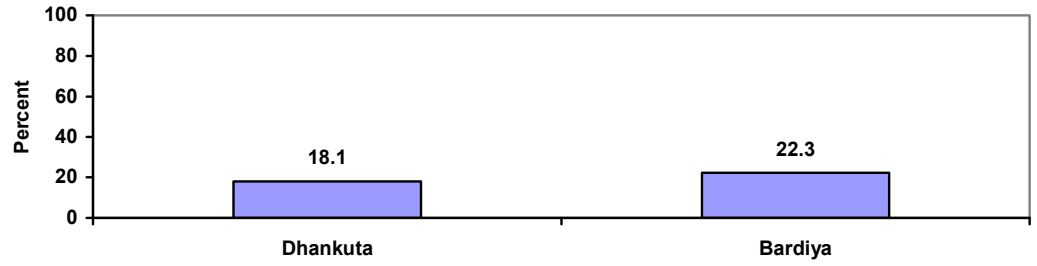
± *Other includes: measles; polio; tetanus; malaria; typhoid; tuberculosis; urinary problem; pain in abdomen.*

d) Neonatal complications and treatment

Experiencing problems or complications

RDW with live birth whose child was still alive or survived at least one month were asked about any danger signs or symptoms experienced during the first month following delivery. Overall, 18% of the RDW in Dhankuta and 22% in Bardiya said that their newborn had experienced at least one of the danger signs or symptoms during their neonatal period (Figure 7.7).

Figure 7.7 Percentage of RDW who reported that their infant had experienced at least one danger sign or symptom within one moth following birth, among RDW whose child was still alive or survived at least one month



n= 612 in Dhankuta and 613 in Bardiya

RDW whose newborn was still alive or survived at least one month were further asked about the type of problems or complications experienced by their child within one month following birth. Data presented in Table 7.31 shows that there were several reported danger signs and symptoms experienced by the newborn during the neonatal period. Fever, difficult and fast breathing, inability to suck or feed, jaundice, diarrhea and skin pustules were the most common danger signs and symptoms experienced by newborns during the neonatal period.

Table 7.31 Percent distribution of RDW by type of danger signs or symptoms experienced by their infants within one moth following birth, among RDW whose child was still alive or survived at least one month

Type of danger signs or symptoms experienced	Dhankuta (n=612)			Bardiya (n=613)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Fever	8.7	1.0	9.7	11.4	2.4	13.8
Difficult/fast breathing	7.4	1.0	8.4	8.3	1.5	9.8
Unable to suckle/feed	1.0	2.5	3.5	5.2	2.9	8.1
Yellow palms/ soles/ eyes/jaundice	2.8	0.3	3.1	5.7	0.3	6.0
Diarrhea	1.0	1.5	2.5	3.3	1.3	4.6
Skin pustules	1.5	-	1.5	2.0	0.8	2.8
Pus from cord	0.3	-	0.3	1.8	0.5	2.3
Persistent vomiting	1.8	1.1	2.9	1.1	0.8	1.9
Baby cries stridently	0.7	-	0.7	0.8	0.7	1.5
Red/discharging eyes	0.6	-	0.6	0.7	0.7	1.4
Lethargy	0.2	-	0.2	0.3	1.0	1.3
Skin around cord red	-	0.2	0.2	0.5	0.3	0.8
Very small baby/below normal weight	0.2	0.5	0.7	0.3	0.5	0.8
Cough	1.0	-	1.0	0.7	-	0.7
Failure to pass urine	0.2	-	0.2	0.3	0.3	0.6
Baby does not cry at birth	0.7	0.2	0.9	-	0.5	0.5
Shivering/cold baby/low temperature	0.2	0.3	0.5	-	0.3	0.3
Convulsions	-	-	-	-	0.2	0.2
Unconsciousness	-	-	-	0.2	-	0.2
Bluish palms and soles	-	0.2	0.2	-	0.2	0.2
Pneumonia	0.3	-	0.3	0.2	-	0.2
Other±	0.7	-	0.7	1.0	-	1.0

± *Other includes: measles; polio; tetanus; malaria; typhoid; tuberculosis; urinary problem; pain in abdomen.*

Of the 111 and 137 RDW from Dhankuta and Bardiya respectively who reported that their newborn had experienced danger signs and symptoms up to the age of one month, a great majority (79%-87%) in both districts said that their babies had at least one episode of illness up to the age of one month. More than 10% of the RDW said their babies felt sick two times and less than 10% (3%-7%) said three or more times during the neonatal period. On average each child (who was sick at least once during the neonatal period) was sick for 1.2 times in Dhankuta and 1.3 times in Bardiya during the neonatal period (Table 7.32).

Table 7.32 Percent distribution of RDW by number of times their newborn got sick during neonatal period

Number of times got sick	Dhankuta	Bardiya
1	86.5	78.8
2	10.8	13.9
3+	2.7	7.3
Average number of episodes	***1.17***	***1.33***
Total (n)	**111**	**137**

RDW were further asked about the age at which their newborn first experienced complications during the neonatal period. If any newborns had more than one episode of illnesses during the neonatal period they were probed to mention the onset of the most serious one. The results are presented in Table 7.33. More than 10% of the RDW in Dhankuta and 7% in Bardiya reported that their child had complications on the same day of the birth and nearly a quarter (23%) in both districts had complications within one week following birth. Less than 10% of the children in Dhankuta and 25% in Bardiya were 7-13 days old and 58% of the newborns in Dhankuta and 46% in Bardiya were 14-29 days old.

Table 7.33 Percent distribution of RDW by age at which their newborn experienced complications during neonatal period

Age of the newborn	Dhankuta	Bardiya
Same day	10.8	6.6
Less than a week	23.4	22.6
One week	8.1	24.8
Two week	18.9	23.4
Three week	38.7	22.6
Total (n)	**111**	**137**

Seeking treatment services

Among RDW whose newborn was sick during the neonatal period, 84% in Dhankuta and 89% in Bardiya reported seeking medical help at least once. Over half (51%) in Dhankuta and nearly a third (31%) in Bardiya sought help one time and about a quarter (24%-30%) did so twice (Table 7.34). On average each newborn received medical help 1.3 times in Dhankuta and 1.9 times in Bardiya. Sixteen percent of the RDW in Dhankuta and 11% in Bardiya said that they did not seek medical assistance for their sick newborns. The information indicates that a substantial proportion of newborn babies did not receive medical attention during their illnesses.

Table 7.34 Percent distribution of RDW by number of times their newborn received medical help for the complications occurred during neonatal period

Number of times	Dhankuta	Bardiya
Never ever examined	16.2	10.9
1	51.4	31.4
2	24.3	29.9
3+	8.1	27.7
Average number of times sought help	***1.27***	***1.91***
Total (n)	**111**	**137**

Information regarding home care strategies adopted by RDW for newborns with complications during the neonatal period was also sought. Overall, 65% of the newborns in Dhankuta and 53% in Bardiya received some kind of treatment at home (Table 7.35). A substantial proportion of the RDW (41%-44%) reported taking advice from health providers for the sick newborns. About 30% of the newborns in both districts were treated with drugs while 12% in Dhankuta and 4% in Bardiya received herbal treatment. Only a negligible proportion (<5%) of the RDW brought health providers to the home for treatment of the sick newborns. Over 35% of the RDW in Dhankuta and 47% in Bardiya, however, said that their sick newborns did not receive any treatment at home. This information reveals that seeking medical attention for the sick newborns at home was not adequate.

Table 7.35 Percent distribution of RDW by types of home cares provided to newborns for complications occurred during neonatal period

Type of home cares provided	Dhankuta (n=111)			Bardiya (n=137)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
By taking advice of the health provider	30.6	10.8	41.4	29.9	13.9	43.8
By giving drugs	26.1	3.6	29.7	27.0	2.9	29.9
By giving herbs	9.0	3.6	12.6	3.6	0.7	4.3
By bringing health provider to home	2.7	1.8	4.5	2.2	1.5	3.7
Other±	11.7	-	11.7	8.0	-	8.0
No treatment			35.1			47.4

± Other includes: applied medicines; consulted traditional healers; consulted medical shopkeeper; did oil massage; applied powder; applied ointment; consulted friends and relatives; consulted vaidya.

RDW who reported providing care to their newborns at home for complications during the neonatal period were further asked about the timing of providing such care. Over half of the RDW in both districts (53%-63%) said that they initiated care at home on the same day of the illness followed by over a quarter (25%-29%) who did so on the second day. Over one-fifth (21%) of the RDW in Dhankuta and 8% in Bardiya provided care on the third or later days (Table 7.36).

Table 7.36 Percent distribution of RDW by time they started care at home when their child had complications during neonatal period

Initiation of care at home (in days)	Dhankuta	Bardiya
Same day	52.8	62.5
Second days	25.0	29.2
Third days	11.0	0
Fourth day	5.6	2.8
Fifth day	4.2	5.6
Do not know	1.4	0
Total (n)	**72**	**72**

Of the RDW who reported their newborn experienced illness during the neonatal period a great majority (78% in Dhankuta and 87% in Bardiya) sought advice or treatment outside the home. The majority sought advice or treatment on the same day of the illness (29%-33%) or on the second day (32%-36%). About a quarter of RDW reported that they sought advice or treatment on the third or fourth day and another one-tenth did so on the fifth day or more indicating a delay in seeking medical attention (Table 7.37).

Table 7.37 Percent distribution of RDW who sought advice or treatment for the illness of their newborn during neonatal outside the home

Description	Dhankuta	Bardiya
Whether sought advice or treatment outside the home		
Yes	78.4	86.9
No	18.9	13.1
Do not know	2.7	-
Total (n)	**111**	**137**
Seeking advice or treatment for the first time		
Same day	28.7	32.8
Second day	35.6	31.9
Third day	12.6	16.8
Fourth day	13.8	7.6
Fifth day or more	9.2	10.9
Total (n)	**87**	**119**

The majority (64%) of RDW in both districts mentioned HA or AHW as the person whom they consulted for the first time for the illness problems of their newborn followed by a doctor (17% in Dhankuta and 19% in Bardiya). The percentage of those who consulted other categories of health providers constituted less than 5% in both districts (Table 7.38). With regard to where RDW sought assistance for the first time for their sick newborns, most mentioned a health post (44%) followed by sub-health post (22%) in Dhankuta, and private clinic/nursing home (35%) followed by medical shop (21%) in Bardiya. A small proportion (13%-16%) of RDW also mentioned a hospital where they sought services for the first time for their ill newborns. It shows that health posts or subhealth posts and their service providers were the most commonly used service facilities or providers for first consultation in case of newborn illness.

Table 7.38 Percent distribution of RDW by persons consulted or places visited for the first time to seek advice or treatment for the illness of their newborn occurred during neonatal period

Description	Dhankuta (n=87)	Bardiya (n=119)
Persons consulted		
Doctor	17.2	18.5
Staff nurse	1.1	4.2
ANM	9.2	0.8
HA/AHW	64.4	63.9
MCHW	5.7	0.8
VHW	1.1	0.8
Relative/friend	1.1	-
Medical shop; medical shopkeeper	-	10.1
Other (Vaidya)	-	0.8
Places visited		
Hospital	16.1	12.6
PHCC	3.4	10.1
Health post	43.7	6.7
Subhealth post	21.8	11.8
Private clinic/ nursing home	10.3	34.5
Medical shop	3.4	21.0
NGO clinic (SOS Balgram; FPAN)	-	1.7
Other (called health worker at home; relatives; vaidya)	1.1	1.7

RDW were also asked about the mode of transportation used to take their sick newborn to the health facility or provider. The survey results show that the majority of RDW, with a higher percentage in Dhankuta (93%) than Bardiya (45%), reported that they did not use any transport i.e. they went on foot. Over 30% of RDW used a bicycle in Bardiya. Ten percent of the RDW in Dhankuta and 20% in Bardiya reported using a bus to take their newborns to the health facility or provider (Table not shown). When further asked whether it was difficult to find transport in their area, a higher percentage (48%) of RDW in Dhankuta than those in Bardiya (12%) perceived it to be difficult to find transport (Table not shown). This finding shows that accessibility of the health facility or provider was more difficult in Dhankuta than in Bardiya.

RDW were also asked about the time taken to reach the health facility or health personnel for seeking services for their newborn. The average time taken to reach the health facilities or health providers from the home of RDW was 66 minutes in Dhankuta and 47 minutes in Bardiya. Around half (45%-51%) of the RDW said that it took more than one hour to get to the health facilities. About one-fifth (17%-22%) said it took 30-59 minutes and another one-third (about 32%) had to spend less than half an hour to reach the health facilities or providers (Table 7.39).

Table 7.39 Percent distribution of RDW by time taken to reach the health facility or health providers from their residence

Time taken to reach the health facility (in minutes)	Dhankuta	Bardiya
<15	14.9	16.8
15-29	17.2	16.0
30-44	17.2	21.0
45-59	-	0.8
60+	50.6	45.4
Mean	**66**	**47**
SD	**65**	**36**
Do not know	-	-
Total (n)	**87**	**119**

Care of sick newborns on the way to a health facility or provider is crucial. In this context, RDW were asked about the type of care they provided to their newborns on the way to the health facilities or providers. Of the 87 RDW from Dhankuta and 119 from Bardiya who reported taking their babies to the health facilities or providers, almost all of them kept the babies bundled and around half (56% in Dhankuta and 49% in Bardiya) of them breastfed at that time. Slightly more than half (52%) of the RDW in Bardiya and 30% in Dhankuta kept the babies in skin-to-skin contact on the way to the health facilities (Table 7.40). It seems that most RDW took some kind of precautionary measures to prevent the newborn's condition from worsening while traveling to the health facility.

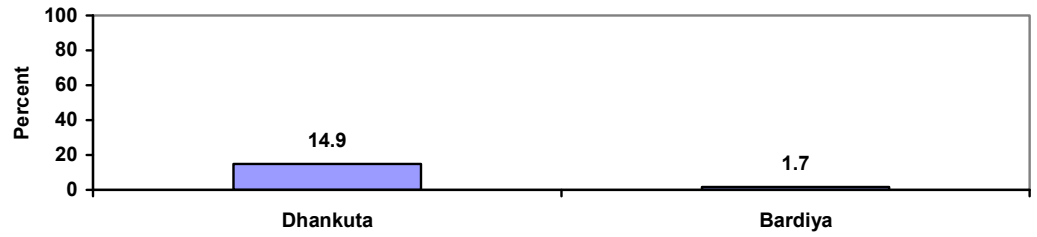
Table 7.40 Percent distribution of RDW by types of care provided to the newborns while taking them to the health facilities or health providers

Type of care provided	Dhankuta (n=87)			Bardiya (n=119)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Kept baby bundled	64.4	25.3	89.7	89.1	10.9	100.0
Skin-to-skin	13.8	16.1	29.9	39.5	12.6	52.1
Breastfed	29.9	26.4	56.3	19.3	29.4	48.7
Nothing	-	-	**3.4**	-	-	**-**

It is recommended that 120 mg of Cotrimoxazole be given to the newborn for 5 days to protect them from infection. In this context, RDW were asked whether Cotrimoxazole tablets were

administered to the baby at the time of visit to the health facility or provider for the management of complications occurring during the neonatal period. Among RDW who had taken their newborn to a health facility or provider during the neonatal period, only 15% of the children in Dhankuta and less than 2% in Bardiya were reported to have been given Cotrimoxazole tablets (Figure 7.8).

Figure 7.8 Percentage of RDW whose newborns were given Cotrimoxazole tablets, among RDW who had taken their babies to the health facilities or providers due to complications during neonatal period



n= 87 in Dhankuta and 119 in Bardiva

RDW (n=13 in Dhankuta and 2 in Bardiya) who reported receiving the Cotrimoxazole pediatric tablets were asked about the number of days that they administered the tablets to their newborn. Only seven out of 13 RDW in Dhankuta said that they gave the correct dose (120 mg) for 5 days to the babies; four gave for 3 days and one each gave for 4 and 10 days. In Bardiya, of the two RDW who received Cotrimoxazole, one each gave it for 4 and 5 days to their sick babies (Table not shown). Almost all the RDW (12 out of 13) in Dhankuta and all (n=2) in Bardiya reported that the conditions of their babies improved upon completion of the last dose of Cotrim. Only one RDW in Dhankuta said that her child's condition continued to worsen even after consuming the complete dose of the tablets (Table not shown). Three out of 13 RDW in Dhankuta and all (n=2) in Bardiya said that they paid for the Cotrim (Table not shown). The above findings indicate that those RDW who received the Cotrim tablets could not administer to their babies it in full/correct doses.

RDW who reported not seeking care for their sick neonates outside the home were further asked about the reasons for not doing so. Multiple responses to this query were provided by the RDW. The majority of RDW in both districts (58% in Dhankuta and 78% in Bardiya) said that they had not sought outside assistance because they expected self-resolution of the illness at home. The other predominant reasons were: health facilities were too far and there was a lack of transport (21%-33%); and it was not customary to seek care outside the home after childbirth (22% in Bardiya). A smaller proportion of RDW gave reasons such as high cost, and inhibition from family for not seeking care outside the home (Table 7.41). The above findings show that the practice of seeking treatment for sick neonates from health service providers or facilities was still underutilized by RDW. The predominant reason was distance of health facilities from the residence.

Table 7.41 Percent distribution of RDW by reasons for not seeking care for complications for children occurred during neonatal period

Reasons for not seeking care	Dhankuta (n=24)			Bardiya (n=18)		
	Unpro-mpted	Promp-ted	Total	Unpro-mpted	Promp-ted	Total
Expecting self resolution of the illness	50.0	8.3	58.3	77.8	-	77.8
Health facility too far/no transportation	16.7	4.2	20.9	5.6	27.8	33.4
Not customary to seek care outside home after childbirth	-	-	-	16.7	5.6	22.3
Respected family members did not allow	4.2	-	4.2	-	16.7	16.7
Cost of treatment service high	-	-	-	5.6	-	5.6
Other±	29.2	-	29.2	16.7	-	16.7
No reason given	-	-	8.3	-	-	-

± Other includes: traditional healers; self; vaidya; called health worker at home; bought medicines from medical shop; died within one hour after birth.

RDW whose newborn was still alive or survived at least one month and had complications during the neonatal period were further asked how frequently they breastfed their newborns during problems or complications occurring within one month following birth. Around half (47%-58%) of the RDW in both districts said that they breastfed their sick newborns the same amount of breast milk as usual. One-third RDW in Dhankuta and a quarter in Bardiya breastfed their sick babies more than usual and around 15% of the RDW in both districts did so less than usual (Table 7.42). These information reveals that RDW continued to breastfeed their babies during illness.

Table 7.42 Percent distribution of RDW by frequency of breastfeeding to the newborns during neonatal complications or problems

Frequency of breastfeeding during complications	Dhankuta	Bardiya
Less than usual	15.3	14.6
Same as usual	46.8	57.7
More than usual	36.0	26.3
Nothing to drink	1.8	1.5
Total (n)	**111**	**137**

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Annex

Annex 1

List of sampled wards by Village Development Committee, Dhankuta and Bardiya Districts

S. No.	Name of VDC	Ward Number
	Dhankuta District	
1	Ahale	2, 4
2	Ankhisalla	3,5
3	Arkhaule Jitpur	5, 7
4	Basantatar	4,5,6,7
5	Belhara	5,7
6	Bhirgaun	4,5,6
7	Bodhe	3,7
8	Budi Morang	5,6,9
9	Chanuwa	6,7,8
10	Chhintang	5
11	Chhintang	9
12	Chungwang	6,8,9
13	Dandagaun	1,4,6,7
14	Falate	6,7,8
15	Hathikharka	1,6
16	Hathikharka	8,9
17	Khuwafok	2,3
18	Kurule	3,4,8
19	Leguwa	4
20	Mahabharat	5,6
21	Marek Katahare	5
22	Mounabudhuk	2,3
23	Muga	1,3
24	Murtidhunga	2,5
25	Pakhribas	3
26	Parewadin	4,5
27	Parewadin	8,9
28	Sanne	4,6
29	Tankhuwa	6,7
30	Telia	4,8,9

S. No.	Name of VDC	Ward Number
	Bardiya district	
1	Badalpur	4,9
2	Baganaha	9
3	Baniyabhar	5
4	Belawa	6
5	Bhimapur	6
6	Daulatpur	9
7	Deudakala	6
8	Dhadhawar	4
9	Dhadhawar	8
10	Gola	1,3,4
11	Jamuni	5
12	Kalika	3
13	Khairi Chandanpur	8,9
14	Magaragadi	5
15	Mahamadpur	4
16	Manau	4,6
17	Manpur Mainapokhar	2,8
18	Motipur	1
19	Motipur	7
20	Naya Gaun	3,4,5
21	Neulapur	7
22	Padanaha	9
23	Patabhar	4
24	Rajapur	1
25	Sanashree	1
26	Sanashree	6
27	Sivapur	9
28	Sorhawa	8
29	Suryapatawa	6,9
30	Thakudwara	3

Annex 2

Survey Instruments

COMMUNITY-BASED NEWBORN CARE PACKAGE (CB-NCP)
BASELINE SURVEY QUESTIONNAIRE: OCTOBER 2008
(MOHP/SC USA/VARG)
SCREENING QUESTIONNAIRE - 1

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.					

1) Name of District _____	
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 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	/ /	/ /		
***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:_____				

Language Of Questionnaire _____
Language of Interview _____
Native Language of Respondent _____
Translator Used (Yes=1; No=2) …….

Language Codes: Nepali=1, Bhojpuri=2, Maithili=3, Tharu=4, Other=5

Q. #	Question	Codes	Go to Q
1.	How many women (all women) of age 15-49 years live in your household?	☐|☐ None…….97	If none then end the interview
2.	Please give me the name(s) of the women who usually live in your household?	Name_____ Marital status:_____ Name_____ Marital status:_____ Name_____ Marital status:_____	

Supervisor	Field Editor	Office Editor	Keyed By
Name _____	Name _____		
Date _____	Date _____	☐☐☐	☐☐☐
	☐☐☐		

COMMUNITY-BASED NEWBORN CARE PACKAGE (CB-NCP)
BASELINE SURVEY QUESTIONNAIRE: OCTOBER, 2008
(MOHP/SC USA/VARG)
SCREENING QUESTIONNAIRE - 2

Form No.				

1) Name of District _____	
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 respondent	

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

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED…… 2 → END INTERVIEW & THANK RESPONDENT

101	Now, I would like to ask you about all the pregnancies that you have had in the last 3 years. By this I mean all the children born to you in last 3 years whether they were born alive or dead, whether they are still living or not, whether they live with you or someone else, and all the pregnancies in the last 3 years that did not result in a live birth. I understand that it is not easy to talk about children who have died, or pregnancies that ended before the full term, but it is important you tell us about all of them, so that the government can develop programs to improve children's health.		
102	First I would like to ask about all the births you have had in the last 3 years. Have you given birth in the last 3 years?	Yes……..1 No……..2	→107
103	Do you have any sons or daughter to whom you have given birth in the last 3 years who are now living with you?	Yes……1 No……..2	→105
104	How many sons live with you? And how many daughters live with you? If NONE, RECORD '00'	Sons at Home……..1 __| Daughters at Home…….....2 __|	
105	Do you have any sons or daughters to whom you have given birth in the last 3 years who are alive but do not live with you?	Yes……1 No……..2	→107
106	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? If NONE, RECORD '00'	Sons Elsewhere……..1 __| Daughters Elsewhere……...2 __|	
107	Have you given birth to a boy or girl in the last 3 years who was born alive but later died? If NO PROBE: Any baby who cried or showed any sign of live but did not survive?	Yes……1 No……..2	→109
108	How many boys have died? And how many girls have died? If NONE, RECORD '00'	Boys Dead……..…1 __| Girls Dead……..2 __|	
109	Women sometimes have pregnancies that do not result in a live born child. That is, a pregnancy can end in a miscarriage, or the child can be born dead. Have you ever had a pregnancy in last 3 years that did not end in a live birth including induced abortion?	Yes……1 No……..2	→111
110	How many pregnancies in the last 3 years did not end in a live birth?	Pregnancy Losses…….. __|	
111	Sum Answers to 104, 106, 108 And 110 and Enter total. If None, record '00'	Total ……. __|	
112	Check 111: Just to make sure that I have this right: you have had in TOTAL____ pregnancies during last 3 years. Is that correct? Yes ☐ ……113 No ☐ Probe and Correct 102-111 As necessary.		
113	Check 111: One Or More pregnancies in last 3 years …… ☐ 114 No Pregnancies…… END the interview		

Now I would like to record all of your pregnancies in the last three years, whether born alive, born dead, or lost before full term, starting with the last one you had. RECORD ALL THE PREGNANCIES IN 111. RECORD TWINS AND TRIPLETS ON SEPARATE LINES. (If there are more than 5 pregnancies, use an additional questionnaire starting with the second row;)

114	115	116	117	118	119	120	121	122	123
	Think back to your last pregnancy. Was that a single or multiple pregnancy?	Was the baby born alive, born dead, or lost before birth?	Did that baby cry, move, or breath when it was born?	What was the name of the child?	Was [NAME] a boy or a girl?	In what month and year was [NAME] born?	Is [NAME] still alive?	If Born Alive and Still Living: How old was [NAME] at his/her last birthday? Record age in completed months (<1 yr.) or years.	If Born Alive and Still Living: Is [NAME] living with you?
01	Single……1 Multiple……2 Do not know……8	Born alive…..1→118 Born dead…..2 Lost before full term……3→126	Yes……1 No……2 →126	Name	Boy……1 Girl……2	Month ☐☐ Year ☐☐☐☐	Yes……1 No……2 →124	Month ☐☐ Age in Years ☐☐	Yes……1 No……2 (Next pregnancy)
02	Single……1 Multiple……2 Do not know……8	Born alive…..1→118 Born dead…..2 Lost before full term……3→126	Yes……1 No……2 →126	Name	Boy……1 Girl……2	Month ☐☐ Year ☐☐☐☐	Yes……1 No……2 →124	Age in Years ☐☐	Yes……1 No……2 (Next pregnancy)
03	Single……1 Multiple……2 Do not know……8	Born alive…..1→118 Born dead…..2 Lost before full term……3→126	Yes……1 No……2 →126	Name	Boy……1 Girl……2	Month ☐☐ Year ☐☐☐☐	Yes……1 No……2 →124	Age in Years ☐☐	Yes……1 No……2 (Next pregnancy)
04	Single……1 Multiple……2 Do not know……8	Born alive…..1→118 Born dead…..2 Lost before full term……3→126	Yes……1 No……2 →126	Name	Boy……1 Girl……2	Month ☐☐ Year ☐☐☐☐	Yes……1 No……2 →124	Age in Years ☐☐	Yes……1 No……2 (Next pregnancy)
05	Single……1 Multiple……2 Do not know……8	Born alive…..1→118 Born dead…..2 Lost before full term……3→126	Yes……1 No……2 →126	Name	Boy……1 Girl……2	Month ☐☐ Years ☐☐☐☐	Yes……1 No……2 →124	Age in Years ☐☐	Yes……1 No……2 (Next pregnancy)

124	125	126	127
If born alive but now dead		If born dead or lost before birth	
How old was [NAME] when he/she died? If '1 YRS' PROBE: How many months old was [NAME]? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS	In what month and year did [NAME] die?	In what month and year did the pregnancy end?	How many months did this pregnancy last? RECORD IN COMPLETED MONTHS.
Days……1 ☐☐ Months....2 ☐☐ Years…..3 ☐☐	Month ☐☐ Year ☐☐☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐☐☐	#Months ☐☐ (Next pregnancy)
Days……1 ☐☐ Months....2 ☐☐ Years…..3 ☐☐	Month ☐☐ Year ☐☐☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐☐☐	#Months ☐☐ (Next pregnancy)
Days……1 ☐☐ Months....2 ☐☐ Years…..3 ☐☐	Month ☐☐ Year ☐☐☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐☐☐	#Months ☐☐ (Next pregnancy)
Days……1 ☐☐ Months....2 ☐☐ Years…..3 ☐☐	Month ☐☐ Year ☐☐☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐☐☐	#Months ☐☐ (Next pregnancy)
Days……1 ☐☐ Months....2 ☐☐ Years…..3 ☐☐	Month ☐☐ Year ☐☐☐☐ (Next Pregnancy)	Month ☐☐ Year ☐☐☐☐	#Months ☐☐ (Next pregnancy)

128	Compare 111 with the number of pregnancies with the history above and mark: Number are same ……..……..1 Numbers are different (Probe and reconcile)…….2	☐ ☐
	Check: for each pregnancy: year is recorded in 120, 125 and 126 ▪ For each birth since November, 2007: month and years are recorded ▪ For each living child: current age is recorded in 122 ▪ For each dead child: age at death is recorded in 124 ▪ For age at death at 12 months or 1 year: probe to determine the exact month of death ▪ For age at death <1 month, probe to determine the exact day of death	☐ ☐ ☐ ☐ ☐
129	Check 126 and 127 and enter the number of still births in November 2007 or later and The pregnancy that lasted for 7 months or more. If None, record '0'	☐
130	Check 124 and 125 and enter the "number of deaths" at 0-30 days in November, 2007 or later, If none, record '0'	☐
131	Check 129 and 130, if one or more read the following statement: "We would like to get more information on the circumstances around the deaths of the young children so that the government can provide services to help reduce the deaths. We would like to come back and talk with you about your child's death. Is this okay?"	Yes…1 No….2
132	Check 120 and enter the number of births in November, 2007 or later, if none, record '0'	

The eligible women for the main questionnaire are all women who have given birth(s) from November 2007. The child born to these women can be:

- Born alive but dead (124-125)
- Born alive and still living (122-123)
- Still born (born dead or lost before birth, pregnancy lasted for 7 months or more) (126-127)

Confidential, information to be used for research purposes only

COMMUNITY-BASED NEWBORN CARE PACKAGE (CB-NCP)
BASELINE SURVEY QUESTIONNAIRE: OCTOBER, 2008
(MOHP/SC USA/VARG)
MAIN QUESTIONNAIRE FOR RECENTLY DELIVERRED WOMEN

Form No.					

Respondent: Recently Delivered Women (RDW): RDW are defined as women who have delivered within 12 months prior to the survey date (since November 2007) (regardless of whether the infant is currently alive or dead), including stillbirths.

1) Name of District _____	
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 respondent	

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

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED…… 2 → END INTERVIEW & THANK RESPONDENT

Check **Q114, Q118, Q121, Q122, Q124, Q127**: enter in the table the line number, name and the survival status of each birth from November 2007 or later, ask questions about the last birth.

QA	Line number from 114	Last birth
QB	From 118 and 121	Name _____ Living……1 Dead……..2
QC	From 122	Age of [NAME] ☐☐ months
QD	From 124	Age of [NAME] when he/she died ☐☐ months
QE	From 127 (pregnancy loss after 7 months or more)	Stillbirth ☐

SECTION 1: RESPONDENT'S BACKGROUND

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

Q. #	Question	Codes	Go to Q
101	In what month and year were you born?	Month [__ _ | __ _] Year [_ __ | _ __] Don't know month ……. 98 Don't know year ……..98	
102	How old are you?	Age in completed years.. [___ | ___] Don't know 98	
103	Have you ever attended school?	Yes ..... 1 No..... 2	→106
104	What is the highest class you completed?	Grade…… ☐☐	
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	→108
107	Do you read from a newspaper or magazine almost every day, at least once a week, less than once a week or not at all?	Almost every day .....1 At least once a week.....2 Less than once a week.....3 Not at all..... …….. 4	
108	Do you watch television almost every day, at least once a week, less than once a week, or not at all?	Almost every day .....1 At least once a week.....2 Less than once a week.....3 Not at all.....4	
109	Do you listen to the radio almost every day, at least once a week, less than once a week, or not at all?	Almost every day .....1 At least once a week.....2 Less than once a week.....3 Not at all.....4	

Q. #	Question	Codes			Go to Q
110	From where do you get information on maternal and newborn health services? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there any other else." *Then, read each question and circle "2" for "yes" or "3" for "no."*	Unprompted	Prompted		
			Yes	No	
	1 FCHV	1	2	3	
	2 TBAs	1	2	3	
	3 NGO workers	1	2	3	
	4 Other health personnel	1	2	3	
	5 TV	1	2	3	
	6 Radio	1	2	3	
	7 Posters/pamphlets	1	2	3	
	8 BPP flip chart	1	2	3	
	9 Street dramas	1	2	3	
	10 Newspaper/Magazine	1	2	3	
	11 Other (specify):_____	1			
	97 Nowhere	7			
111	Which are the trusted sources of information? **(MULTIPLE RESPONSE)**	FCHV.....1 TBAs.....2 NGO workers.....3 Other health personnel.....4 TV.....5 Radio.....6 Posters/pamphlets.....7 BPP flip chart.....8 Street dramas.....9 Newspaper/Magazine.....10 Other, specify:.....11 None.....97			
112	To which radio station do you mostly listen? (MULTIPLE RESPONSE)	Radio Nepal……1 FM station …….....2 Name the station_____ None……97 Don't know……98			→114
113	At what time do you listen to the radio?	6-9:59 am.....1 10 am-1:59 pm.....2 2-3:59 pm …….....3 4-7:59 pm.....4 8pm-5:59 am.....5 Don't know……8			
114	Which TV stations do you watch the most?	NTV……1 Kantipur……..2 Nepal 1……3 Channel Nepal……4 Sagarmatha……5 Avenues……..6 Image……..7 None……97 Don't know…… 98			
115	What is your caste or ethnicity? *(Write caste in space provided. Do not fill in the box.)*	Caste/Ethnicity ☐|			

Q. #	Question	Codes	Go to Q
116	What is your religion?	Hindu……..1 Buddhist……2 Muslim ……..3 Kirat……..….4 Christian…….5 Other, specify:_____ 6	

Section 2: Respondent's Background (Socio-economic 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)**		
		Yes / No	
	1 Electricity	1 / 2	
	2 Bicycle	1 / 2	
	3 Telephone	1 / 2	
	4 Television	1 / 2	
	5 Radio	1 / 2	
202	What is the main source of drinking water for 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 Other, specify: _____ 10	
203	What type of toilet facilities does your house have?	Flush toilet …… 1 Traditional pit toilet …… 2 Ventilated improved pit latrine …… 3 No facility / bush / field …… 4 Other, specify: ……..…… 5	
204	Main material of the floor **Record observation**	Earth/mud/dung …… 1 Wood planks …… 2 Linoleum / carpet …… 3 Ceramic tiles, marble chips …….. 4 Cement …… 5 Other, specify: _____ 6	
205	Main material of the roof **Record observation**	Thatch …… 1 Metal …….. 2 Tiles/Khapada …… 3 Cement ……... 4 No roof ……... 5 Other, specify: _____ 6	
206	Main material of the walls <u>Record observation</u>	Bamboo with mud …….. 1 Bamboo with cement……..….2 Adobe …… 3 Unfinished wood …… 4 Cement ……... 5 Bricks …… 6 Cement blocks …… 7 Wood planks ……... 8 No walls ……... 9 Other, specify: _____ 10	

Section 3: Antenatal Care

Now I would like to ask you some questions about services you may have received during your last pregnancy

Q. #	Question	Codes			Go to Q.
301	Did you see anyone for antenatal care during your last pregnancy?	Yes ..... 1 No 2			→Section 4
302	Whom did you see? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anyone else." *Then, read each question and circle "2" for "yes" or "3" for "no."*				
		Unprompted	Prompted		
		Yes	Yes	No	
	SKILL PERSONNEL				
	1 Doctor	1	2	3	
	2 Nurse	1	2	3	
	3 ANM	1	2	3	
	TRAINED PERSONNEL				
	4 HA/AHW	1	2	3	
	5 MCHW	1	2	3	
	6 VHW	1	2	3	
	OTHER PERSONNEL	1	2	3	
	7 FCHV	1	2	3	
	8 TTBA	1	2	3	
	9 TBA	1	2	3	
	10 Other (specify): _____	1			
303	Did you discuss your pregnancy with an FCHV?	Yes……..1 No ……..2			→305
304	Did your FCHV give you specific information about where to go for ANC check up?	Yes……..1 No ……..2			
305	Where did you receive antenatal care during your last pregnancy? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anywhere else." *Then, read each question and circle "2" for "Yes" or "3" for "No."* If unable to determine if a hospital, PHCC or health center or clinic is private or public, write the name of the place(s) below. _____ (Name of places)				
		Unprompted	Prompted		
		Yes	Yes	No	
	PUBLIC SECTOR				
	1 Hospital	1	2	3	
	2 PHCC	1	2	3	
	3 Health post	1	2	3	
	4 Sub-health post	1	2	3	
	5 PHC/ORC	1	2	3	
	PRIVATE SECTOR				
	6 Pvt. Clinic/Nursing Home	1	2	3	
	7 Pharmacy	1	2	3	
	HOME				
	8 Own home	1	2	3	
	9 TBA home	1	2	3	
	10 Other (specify): _____	1			
	98 Don't know/don't remember	8			
306	How many months pregnant were you when you first received antenatal care for this pregnancy?	Months…… ☐☐ Don't know……98			

Q. #	Question	Codes			Go to Q.
307	How many times did you receive antenatal care during your last pregnancy?	Number of times…… ☐☐ Don't know.....98			
308	As part of your antenatal care during this pregnancy, were any of the following done at least once? **(READ ALL)**	Yes	No	Don't Know	
	1 Were you weighed?	1	2	8	
	2 Was your blood pressure measured?	1	2	8	
	3 Did you give a urine sample?	1	2	8	
	4 Did you give a blood sample?	1	2	8	
309	During any of your antenatal care visit(s), were you advised to use a skilled birth attendant during delivery?	Yes……...1 No……..…..2 Don't know…….……8			
310	During (any of) your antenatal care visit(s), were you told about the signs of pregnancy complications?	Yes……...1 No……..…..2 Don't know…….……8			
311	Were you told where to go if you had any of these complications?	Yes……...1 No……..…..2 Don't know……..…….8			
312	During any of your antenatal care visits with health workers during this pregnancy, were you counseled on: **(READ ALL RESPONSES)**				
		Yes	No	Don't know	
	1 Financial preparation for your delivery?	1	2	8	
	2 Breastfeeding immediately after birth?	1	2	8	
	3 Danger signs during pregnancy?	1	2	8	
	4 Tetanus toxoid vaccination?	1	2	8	
	5 Wrapping the newborn?	1	2	8	
	6 Using a skilled birth attendant/trained Health Worker?	1	2	8	
	7 CDK	1	2	8	
	8 Family planning?	1	2	8	
	9 Identifying emergency transport options?	1	2	8	
	10 Arranging for blood in case of emergency?	1	2	8	
	11 Essential Newborn care?	1	2	8	
313	During this pregnancy, were you given an injection in the arm to prevent you and the baby from getting tetanus?	Yes……...1 No……2 Don't know……..8			 →Sec 4 →Sec 4
314	During this pregnancy, how many times did you get this tetanus injection? *If more than "7," write "7."*	#Times…… ☐ Don't Know……8			

Section 4: Birth Preparedness

"Now I would like to ask you some questions about how you prepared for delivery for your last pregnancy."

Q. #	Question	Codes	Go to Q.
401	During your last pregnancy, did you make any preparations for delivery?	Yes ……1 No ……...2	 → 403

Q. #	Question	Codes			Go to Q.
402	If yes, what kind of preparation did you make? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anything else." *Then, read each question and circle "2" for "yes" or "3" for "no."* What things did you arrange?	Unprompted	Prompted		
		Yes	Yes	No	
	1 HF/SBA identification	1	2	3	
	2 Transport	1	2	3	
	3 Money	1	2	3	
	4 Food	1	2	3	
	5 Clean Delivery kit	1	2	3	
	6 Clean instrument for cord cutting	1	2	3	
	7 Clean cloths	1	2	3	
	8 Other, specify:_____	1			
403	Did you discuss planning for your delivery with anybody while you were pregnant?	Yes ..... 1 No 2			→Section 5
404	With whom did you plan for your delivery? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anyone else." *Then, read each question and circle "2" for "yes" or "3" for "no."*				
		Unprompted	Prompted		
		Yes	Yes	No	
	1 Husband	1	2	3	
	2 Mother in law	1	2	3	
	3 Mother	1	2	3	
	4 Friends/relative	1	2	3	
	5 FCHV	1	2	3	
	6 Any other health care worker, specify:	1	2	3	
	7 Other, specify:_____	1			
	97 No one	7			
	98 Don't know	8			

Section 5: Delivery Care and Immediate Newborn Care

Q. #	Question	Codes			Go to Q.
501	Who assisted with your most recent delivery? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anyone else." *Then, read each question and circle "2" for "yes" or "3" for "no."*				
		Unprompted	Prompted		
		Yes	Yes	No	
	SKILL PERSONNEL				
	1 Doctor	1	2	3	
	2 Nurse	1	2	3	
	3 ANM	1	2	3	
	TRAINED PERSONNEL				
	4 HA/AHW	1	2	3	
	5 MCHW	1	2	3	
	6 VHW	1	2	3	
	OTHER PERSONNEL				
	7 FCHV	1	2	3	
	8 TTBA	1	2	3	
	9 TBA	1	2	3	
	10 Relative/friends	1	2	3	
	11 Other (specify): _____	1			
	97 Nobody	7			

Q. #	Question	Codes	Go to Q.
502	Did your FCHV give you specific information about where to go for delivery?	Yes……………………………………...1 No………………………………………2	
503	Did your FCHV give you specific information to call her at the time of delivery?	Yes………………………………........1 No……………………………..……2	
504	Did you plan the place for delivery during your pregnancy?	Yes……………………………………1 No…………………………………….2	→ 506
505	Where had you planned to deliver? 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 place:** ____________________	**Public Sector** Hospital ....1 PHCC ....2 Health post ....3 Sub-health post..4 **Private Sector** Pvt. Clinic/nursing Home...............................5 **Home** Your home ....6 TBA home...7 Other (specify)_____________ 8	
506	Where did you give birth during your most recent delivery? If source is hospital, health center, or clinic, write the name of the place. Probe to identify the type of place and circle the appropriate code to the right. **Name of place:** ____________________	**Public Sector** Hospital ....1 PHCC ....2 Health post ....3 Sub-health post..4 **Private Sector** Pvt. Clinic/nursing Home...............................5 **Home** Your home ....6 TBA home...7 FCHV home……………………………….8 Other (specify)_____________ 9	 → 509 → 509 → 509
507	Who accompanied you to the health facility? (*Probe:* "Did FCHV accompany you to the health facility?") *(Circle all responses.)*	Self……………………………………...1 Mother-in-law.....…………..………....2 Father-in-law.....………………………....3 Husband....……………..……………….....4 Mother/father ……………………..…..5 Other relative ……………………….….. 6 FCHV……………………………………7 Other, specify:______________________8 Don't know.......................…......………98	
508	How long after [NAME] was delivered did you stay there? IF LESS THAN ONE DAY, RECORD IN HOURS.	HOURS……………………………….. 1 ☐ ☐ DAYS……………………………. 2 ☐ ☐ DON'T KNOW…………………………………..98	→511 →511 →511
509	Why didn't you deliver in a health facility? (Probe: "Any other reason?") (Circle all responses)	Cost too much …………………………… 1 Facility not open …………………….…… 2 Too far / no transportation ……………….… 3 Don't trust facility / poor quality service… 4 No female provider at facility …………… 5 Husband / family did not allow ………….. 6 Not necessary ……………………………. 7 Not customary …………………………… 8 Other, specify: ______________________ 9	
510	Did your FCHV give you specific information about which health worker to contact to attend a home birth if you chose to deliver at home?	Yes……………………………..………1 No …………………………………………2	

Q. #	Question	Codes	Go to Q.
511	Please tell me the name and type of health facility in your community where you can go to deliver your child as well as its location. **Name:_____** **Location:_____** Confirmed by supervisor:_____	**Public Sector** Hospital.....1 PHCC.....2 Health post.....3 Sub-health post.....4 **Private Sector** Pvt. Clinic/nursing Home.....5 **Home** Your home.....6 TBA home.....7 FCHV home……8 Other (specify)_____.....9 Do not know.....98	
512	Who should be present at birth to help deliver the baby safely? (**MULTIPLE RESPONSE)**	**Skill Personnel** Doctor.....1 Nurse.....2 ANM.....3 **Trained Personnel** HA/AHW.....4 MCHW.....5 VHW.....6 **Other Personnel** FCHV.....7 TTBA.....8 TBA.....9 Relatives/friends.....10 Other (specify)_____.....11 Nobody.....97	
	Checkbox 5.1 Interviewer: Check questions **QB** and **QE**. Which of the following conditions is true: Baby still alive……1 Baby born alive, then died ……2 Baby stillborn……3		→Sec. 6
513	Was the baby wiped (dried) before the placenta was delivered?	Yes……1 No……2 Don't know . . . ……8	
514	Where was the baby placed immediately after delivery?	On the floor ……..... 1 On a cot……..……2 On the mother's abdomen ……3 With someone else ……..... ……..4 Other, specify: _____5 Don't know ……..…….... ……98	
515	Was the baby wrapped with cloth before the placenta was delivered?	Yes……..……1 No……2 Don't know . . . ……..8	→517 →517
516	What was the condition of the cloth, which was used for wrapping the baby? (Probe: "*Anything else*?") (Circle all responses)	Clean cloth. …… 1 Dry cloth. ……... 2 New cloth……. ……..…… 3 Used cloth……. …… 4 Wet cloth……..5 Other, specify: _____6 Don't know …… 8	
517	Did your baby cry/breathe easily immediately after birth?	Yes……..……..……1 No……2 Don't know . . . ……..……8	→520 →520

Q. #	Question	Codes	Go to Q.
518	What was done to help the baby cry or breathe at the time of birth?	Rubbed/massaged…….....1 Dried. ……2 Mouth cleared ……....3 Fed Butter/Ghee. . . . ……4 Mouth-to-mouth resuscitation……..…..5 Resuscitation using a bag and mask…..….6 Other, specify: _____7 Nothing…….....….97 Don't know. . ……. …… 98	
519	Who took these measures to help the baby cry or breathe?	**Skill Personnel** Doctor .....1 Nurse .....2 ANM .....3 **Trained Personnel** HA/AHW .....4 MCHW.....5 VHW.....6 **Other Personnel** FCHV.....7 TTBA .....8 TBA .....9 Relatives/friends .....10 Other (specify)_____ .....11 Nobody.....97	
520	Was the baby put to the breast before the placenta was delivered?	Yes……1 No……..2 Don't know . . . ……8	
521	Was a Clean Home Delivery Kit used during delivery? (Show example of a CHDK)	Yes…….……1 No……..……..2 Don't know……..….8	→ 526
522	What was used to cut the cord?	New blade.....1 Blade that was used for other purposes.....2 Sickle ….....3 Scissor ….....4 Other, Specify: _____5 Don't Know/Can't Remember….....98	
523	Was the instrument used to cut cord boiled prior to use?	Yes ….....1 No ….....2 Don't Know/Can't Remember….....…8	
524	What was used to tie the cord? Probe: "Were the ties boiled?"	New ties ……. 1 Boiled string or thread ……... 2 Unboiled used string or thread …….. 3 Other, specify: _____4 Don't know ……..……8	
525	On what surface was the cord cut on?	Plastic disc..……...……1 Metal coin.. ……..2 Wood……..……..…….....3 Other, specify: _____4 Nothing……7 Don't know …….....8	
526	Was anything applied to the cord immediately after cutting?	Yes ….....….....1 No ….....2 Don't Know/Can't Remember.....…8	→528 →528
527	What was applied to the cord just after cutting the cord?	Butter……..……1 Ash…….2 Ointment……3 Animal dung…….….....4 Oil…….……5 Other, specify: _____6 Don't know……..98	

Q. #	Question	Codes	Go to Q.
528	**Check Q N. 506,** (Place of delivery)	**Public Sector:** Hospital ..... 1 PHCC ..... 2 Health post ..... 3 Sub-health post..... 4 **Private sector** Pvt. Clinic/n. Home..... 5 **Home** Your home …….…. 6 TBA home …….. 7 FCHV home……8 Other, specify: _____ 9	→530
529	FOR BIRTHS IN WOMAN'S OWN/OTHER'S HOME: Before the Health Professional, FCHV or traditional birth attendant left your house, after [NAME] was born, did he/she check on your health?	YES…… 1 NO……..... ….2 NONE OF THEM WERE PRESENT..…..3	→531 →534 →534
530	FOR ALL OTHER BIRTH LOCATIONS (PUBLIC & PRIVATE SECTOR) : Before you were discharged after [NAME] was born, did any health care provider check on your health?	YES…… 1 NO……..... ….2	→535
531	Who checked on your health at that time? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anyone else." PROBE FOR MOST QUALIFIED PERSON.	**Skill Personnel** Doctor .....1 Nurse.....2 ANM .....3 **Trained Personnel** HA/AHW .....4 MCHW.....5 VHW.....6 **Other Personnel** FCHV.....7 TTBA .....8 TBA .....9 Relatives/friends .....10 Other (specify)_____ 11	
532	How long after delivery did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS.	HOURS…….. 1 ☐☐ DAYS……. 2 ☐☐ DON'T KNOW……998	

533 What did the health provider do to check on your health?

Circle all responses which the mother mentions unprompted. Then ask, "Is there anything else."
Then, read each question and circle "2" for "yes" or "3" for "no."

	Unprompted	Prompted	
	Yes	Yes	No
1 Did she examine your body?	1	2	3
2 Did she check your breasts?	1	2	3
3 Did she check for heavy bleeding?	1	2	3
4 Did she check for fever?	1	2	3
5 Did she refer you to a health center/hospital?	1	2	3
6 Other (specify)_____	1		
97 Nothing	7		

Q. #	Question	Codes	Go to Q.
534	**FOR BIRTHS IN WOMAN'S OWN/OTHER'S HOME:** Before the Health Professional, FCHV or traditional birth attendant left your house, after [NAME] was born, did he/she check on your baby's health?	YES…… 1 NO……..... ….2 NONE OF THEM WERE PRESENT..…..3	→536 →543 →543
535	**FOR ALL OTHER BIRTH LOCATIONS (PUBLIC & PRIVATE SECTOR) :** Before you were discharged after [NAME] was born, did any health care provider check on your baby's health?	YES…… 1 NO……..... ….2	→543
536	Who checked on your baby's health at that time? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anyone else." PROBE FOR MOST QUALIFIED PERSON.	**Skill Personnel** Doctor .....1 Nurse .....2 ANM .....3 **Trained Personnel** HA/AHW .....4 MCHW.....5 VHW .....6 **Other Personnel** FCHV .....7 TTBA .....8 TBA .....9 Relatives/friends .....10 Other (specify)_____ 11	
537	How long after delivery did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS.	HOURS…….. 1 ☐☐ DAYS…… 2 ☐☐ DON'T KNOW……998	

538 What did the health provider do to check on your baby's health?
Circle all responses which the mother mentions unprompted. Then ask, "Is there anything else."
Then, read each question and circle "2" for "yes" or "3" for "no."

	Unprompted	Prompted	
	Yes	Yes	No
1 Did she generally examine the baby's body?	1	2	3
2 Did she weigh the baby?	1	2	3
3 Did she check the umbilical cord?	1	2	3
4 Did she observe breastfeeding?	1	2	3
5 Did she refer you to a health center/hospital?	1	2	3
6 Other (specify)_____	1		
97 Nothing	7		
98 I wasn't there/Don't know	8		

539 **CHECK 506;** Before you were discharged (or before the Health care provider or traditional birth attendant or FCHV left your home), what health topics did the health provider discuss with you regarding your health or your baby's health?
Circle all responses which the mother mentions unprompted. Then ask, "Is there anything else."
Then, read each question and circle "2" for "yes" or "3" for "no."

	Unprompted	Prompted	
	Yes	Yes	No
a Breast feeding	1	2	3
b Nutritious food for mother	1	2	3
c Umbilical cord care	1	2	3
d Immunization	1	2	3
e Skin-to-skin/kangaroo method	1	2	3
f Keep baby warm (except STS or KMC)	1	2	3
g Danger signs/symptoms for newborn	1	2	3
h Danger signs/symptoms for mother	1	2	3
i Birth control/family planning	1	2	3
j Other (specify)_____	1		

Q. #	Question	Codes	Go to Q.
540	*ASK THE FOLLOWING QUESTION ONLY IF THE MOTHER ANSWERS 'YES' TO 539a .* What advice did the health provider give you on breastfeeding? *DO NOT READ THE RESPONSES. CIRCLE ALL MENTIONED.*	Breastfeed immediately/as soon as possible…..1 Give colostrum……..……2 Don't give formula ……3 Breastfeed exclusively……..….4 More frequent breastfeeding leads to more milk produced by mother…….…….….5 Other ways to increase milk production…….6 How to breastfeed.…….……...…7 Mother should plan breastfeeding together with family……..……8 Benefits of breast milk for newborn, "is good, the best"……..……..…..9 Give food/drink besides breast milk……10 Breast/nipple care/cleaning……...11 Mother should eat nutritious food……12 Mother should eat vegetables……13 Other, specify: _____14 Not Applicable ……97	
541	*Ask the following question only if the mother answers "yes" to 539c.* What advice did the health provider give you on how to treat the umbilical cord? DO NOT READ THE RESPONSES. CIRCLE ALL MENTIONED.	Do not put anything on the cord……..1 Clean with alcohol……...2 Provided with microform/betadine…….3 Clean with soap and water……..….4 Do not cover the cord……5 Other, specify: _____6 Not Applicable ……97	
542	*ASK THE FOLLOWING QUESTION ONLY IF THE MOTHER ANSWERS 'YES' TO 539f.* What advice did the health provider give you on how to keep the newborn warm? *DO NOT READ THE RESPONSES. CIRCLE ALL MENTIONED.*	Cover with blanket……..…...….1 Put on mother's breast/abdomen……....2 Skin-to-skin contact/kangaroo……3 Apply warm water compress……..4 Cover head with hat/cap…….5 Put on gloves..…… ……6 Put on socks.……..7 Delay bathing.…….…..….8 Other, specify: _____9 Not Applicable ……97	
543	When was [NAME] bathed for the first time after delivery? IF LESS THAN ONE DAY, PROBE TO RECORD THE NUMBER OF HOURS OF LIFE WHEN BATHED.	HOURS…… 1 ☐☐ DAYS…… 2 ☐☐ DON'T KNOW……998	
544	Did you ever breastfeed [NAME]?	Yes……..……1 No……..……..2 Baby died early……3	→ 551 → 551
545	How long after birth did you first put [NAME] to the breast?	During the first hour after delivery.……1 More than 1 hour. ..……2 Don't know……..…8	
546	Did you give [NAME] the first liquid (*begauti*) that came from your breasts?	Yes……..1 No……2	
547	Are you still breastfeeding [NAME]?	Yes……..1 No……...2	→ 550

Q. #	Question	Codes	Go to Q.
548	Interviewer: "Now I would like to ask you about liquids your baby [NAME] drank yesterday during the day or at night. Did [NAME] drink:" (**READ ALL**)		

		Unprompted	Prompted	
		Yes	Yes	No
1	Plain water?	1	2	3
2	Honey?	1	2	3
3	Non-breast (animal) milk?	1	2	3
4	Infant formula?	1	2	3
5	Expressed breastmilk?	1	2	3
6	Fruit juice?	1	2	3
7	Daal?	1	2	3
8	Yogurt or mohi?	1	2	3
9	Tea?	1	2	3
10	Ghee?	1	2	3
11	Did you feed your baby any liquids using a bottle?	1	2	3
12	Did you give any other liquids (specify) __?	1	2	3

549	Interviewer: "Now I would like to ask you about the food [NAME] ate yesterday during the day or at night, either separately or combined with other foods. Did [NAME] eat:" (**READ ALL**)			
13	Jaulo?	1	2	3
14	Lito?	1	2	3
15	Biscuits?	1	2	3
16	Noodles?	1	2	3
17	Fruits?	1	2	3
18	Vegetables?	1	2	3
19	Bread?	1	2	3
20	Bhaat?	1	2	3
21	Meat, fish or eggs?	1	2	3
22	Did you give any other solids (specify) __?	1	2	3

550	At how many completed months of age did you first start giving food or drink other than breast milk to your baby?	# months: ____ ____ Baby exclusively breastfed until now .. 95 Don't know …….. 98	
551	Please tell me when should a newborn child be breast fed for the first time after birth?	Immediately after the birth…….....1 After the placenta is out.....……...2 After bathing the new born……...3 After 24 hours after birth.....……4 Other (specify) _____5 Don't know……..……8	
552	In the last three months, have you heard, seen, or read the message: "A newborn should be breast fed within one hour after birth."	Yes……1 No……..2	→554
553	Please tell me where you saw or heard the message or who told you about it? "A newborn should be breastfed within one hour after birth." *Circle all responses which the mother Mentions unprompted. Then ask,* "Is there anything else." Then, read each question and circle "2" for "yes" or "3" for "no."		

		Unprompted	Prompted	
		Yes	Yes	No
1	FCHV	1	2	3
2	TBAs	1	2	3
3	NGO workers	1	2	3
4	Other health personnel	1	2	3
5	Friends	1	2	3
6	TV	1	2	3
7	Radio	1	2	3
8	Posters/pamphlets	1	2	3
9	BPP flip chart	1	2	3
10	Street dramas	1	2	3
11	Any other (specify) _____	1		
97	Nobody	7		

Q. #	Question	Codes	Go to Q.
554	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 Other, specify: _______________________5 Don't know……………...…………………..8	
555	In the last three months, have you seen, heard, or read the message "A newborn should have their first bath delayed until at least 24 hours after birth."	Yes…………………………………………1 No…………………………………………..2	→557
556	Please tell me where you saw or heard the message or who told you about it? "A newborn should have their first bath delayed until at least 24 hours after birth." *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anything else." *Then, read each question and circle "2" for "yes" or "3" for "no."*		

	Unprompted	Prompted	
	Yes	Yes	No
1 **FCHV**	1	2	3
2 TBAs	1	2	3
3 NGO workers	1	2	3
4 Other health personnel	1	2	3
5 Friends	1	2	3
6 TV	1	2	3
7 Radio	1	2	3
8 Posters/pamphlets	1	2	3
9 BPP flip chart	1	2	3
10 Street dramas	1	2	3
11 Other, specify: _______________________	1		
97 Nobody	7		

Danger signs

Q. #	Question	Go to Q.
557	During your delivery, did you experience any danger signs? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anything else." *Then, read each question and circle "2" for "yes" or "3" for "no."*	

	Unprompted	Prompted		Go to Q.
	Yes	Yes	No	
1 Heavy bleeding?	1	2	3	
2 Convulsions?	1	2	3	
3 Prolonged labor (>8 hours)?	1	2	3	
4 The baby's hand, leg or cord came out first ?	1	2	3	
5 Other, specify:	1			
6 No problems	7			→ 561

Q. #	Question
558	What did you do or whom did you consult for the problems that you stated above? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anything else." *Then, read each question and circle "2" for "yes" or "3" for "no."*

	Unprompted	Prompted	
	Yes	Yes	No
SKILL PERSONNEL			
1 Doctor	1	2	3
2 Nurse	1	2	3
3 ANM	1	2	3
CONSULTED TRAINED PERSONNEL			
4 HA/AHW	1	2	3
5 MCHW	1	2	3
6 VHW	1	2	3
OTHER PERSONNEL			
7 FCHV	1	2	3
8 TTBA	1	2	3
9 TBA	1	2	3

Q. #	Question	Codes			Go to Q.
	10 Other HW	1	2	3	
	11 Dhami Jhakri (traditional healers)	1	2	3	
	12 Consulted relative/neighbor/friend	1	2	3	
	13 Bought medicine from pharmacy	1	2	3	
	14 Given medicine at home	1	2	3	
	15 Other (specify): _____	1			
	97 Nothing	7			
559	Were you referred for any of these problems?	Yes……1 No……..2			 →561
560	Where did you go? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anywhere else." Then, read each question and circle "2" for "yes" or "3" for "no."				
		Unprompted Yes	Prompted Yes	Prompted No	
	PUBLIC SECTOR				
	1 Hospital	1	2	3	
	2 PHCC	1	2	3	
	3 Health post	1	2	3	
	4 Sub-health post	1	2	3	
	PRIVATE SECTOR				
	5 Pvt. Clinic/Nursing Home	1	2	3	
	HOME				
	6 Your home	1	2	3	
	7 TBA home	1	2	3	
	8 FCHV home	1	2	3	
	9 Other (specify): _____	1			
561	In the past <u>three</u> months, have you seen, heard, or read anything about attendance of a <u>trained health worker</u> during delivery on the radio or television or in the newspaper or anywhere else?	Yes……..1 No……..2			
562	In the past <u>three</u> months, have you seen, heard, or read anything about attendance of a <u>FCHV</u> during delivery on the radio or television or in the newspaper or anywhere else?	Yes……..1 No……..2			
	<u>Checkbox 5.2</u> **<u>Interviewer</u>: Check questions 561 and Q562 and circle below:** Answered "yes" in Q561 or Q562 or both ..... 1 Answered "no" in both Q561 and Q562 2				 → Sec 6
563	Please tell me where you saw or heard a message on attendance of a trained health worker during delivery or who told you about it. *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anywhere else." *Then, read each question and circle "2" for "yes" or "3" for "no."*				
		Unprompted Yes	Prompted Yes	Prompted No	
	1 FCHV	1	2	3	
	2 TBAs	1	2	3	
	3 NGO workers	1	2	3	
	4 Other health personnel	1	2	3	
	5 Friends	1	2	3	
	6 TV	1	2	3	
	7 Radio	1	2	3	
	8 Posters/pamphlets	1	2	3	
	9 BPP flip chart	1	2	3	
	10 Street dramas	1	2	3	
	11 Other, specify: _____	1			
	97 Nobody	7			

Section 6: Post-natal Care for the Mother

Q. #	Question	Codes	io to Q.
601	**Check Q N. 506, (**Place of delivery)	Public Sector: Hospital ..... 1 PHCC ..... 2 Health post ..... 3 Sub-health post..... 4 Private sector Pvt. Clinic/n. Home..... 5 Your home …… 6 TBA home ……..... 7 FCHV home……8 Other, specify: _____ 9	→603
602	**FOR BIRTHS IN OWN/OTHER HOME, ASK:** After [NAME] was born and the health care provider, FCHV or traditional birth attendant left your home, did any health care provider or a traditional birth attendant check on your health? 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 or a traditional birth attendant check on your health?	Yes…… 1 No…… 2	→604 →611
603	**FOR BIRTHS IN HEALTH FACILITY, ASK:** After you were discharged, did any health care provider or a traditional birth attendant check on your health?	Yes…… 1 No…… 2	→611
604	In the first month, after [NAME] was born, how many times did a health care provider or traditional birth attendant check on your health?	# TIMES MOTHER 1 ☐☐	
605	How long after delivery did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS.	HOURS 1 ☐☐ DAYS 2 ☐☐ Don't know…….998	
606	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	**Skilled Personnel** Doctor……..……...1 Staff Nurse . . . ……..…....2 ANM……...……..... 3 **Trained Personnel** MCHW……...……..…4 HA ……..…..5 AHW / CMA …….. …...……6 VHW.....…….…….……7 FCHV…….8 **Other Personnel** Trained TBA…….…….....9 Untrained TBA……..…...…10 Relative/Friend …….…….…11 Other, specify: _____12	

Q. #	Question	Codes	Go to Q.
607	What things did she or he do to check on your health? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anything else." *Then, read each question and circle "2" for "yes" or "3" for "no."*		

		Unprompted	Prompted	
		Yes	Yes	No
1	Did she examine your body?	1	2	3
2	Did she check your breasts?	1	2	3
3	Did she check for heavy bleeding?	1	2	3
4	Did she check for fever?	1	2	3
5	Did she refer you to a health center/hospital?	1	2	3
6	Other (specify)_____	1		
97	Nothing	7		

	Check box 6.1 Interviewer: Check questions Q604 and circle below: More than one postnatal check for mother ..... 1 Only one visit 2	→ 611
608	How long after delivery did the second check of your health take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ Don't know……..…….998
609	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	**Skilled Personnel** Doctor……..……...1 Staff Nurse . . . ……..…...2 ANM……..……..... 3 **Trained Personnel** MCHW……...……..…4 HA ……..…..5 AHW/CMA …….. ……..……6 VHW.....…….……7 FCHV…….8 **Other Personnel** Trained TBA…….…..…...9 Untrained TBA……..……10 Relative/Friend …….……11 Other, specify: _____12 Nobody …… 97	
610	Where did this second check take place? PROBE TO IDENTIFY THE TYPE OF PLACE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**Public Sector:** Hospital ..... 1 PHCC ..... 2 Health post ..... 3 Sub-health post..... 4 **Private sector** Pvt. Clinic/n. Home..... .5 **Home** Your home ……..… 6 Other/TBA home ……..… 7 FCHV home…….…..8 Other, specify: _____ 9	
611	**Check Box 6.2** **Interviewer: Check questions B and E (page 2), and circle below:** Baby still alive or baby born alive then died..... 1 Baby stillborn..... 2	→ End interview

Section 7: Post-natal Care for the Newborn

Q. #	Question	Codes	Go to Q.
701	**Check Q N. 506, (**Place of delivery)	Public Sector: Hospital .... 1 PHCC .... 2 Health post .... 3 Sub-health post..................................... 4 Private sector Pvt. Clinic/n. Home............................... 5 Your home ……………...…..…...… 6 TBAhome …………………......…....... 7 FCHV home…………………….….…..8 Other, specify: __________________ 9	1–4 →703
702	**FOR BIRTHS IN OWN/OTHER HOME, ASK:** After [NAME] was born and the health care provider or traditional birth attendant left your home, did any health care provider or a traditional birth attendant check on his/her health?	Yes……………………………………… 1 No………..…………………………… 2	→704 →711
703	**FOR BIRTHS IN A HEALTH FACILITY, ASK:** After you were discharged, did any health care provider or a traditional birth attendant check on [NAME'S] health?	Yes……………………………………… 1 No……….………………………………… 2	 →711
704	In the first month, after [NAME] was born, how many times did a health care provider or traditional birth attendant check on his/her health?	# TIMES BABY 1 ☐ ☐	
705	How long after delivery did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS	HOURS 1 ☐ ☐ DAYS 2 ☐ ☐ WEEKS 3 ☐ ☐ Don't know…………………………998	
706	Who checked on his/her health at that time? PROBE FOR MOST QUALIFIED PERSON.	**Skilled Personnel** Doctor…………………….……….…...1 Staff Nurse . . . ……………….….……....2 ANM….…………...……………............. 3 **Trained Personnel** MCHW……………………...…..…..…4 HA ……………………………….…..5 AHW / CMA ……………..…. …………6 VHW.......………………….………….……7 FCHV…………………………………….8 **Other Personnel** Trained TBA………………….……..…..9 Untrained TBA…………………..…..…10 Relative/Friend ……………….……..…11 Other, specify: ___________________12	

Q. #	Question	Codes	Go to Q.
707	What things did she or he do to check on your baby's health? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anything else." *Then, read each question and circle "2" for "yes" or "3" for "no."*		

		Unprompted	Prompted	
		Yes	Yes	No
1	Did she generally examine the baby's body?	1	2	3
2	Did she weigh the baby?	1	2	3
3	Did she check the umbilical cord?	1	2	3
4	Did she observe breastfeeding?	1	2	3
5	Did she refer you to a health center/hospital?	1	2	3
6	Did she take temperature using thermometer?	1	2	3
7	Did she take temperature without thermometer?	1	2	3
8	Other, specify_____	1		
97	Nothing	7		
98	I wasn't there/Don't know	8		

	Check box 7.1 **Interviewer: Check question 704 and circle below:** More than one postnatal check for baby ..... 1 Only one visit 2	→ 711
708	How long after delivery did the second check of your baby's health take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ Don't know……998	
709	Who checked on his/her health at that time? PROBE FOR MOST QUALIFIED PERSON.	**Skilled Personnel** Doctor……..1 Staff Nurse . . . ……..2 ANM……..……..... 3 **Trained Personnel** MCHW……..……..4 HA ……..5 AHW / CMA …….. ……6 VHW.....……..……7 FCHV……8 **Other Personnel** Trained TBA……..…..9 Untrained TBA……..…..10 Relative/Friend ……..…..11 Other, specify: _____12	
710	Where did this second check take place? PROBE TO IDENTIFY THE TYPE OF PLACE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF A HOSPITAL, HEALTH CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	**Public Sector:** Hospital ..... 1 PHCC ..... 2 Health post ..... 3 Sub-health post..... 4 **Private sector** Pvt. Clinic/n. Home..... 5 **Home** Your home ……..……..… 6 Other/TBA home ……..... 7 FCHV home……..……..8 Other, specify: _____ 9	

Q. #	Question	Codes	Go to Q.
711	Was [NAME] weighed any time after birth?	Yes……………………………………..1 No………………………………………2 Don't know………………………………8	 → 716 → 716
712	When was your baby [NAME] weighed the **first time** after birth?	Within 24 hours ……………………… 1 1-2 days……..…………………………2 3 days…………………………………..3 After 3 days ……………………………4 Don't know……………………………..8	
713	Where was the baby weighed?	**Public Sector:** Hospital .... 1 PHCC .... 2 Health post .... 3 Sub-health post... 4 **Private sector** Pvt. Clinic/n. Home.................................... 5 **Home** Your home ……………………………..… 6 Other/TBA home ………………………… 7 Other, specify: ____________________ 8	
714	Who weighed the baby?	**Skilled Personnel** Doctor…………………..…………….……..1 Staff Nurse . . . ………….………..……....2 ANM…………….……………………............ 3 **Trained Personnel** MCHW…………………..……...……..…4 HA ……………………………….……..…..5 AHW / CMA …………......….. ……..……6 VHW.......……………….……………….…7 FCHV……………………..………………8 **Other Personnel** Trained TBA…………………….…..…..…..9 Untrained TBA…………………....……10 Relative/Friend …………..……….……..11 Other, specify:_____________________12	
715	How much did [NAME] weigh? RECORD WEIGHT IN KILOGRAMS FROM HEALTH CARD, IF AVAILABLE.	KG FROM CARD ☐ . ☐ ☐ ……………….………1 KG FROM RECALL ☐ . ☐ ☐ ………….…2 DON'T KNOW………………………..99.98	
716	When [NAME] was born, was he/she 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	}→Sec. 8 (1–3)
717	Because your baby was small, did you receive extra visits from a health provider?	Yes……………………………………… 1 No……………………………………… 2 Don't know……………………………….8	
718	What advice did FCHV give when your baby [NAME] was small? **Probe:** What else advice?	Frequent breast feeding...............................1 Keep baby warm.. 2 Newborn danger signs................................ 3 Repeatedly weigh baby…........................... 4 Repeated visit .... 5 Other, specify:________ ______________6 FCHV not visited…………………………96 No advice...97 Don't know..98	 →722

Q. #	Question	Codes	Go to Q.
719	Following your last delivery, did the FCHV talk about "keeping the baby in skin-to- skin contact with the mother?"	Yes……..1 No……...2	
720	Because your baby was small, was [NAME] referred to a health facility?	Yes…… 1 No…… 2	→722
721	Did you take the baby to health facility?	Yes……..…….1 No..……..……..2	
722	Because your baby was small, did you give extra care to your baby?	Yes…… 1 No…… 2	→724
723	What extra care did you give to your baby? CIRCLE ALL MENTIONED.	More frequent breastfeeding…… 1 Skin-to-skin care…….. 2 Fed by cup or spoon……3 Other, Specify: _____4	
724	Was the baby placed in SKIN-to-SKIN contact in the first 24 hours after delivery?	Not at all ……..1 A little (up to 2 hours total)……..2 Moderate amount (between 2 to 5 hours total)……3 A lot (more than 5 but less than 12 hours)…….…..4 Most of the time (day & night, more than 12 hours)…….……..5	→726
725	How soon after delivery was the baby placed SKIN-to-SKIN for the first time?.	Before the cord tied……..……1 After the cord tied, before the placenta delivered…….…2 After the placenta delivered, within the first hour after birth……..……3 After one hour after delivery……4 DK ……..…8	
726	For how many days did your baby get skin to skin contact?	Number of days: __| Not at all…… 96	→Sec. 8
727	Did your baby get skin-to-skin contact for 24 hours a day?	Yes……1 No…….2	→729
728	How many days did your baby get skin to skin contact for 24 hours?	Number of days: __|	
729	Who else did skin-to-skin contact for your baby? (Multiple Responses.)	Husband…….1 Mother-in-law……2 Other family member…….3 Other, specify: _____ 4 No one……7	

Section 8: Sick Newborn Care

Q. #	Question	Codes	Go to Q.
801	What are the danger signs/symptoms after giving birth indicating the need to seek health care for a baby less than a month? *When she has finished answering, ask* "Is there anything else?" *CIRCLE ALL RESPONSES MENTIONED.* .	Fever……1 Unable to suckle/feed……2 Difficult/fast breathing……3 Diarrhea……4 Convulsions……5 Persistent vomiting……6 Yellow palms/soles/eyes/jaundice……7 Lethargy……8 Unconsciousness……9 Red/discharging eyes……10 Skin pustules……11 Skin around cord red……12 Pus from cord……13 Failure to pass urine……14 Shivering/cold baby/low temperature……15 Bluish palms and soles……16 Very small baby/below normal weight……17 Baby doesn't cry at birth……18 Baby cries stridently……19 Other, specify: _____20 Do not know……98	
802	Did [Name] experience any danger sign/symptoms during the first month following delivery?	Yes……1 No……2 Don't know……8	→End the interview → End the interview

803 What were the danger signs/symptoms that [NAME] experienced?

Circle all responses which the mother mentions unprompted. Then ask, "Is there anything else."
THEN, READ EACH QUESTION AND CIRCLE "2" FOR "YES" OR "3" FOR "NO."

		Unprompted	Prompted		Most serious episode (Q806)
		Yes	Yes	No	
1	Fever	1	2	3	4
2	Unable to suckle/feed	1	2	3	4
3	Difficult/fast breathing	1	2	3	4
4	Diarrhea	1	2	3	4
5	Convulsions	1	2	3	4
6	Persistent vomiting	1	2	3	4
7	Yellow palms/soles/eyes/jaundice	1	2	3	4
8	Lethargy	1	2	3	4
9	Unconsciousness	1	2	3	4
10	Red/discharging eyes	1	2	3	4
11	Skin pustules	1	2	3	4
12	Skin around cord red	1	2	3	4
13	Pus from cord	1	2	3	4
14	Failure to pass urine	1	2	3	4
15	Shivering/cold baby/low temperature	1	2	3	4
16	Bluish palms and soles	1	2	3	4
17	Very small baby/below normal weight	1	2	3	4
18	Baby doesn't cry at birth	1	2	3	4
19	Baby cries stridently	1	2	3	4
20	Other (specify):_____	1			4

Q. #	Question	Codes	Go to Q.
804	How many episodes of illness did [NAME/BABY] have up to the age of 1 month?	Number [___|___]	
805	How many times did you seek medical help up to the age of 1 month?	Number of times …..…… |__| Never ever examined ……97	
806	**CHECK BOX: 8.1** **IF MORE THAN ONE EPISODE OF ILLNESS, IDENTIFY WHAT MOTHER FELT WAS MOST SERIOUS EPISODE. CHECK THE APPROPRIATE BOX IN THE LAST COLUMN IN THE TABLE FOR Q 803**		
807	MOST SERIOUS ILLNESS How old was [NAME] when the problem started? If less than 1 day, record hours. If less than 1 week, record days. Otherwise record weeks.	HOURS 1□□ DAYS 2□□ WEEKS 3□□ DON'T KNOW…….998	
808	How was [NAME] treated for this illness at home? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anything else." *Then, read each question and circle "2" for "yes" or "3" for "no."*		

	Unprompted Yes	Prompted Yes	Prompted No
1 By giving drugs	1	2	3
2 By giving herbs	1	2	3
3 By bringing health provider to home	1	2	3
4 By taking advice of the health provider	1	2	3
5 Other (specify)	1		
97 No treatment	7		

809	How long after illness started was care initialized at home?	Hours [___|___] Days [___|___] No care given at home…….……96 Don't know..... 98	
810	Did you seek advice or treatment for the illness outside the home?	Yes.....1 No .....2 Don't Know 8	→823 →823
811	How much time after illness started was [NAME] brought outside the home for care?	Hours [___|___] Days [___|___] Don't know 998	
812	Whom did you go to for the **first time** for the problem?	**Skilled Personnel** Doctor……..……..……...1 Staff Nurse . . . ……..……..……....2 ANM…….……..... 3 **Trained Personnel** HA/AHW…….……..……..…4 MCHW …….……..……..5 VHW.....…….……6 **Other Personnel** FCHV…….……..……7 TTBA……..……..……...8 TBA……..……..……9 Relative/Friend ……..……..……..10 Other, specify:_____11	

Q. #	Question	Codes	Go to Q.
813	From where did you seek care for the first time?	**Public Sector** Hospital ..... 1 PHCC ..... 2 Health post ..... 3 Sub-health post..... 4 **Private sector** Pvt. Clinic/N. Home..... 5 **Home** TBA home …….... 6 FCHV home……7 Other, specify: _____ 8	
814	How did you take [NAME] to the hospital/clinic/care provider? **(Multiple Response)**	Taxi…….1 Bus…….2 Bicycle……3 Motor Cycle……4 Horse/Donkey……5 Horse/Donkey Cart/Bullock cart……..6 On foot……..……7 Other (specify) _____…….8	
815	Was it difficult to find the transport?	Yes……1 No……..2 Don't Know……...8	
816	How much time did it take to go there?	Minutes [_____]_____] Hours [_____]_____] Don't Know……998	
817	On your way to the health facility (other), what did you do to care for your baby? *Circle all responses which the mother mentions unprompted. Then ask,* "Is there anything else." *Then, read each question and circle "2" for "yes" or "3" for "no."*		

		Unprompted	Prompted	
		Yes	Yes	No
1	Skin-to-skin	1	2	3
2	Kept baby bundled	1	2	3
3	Breastfed	1	2	3
4	Other (specify)_____	1	2	3
7	Nothing	7		
8	Don't Know	8		

	<u>Check Box 8.2 Interviewer</u>: Check question 812 and circle below: Examined by an FCHV ....1 Not examined by an FCHV..... 2	→ 819
818	If examined by an FCHV, did she give a referral form to call the VHW/MCHW? (**Note:** show referral/call form)	Yes ……1 No ……..2	
819	At that time, was a pediatric tablet of Cotrimoxazole given?	Yes ……1 No ……..2	→824
820	How many days did you give Cotrim?	#Days ……... ☐☐	
821	What was the condition of your baby [NAME] at last dose of Cotrim?	Improved..... 1 Worse ……2 Same ……3 Dead……4 Don't' know……8	
822	Did you pay for Cotrim?	Yes……1 No……2	→824 →824

Q. #	Question	Codes	Go to Q.
823	Why didn't you seek care for your neonate outside your home? If the respondent says, respected 'FAMILY MEMBERS DID NOT ALLOW', probe to identify who that family member is: husband? Mother? Mother-in-law? Father? Father-in-law? Grand mother/grand father? Specify		

		Unprompted	Prompted	
		Yes	Yes	No
	1 Expecting self resolution of the illness	1	2	3
	2 Health facility too far/no transportation	1	2	3
	3 Cost of treatment service high	1	2	3
	4 Don't trust facility/poor quality of care	1	2	3
	5 Respected family members did not allow	1	2	3
	6 The traditional birth attendant didn't allow	1	2	3
	7 Not customary to seek care outside home after childbirth	1	2	3
	8 Other (specify): _____	1		
	97 No reason given	7		
824	Now I would like to know how frequently your baby was breastfed during the illness. Was he/she breastfed less than usual, about the same or more than usual frequency?	Less than usual……..... 1 Same as usual…….....2 More than usual……..…3 Nothing to drink ……...…4 Don't know . …….....…..... 8		

Thank you for your time and cooperation in answering my questions. The information that you have provided will help us to improve the health of women and children throughout Nepal.