

# Family Planning, Maternal, Newborn and Child Health Situation in Rural Nepal: A Mid-term Survey for NFHP II



## Summary Report

March, 2010



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# **Family Planning, Maternal, Newborn and Child Health Situation in Rural Nepal: A Mid-term Survey for NFHP II**

## **Summary Report**

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**March, 2010**



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New ERA



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# INTRODUCTION

## Background and Scope of the Survey

Nepal Family Health Program (NFHP) Phase II (2007-2012) aims to improve the delivery and use of basic public sector family planning, maternal, newborn, child health, and literacy/life skills services, in a manner that builds local capacity to provide these basic services. The intensive focus of the program are 20 districts which consists of 12 terai, 6 hills and 2 mountain districts spread over four development regions of the country (excludes western region). NFHP-II has an intensive monitoring and evaluation plan to track the program progress and impact which maximize to use existing data sources. For measuring program outcome and impact NFHP-II relies on use of Demographic and Health Survey data. The 2006 NDHS data was analyzed to create the baseline statistics for the NFHP-II districts.

## Objectives of the Survey

The basic objective of this survey was to monitor change in the NFHP-II's impact and outcome indicators and identify differentials and gaps on FP/MNCH services. The specific objectives included documenting changes in fertility rate, changes in mortality rates for neonates, infant, child and under-five, family planning, maternal health, newborn care practices and child health status.

## Sample Design

The study adopted basic methodology consistent with the 2006 NDHS as the information derived from the Mid-term assessment was to be comparable with the baseline data as derived from the 2006 NDHS. Such comparison can be made against the rural national sample of 2006 NDHS, and against a derived 2006 NDHS sample from rural clusters in the same 40 districts as sampled in this survey which serve as baseline. The primary sampling unit (PSUs) in the 2006 NDHS was a ward, sub-ward, or a group of wards in rural clusters derived through probability proportional to their size (PPS). The clusters in the 2006 NDHS and the Mid-term have been overlapped to allow for comparison over time. The Mid-term survey included 40 districts having a total of 111 rural clusters. As the NFHP II program covered rural locations the present study basically reflect the situation of rural Nepal.

The second stage of sampling included selection of households from the household listing, which was carried out during the main survey unlike the 2006 NDHS where listing operation was carried out before the main survey. Once the household list was updated the selection of households was done using the same procedure as 2006 NDHS whereby a group of 12 households were formed and systematic random selection of three blocks was carried out. Therefore, each cluster had 36 households selected for interview, which provided for some 3,932 households. A total of 5,019 women were interviewed.

**Table 1: Sample details**

Sample description	Rural Nepal 2006	Baseline 2006	Mid-term 2009
Sample districts	75	40	40
Rural clusters	178	111	111
Households sampled	7,234	3,942	3,932
All women interviewed	9,106	5,162	5,019
Currently married women interviewed	7,031	4,021	3,825



The statistics for various indicators have been computed by weighted analyses for making allowance for any disproportionate sampling at any stage of the sampling procedure. For this, records of population sizes of the clusters and the actual sample size drawn from the cluster were used in computing appropriate weights for each case. The weights are calculated by dividing population weight by sample weight for each cluster. A population weight for a cluster is the cluster population divided by the total population size from all the clusters. Similarly, a sample weight is the total sample in the cluster divided by total sample size for all the clusters.

For chosen indicators or variables, estimates of the prevalence (percentages) were obtained across the districts with appropriate weighing for the differences in the population sizes of the 40 districts under study. The results summarized show the estimates as well as the actual sample size used for each estimate. Comparisons are made for all the 40 districts between 2009 Midterm survey and 2006 NDHS baseline. Comparisons are made for the statistical significance using z-statistic at 0.05 level of significance. That is, for each comparison the hypothesis is that the observed difference is indicative of a true difference in the population in the two periods against the null hypothesis that the differences observed are due to chance alone. In the summary tables presented, asterisks (\*) have been indicated for the 2009 estimate if it is significantly different from the 2006 estimate at the said 0.05 level of significance (for either positive or negative change).

## BACKGROUND CHARACTERISTICS

The study was conducted among women of reproductive age 15-49 years in the selected households. More than half of the respondents (57 percent) were less than 30 years of age with one in five being in the age group 15-19 years. Seventy-six percent of the respondents were married while 20 percent were never married and some four percent were either divorced/separated or widowed.

About half of the respondents had never attended school while 16 percent had attained primary education, 24 percent had some secondary and 10 percent had attained SLC and higher level of education. A majority of the respondents were from terai region (79 percent) with 21 percent belonging to hill/mountain region. The sample population was spread equally in the East/central region and the West/Mid/Far west regions of the country<sup>1</sup>.

Majority of the survey population were Hindu (87 percent) with 4 percent Buddhist and Kirat each. Three percent of the respondents were Muslims while two percent were Christian. The study covered different caste ethnic groups.

### Status of Husband Living Away from Home

One of the key background information of the respondents' demographic and reproductive behavior is determined by their marital status and also the pattern of husband being away from home for any extended period of time. There has been a significant change in the pattern of husbands being away from home in the recent years. Nearly one in three women had their husbands living away from home during the survey period. More than half of the women who reported that their husbands are currently away had recently parted.

**Table 2: Trend in status of husband living away from home**

Percent distribution of currently married women age 15-49 by information on husband being away from home, according to rural figures 2006 NDHS and Mid-term survey 2009

Background characteristics	Husband is away	Living with husband	Total
<b>Rural 2006 NDHS</b>	27.4	72.6	7,031
<b>Mid-term survey districts</b>			
Baseline 2006 NDHS	28.7	71.3	4,021
Mid-term survey 2009	31.5*	68.5	3,825

Note: \* This value differs significantly from the value of 2006.

<sup>1</sup> It can be noted here that due to the sample size and representative ness of the survey population the assessment is done based on two broad regional categories (i.e. East/central and West/mid/far west regions) for the purpose of this study.

## FERTILITY, TRENDS AND DIFFERENTIALS

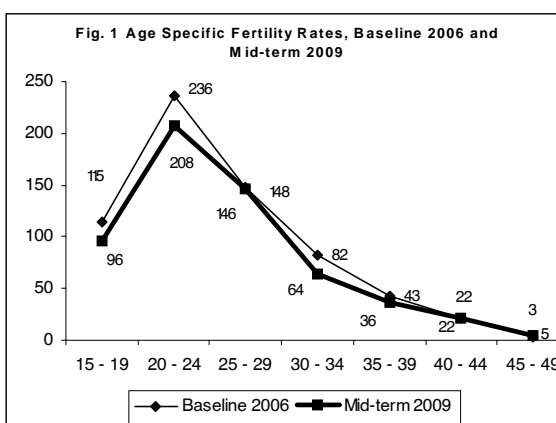
The study estimates the total fertility rate of rural women in Nepal as 2.9 births per woman. The baseline 2006 indicated 3.2 births per woman in the study districts, close to the national rural 2006 NDHS figures (3.3 births per woman). However, this change in the total fertility rates for the Mid-term Survey is not statistically significant and does not reveal an actual declining trend though it indicates the total fertility rates have been low in the recent times consistent with the findings of the 2006 NDHS<sup>2</sup>. It can be noted here that the Millennium Development Goal of reaching the total fertility rate of 2.5 has been the target for Nepal.

**Table 3: Current fertility**

Age-specific and total fertility rate, the general fertility rate, and the crude birth rate for the three years preceding the survey, by rural figures 2006 NDHS and Mid-term Survey, 2009

Age group	Rural	Mid-term survey districts	
	2006 NDHS	2006 NDHS	2009 NFHP
15-19	103	115	96
20-24	248	236	208
25-29	151	148	146
30-34	93	82	64
35-39	52	43	36
40-44	17	22	22
45-49	2	3	5
TFR (15-49)	3.3	3.2	2.9
95% CI	(3.084-3.579)	(2.912-3.488)	(2.622-3.178)
GFR	123	122	108
CBR	29.5	29.3	26.4

TFR: Total fertility rate expressed per woman  
 GFR: General fertility rate expressed per 1,000 women  
 CBR: Crude birth rate expressed per 1,000 population  
 Notes: Age-specific fertility rates are per 1,000 women.  
 Rates for age group 45-49 may be slightly biased due to truncation.



The age-specific fertility rates reveal that there is a sharp decline in the fertility rates after age group 20-24 years as most women tend to have children before 25 years. Similarly, an obvious decline in fertility was observed among women 30-34 years.

Women in the hill/mountain regions have higher fertility rate when compared to those living in the rural Terai. Further, women in the West/Mid/Far western region have higher fertility rates than those living in the East/Central region. Women with no education and those living in the lowest wealth quintile have higher fertility rates. The study indicated six percent of rural women being currently pregnant.

<sup>2</sup> The results do not reveal significant change in fertility as the 95% confidence interval overlap for the two rates.

## CONTRACEPTION

### Knowledge on Contraceptive Methods

The Mid-term Survey indicated that knowledge on any contraceptive methods was universal among rural women of reproductive age (15-49 years). Women were more aware about the modern methods of contraception than the traditional methods. Among the modern methods the least heard of was IUD, implants, and emergency contraception. However, there has been a significant rise in knowledge on these methods since the baseline 2006. For instance, when 67 percent of women of reproductive age had ever heard about IUD in 2006 this has improved to 75 percent in 2009. The mean number of methods known has increased from 7.2 to 7.6 among women of reproductive age in rural Nepal.

### Use of Contraception

One in two women in rural Nepal used a method of contraception with 45 percent using any modern contraceptive method. This result indicates that earnest effort is required to attain the MDG target of 67 percent for contraceptive prevalence by 2015. The findings indicate that the most common method used by women of rural Nepal was female sterilization (22 percent) followed by injectables (8 percent). Male sterilization was used by 5 percent of rural women while 4 percent used condoms and 3 percent used pills. Nearly 5 percent of rural women were using a traditional method with withdrawal being the most common traditional method (4 percent).

Women in the older cohort (30 years and above) mostly used female sterilization while in the younger cohort (less than 30 years) mostly used other temporary methods like injectables, condoms, and pills. Use of traditional method was more prevalent among women in the older age group compared to those in the younger age group.

There was hardly any significant rise in the proportion of currently married women using a modern method of contraception since the baseline of 2006.

However, the use of implants has become common in the recent years.

### Source of Modern Methods of Contraception

In general, the study indicated that there has been significant decline in the government sector being the prime source of contraception with non-government sector taking a significant leap over the years. On the other hand, the role of private sector has remained same over the years.

**Table 4: Trends in current use of modern contraceptive methods**

Percentage of currently married respondents age 15-49 by contraceptive methods currently used, according to rural figures 2006 NDHS and Mid-term survey 2009

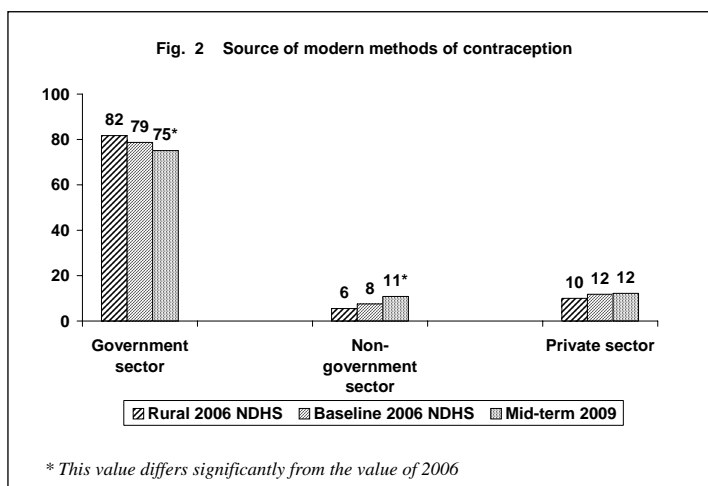
Method	Rural 2006 NDHS	Mid-term survey districts	
		2006 NDHS	2009 NFHP
<b>Any method</b>	45.9	47.9	49.6
<b>Any modern method</b>	42.5	44.1	45.1
Female sterilization	18.1	22.1	22.4
Male sterilization	6.2	5.0	5.3
Pill	3.3	3.4	3.3
IUD	0.6	0.6	0.2*
Injectables	9.7	8.5	8.1
Implants	0.7	0.6	1.4*
Condom	3.9	4.0	4.3
<b>Any traditional method</b>	3.4	3.8	4.5
Rhythm	1.1	1.2	0.7*
Withdrawal	2.2	2.6	3.7*
Folk method	0.0	0.0	0.0
<b>Not currently using</b>	54.1	52.1	50.4
<b>Total</b>	100.0	100.0	100.0
Number of women	7,031	4,021	3,825

Note: If more than one method is used, only the most effective method is considered in this tabulation.

\* This value differs significantly from the value of 2006.

However, government sector is still an important source for male (93 percent) and female sterilization (81 percent). The role of Non-government sector in providing service on female sterilization has more than doubled in the last three years. Female sterilization is being carried out by FPAN (7 percent) and Marie Stopes (8 percent). It was reported that 38 percent of the women received pills from FCHV in 2009 compared to 13 percent in 2006.

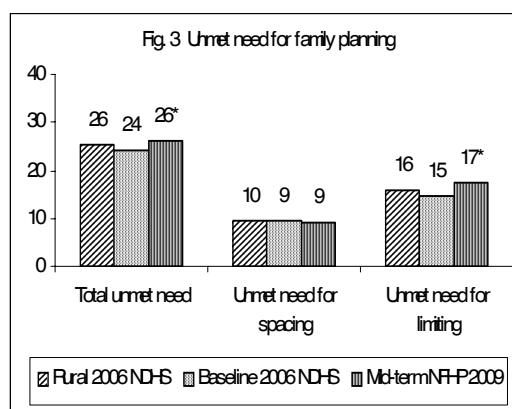
Similarly, 24 percent of rural women received condoms from FCHVs in 2009 compared to 13 percent in 2006. Role of pharmacies as prominent providers of condoms still remains the same with 47 percent of rural women still getting condoms from pharmacies. However, the role of shops has declined steadily over the years from 9 percent to 2 percent in 2009.



Sangini service centers are gaining ground in providing injectables to women whereby 7 percent of women reported receiving it from these centers. Similarly, increasing number of women are receiving injectables from pharmacies (16 percent) compared to some three years ago (6 percent).

### Need for Family Planning Services

The study indicated that 26 percent of currently married women in the rural Nepal have an unmet need for family planning. Among these 9 percent have an unmet need for spacing while 17 percent have unmet need for limiting. There has been a significant rise in the unmet need for family planning since the last three years when it was 24 percent in the 2006 baseline (Fig. 3). This has been contributed significantly by the unmet need for limiting with a rise by 18 percent. This could partly be due to the fact that the proportion of women using sterilization (including male) has remained stagnant indicating the demand for limiting not being fulfilled. This has a programmatic implication of meeting the demand appropriately. Overall, the total demand for family planning has increased over the years.



Note: \*Value differs significantly from the value of 2006

The current total demand for family planning methods has been as high as 76 percent with major share being for limiting child birth.

Therefore, if all the unmet need was fulfilled the contraceptive prevalence would increase to 76 percent. Currently 65 percent of the total need for family planning has been met among the currently married women of rural Nepal.

Moreover, even among the non-users, four in five women intends to use a method of family planning in the future. This will increase the total demand for family planning methods in the near future. When explored into the reasons for non-use of family planning methods among the non-users there has been a strong health concern and worry about side effects among more women in the recent years than during the baseline. If proper information can be disseminated among these women their possibility of using a method would rise.

### **Exposure to Family Planning Messages**

Four in five women mentioned that they had heard messages on family planning from radio. Nearly two in five mentioned that they had seen messages on family planning from television. Posters/billboards were also important source of messages with nearly one in two (49 percent) women having seen messages on these. About 13 percent of the women had never seen any messages on family planning from any of these sources.

There has been a significant rise in proportion of women hearing messages on family planning from radio (80 percent) while a steady decline in seeing messages through television (39 percent) and newspaper/magazine (13 percent). With various media sources in play, significant decline is monitored among those who have never heard any family planning messages from any of these sources.

Women were also asked for their most preferred source of information on health and family planning issues. Most women reported radio (30 percent) as their most preferred source followed by health facility/health workers (28 percent) and FCHV (23 percent). It is interesting to note that though FCHV has been reported as a preferred source of information of family planning only 12 percent of women reported FCHV visiting them and discussing about family planning. This information provides room for scaling the contact of FCHV with the women in the community to provide information on family planning.

## INFANT AND CHILD MORTALITY

Over the years Nepal has been able to address the child health problems and has made drastic leap in reducing the infant and child mortality rates. It has been recorded that the infant mortality has declined by 41 percent (82 deaths per 1,000 live births to 48) over the past 15 years and the under five mortality has gone down by 48 percent (117 deaths per 1,000 live births to 61) as reported in 2006 NDHS. The current study took into account the last three years before the survey (2006-2008) to derive the mortality estimates avoiding possible overlaps with the baseline 2006.

### Levels and Trends

This study indicated that the neonatal mortality rate (20 deaths per 1,000 live births) and the postneonatal mortality rate (21 deaths per 1,000 live births) are more or less very similar indicating the risk of dying for children is not less from one month to 11 months of life (1-11 months). The infant mortality rate is estimated to be 41 deaths per 1,000 live births while the child mortality rate is 10 deaths per 1,000 live births. The under-five mortality is estimated to be 50 deaths per 1,000 live births in the three years preceding the survey.

Though there has been a declining trend in the mortality rates these figure are not statistically significant to depict the actual changes in the rates as the overlaps in the confidence interval are obvious for the two rates as indicated by the baseline 2006 and the mid-term survey 2009 (Fig. 4).

### Differentials in Childhood Mortality

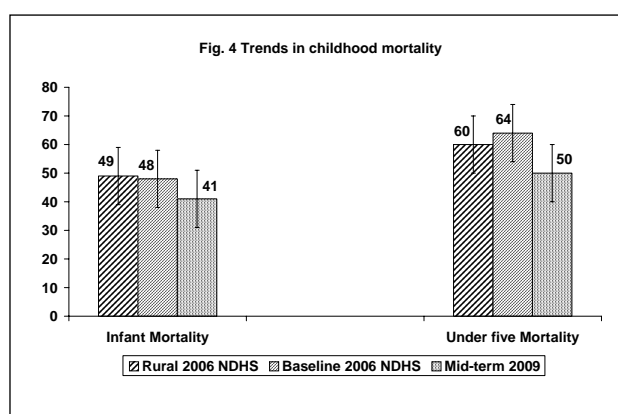
Some predominant differentials in childhood mortality have been observed in the current study, which has to be taken into account from programmatic point of view. The differentials in mortality has been analyzed for 10 years period preceding the survey. Though the holistic picture seems to be encouraging, the risk of children dying has been higher in the hill/mountain regions and more concentrated in the West/Mid/Far western development regions of the country (Table 6).

**Table 5: Trends in early childhood mortality rates**

Neonatal, postneonatal, infant, child, and under-five mortality rates for THREE-year periods preceding the survey, rural figures 2006 NDHS and Mid-term survey 2009

Age group	Rural 2006 NDHS	Mid-term survey districts			
		2006 NDHS	CI 95%	2009 NFHP	CI 95%
Neonatal mortality (NN)	31	32	(23.2 – 40.1)	20	(12.8- 27.3)
Postneonatal mortality <sup>1</sup> (PNN)	17	16	(10.0-22.4)	21	(13.5-28.6)
Infant mortality ( ${}_1q_0$ )	49	48	(37.5 – 58.1)	41	(30.7 – 51.4)
Child mortality ( ${}_4q_1$ )	12	17	(10.5-22.7)	10	(4.6-14.6)
Under-five mortality ( ${}_5q_0$ )	60	64	(52.1-75.4)	50	(39.1 – 61.4)

<sup>1</sup> Computed as the difference between the infant and neonatal mortality rates



**Table 6: Early childhood mortality rates by socioeconomic characteristics**

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by background characteristic, Mid-term Survey, 2009

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality <sup>1</sup> (PNN)	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
<b>Eco Region</b>					
Hill/Mountain	39	25	64	16	80
Terai	40	17	57	15	72
<b>Region</b>					
East/Central	45	11	57	13	69
West/Mid/Far West	35	26	61	19	79
<b>Sex of the child</b>					
Male	34	19	54	14	67
Female	45	19	64	17	80
<b>Mother's age at birth</b>					
<20	63	15	78	11	89
20-29	35	21	56	16	71
30-39	28	20	49	22	69
40-49	17	2	19	0	19
<b>Mother's education</b>					
No education	42	21	63	20	82
Primary	43	16	59	10	68
Some secondary	32	22	54	4	58
SLC and above	30	2	32	0	32
<b>Wealth quintile</b>					
Lowest	34	26	60	22	81
Second	34	22	56	17	72
Middle	41	22	63	15	77
Fourth	42	13	56	14	70
Highest	51	8	60	8	67

<sup>1</sup> Computed as the difference between the infant and neonatal mortality rates

The gender differences in the pattern of mortality have to be focused as more female children tend to die under the age of five. The risk of dying is higher among children born to mothers <20 years of age.

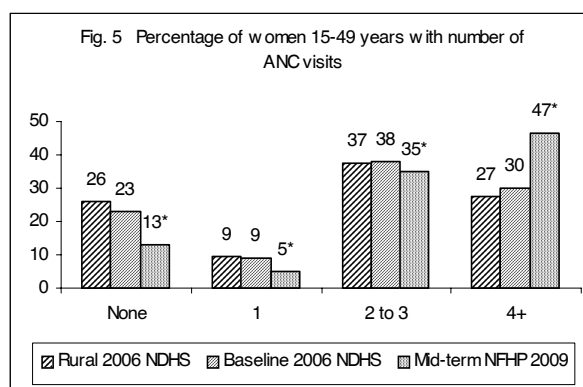
## MATERNAL HEALTH

Information of the maternal health care practices was solicited in the Mid-term Survey 2009 to get better understanding of the situation in the rural Nepal. The assessment of maternal health situation has been carried out for the three years preceding the survey to avoid possible overlap from the 2006 NDHS. This includes analysis of antenatal care services, delivery, postnatal care and newborn care situation.

### Antenatal Care

The practice of seeking antenatal care among rural women in Nepal has improved over the years. Forty-eight percent of women who had given birth in the three year preceding survey had sought antenatal care from Skilled Birth Attendants (SBA), which is a significant rise from the baseline 2006. The practice of seeking ANC service from doctors has specifically improved over the years with one in four women receiving ANC service from doctors.

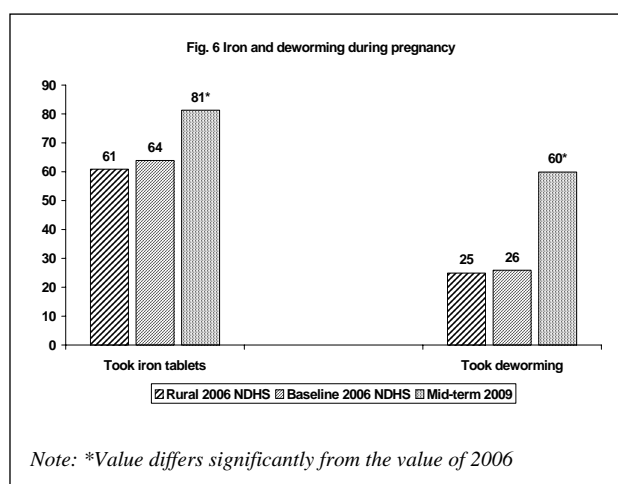
There has also been a significant rise in women receiving antenatal care four or more times during their pregnancy (Fig. 5). Though the promotion of focused antenatal care service has been in place the minimum number of times visits made still accounts for the service seeking practice. It can also be noted that there has indeed been a significant decline in women not receiving any ANC service during their pregnancy in the last three years.



Note: \*Value differs significantly from the value of 2006

Early visit to the health care providers during pregnancy has also been seen in rural Nepal with one in three women going for their first ANC visit within the first trimester of their pregnancy. This is a significant improvement over the last three years when 24 percent of women sought ANC within their first trimester of pregnancy.

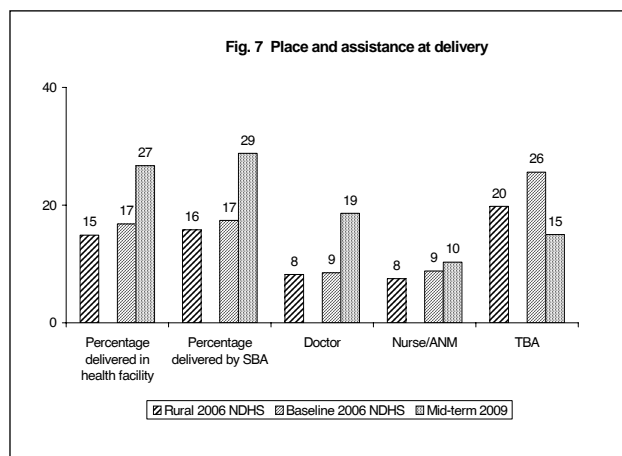
Four in five women took iron tablets during their pregnancy, a 27 percent rise since the baseline. Similarly, 60 percent of the women took intestinal parasite drugs during their last pregnancy. Seventy-two percent of the women received two or more doses of tetanus toxoid injection during their last pregnancy while overall, 89 percent of rural women had their last birth protected against neonatal tetanus.



Note: \*Value differs significantly from the value of 2006

## Delivery Care

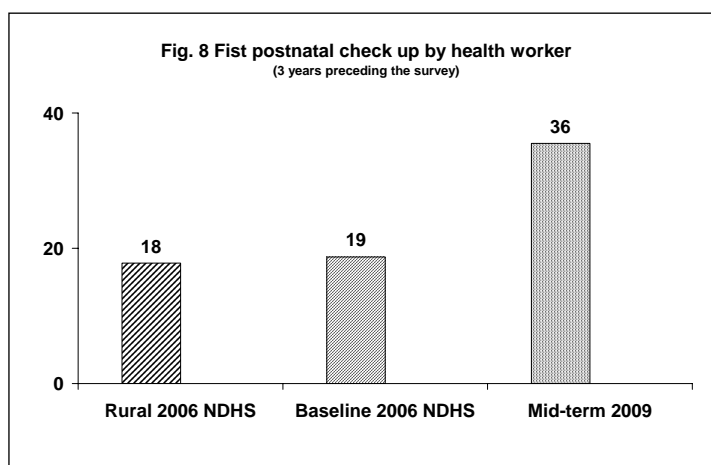
The findings indicated that 27 percent of rural women in Nepal had institutional delivery a significant improvement since the baseline 2006 when 17 percent of the rural women had institutional delivery. It can be noted here that government sector (20 percent) has been the important source for institutional delivery followed by the private sector (5 percent).



A marked rise in the involvement of SBA during delivery has been monitored over the years. When 17 percent of the births were assisted by SBA in 2006 it has risen to 29 percent in 2009, a 66 percent rise in the past three years. There has also been a significant rise in doctors assisting at delivery (19 percent). The practice of births being assisted by traditional birth attendants has been gradually phasing out. Similarly, women giving birth without any assistance have declined over the years.

## Postnatal Care

Proper and timely postnatal care is vital for the survival of mother and child. The findings of this survey indicate that some 36 percent of women who gave birth in the last three years had postnatal check up. Nearly one in four women received postnatal check up within 4 hours of delivery. Women more often received postnatal check up from doctors (14 percent), nurse/midwife (12 percent) and other health assistants/auxiliary health workers (8 percent). Overall, 26 percent of the women received postnatal check up from SBA. There has been a significant rise in the practice of women receiving postnatal check up.



## Newborn Care

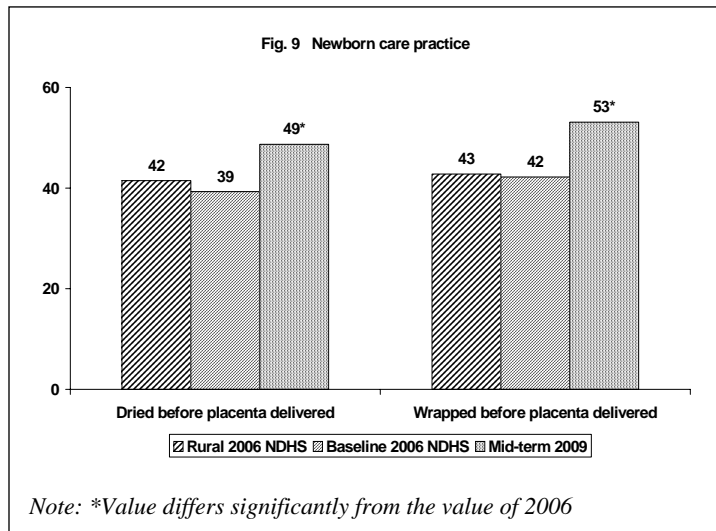
The early days of life are vital for survival of newborns. Information on newborn care practices was collected from mothers who gave birth to their babies other than in the health facilities. These care practices include use of safe delivery kits, cord care practices, drying and bathing newborn and other health care services.

Nearly a quarter of women mentioned that clean home delivery kit was used during delivery. About 64 percent of the women reported using new or sterilized blade to cut the umbilical cord. The proportion of women using safe practice on handling the umbilical has increased

over the years. However, one in five women mentioned that they applied oil on the stump of the child, which could lead to infection. Some 63 percent of the women mentioned that they did not apply anything on the stump.

The practice of keeping the baby dry immediately after delivery have improved and also the practice of wrapping the baby in clean cloth has become a common practice (Fig. 9). Though it is recommended that newborn should be bathed 24 hours after delivery only 18 percent of the newborns were bathed as recommended. Still most newborns were bathed within an hour of delivery. Though there has been improvement in the practice there is still room for improvement.

The prime messenger on proper practice of newborn has been the FCHV who visit door to door to provide important health information. Thirteen percent of the women were visited by FCHV within the first two months of delivery to provide care for the newborn.



It was interesting to note that 28 percent of the respondents mentioned that SBA provided care for the newborn within two months of delivery.

## CHILD HEALTH

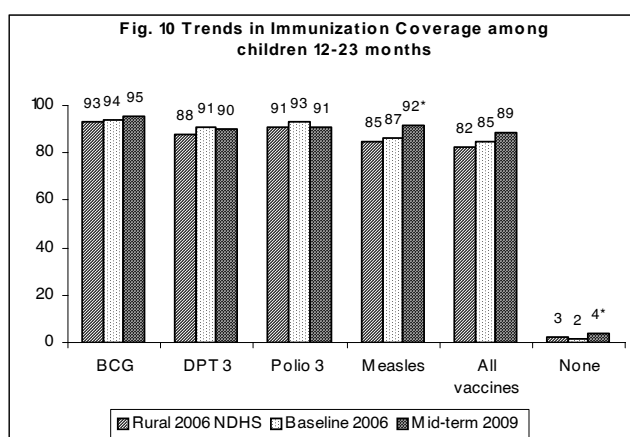
There has been a considerable improvement regarding the child health situation in Nepal. The 2006 NDHS witnessed four in five children being fully immunized. Children suffering from ARI and diarrhea have reduced over the years and the care seeking behavior among the general population has improved. The following section highlights the regarding these child health issues.

### Immunization Coverage

Nearly nine in ten children in rural Nepal are fully vaccinated, which has been commendable in the Southeast Asian region. However, a significant rise in children not receiving any vaccination at all has been seen over the years though it is just 4 percent.

There has been a significant rise in the proportion of children receiving measles vaccination since the baseline (a rise from 85 percent to 92 percent).

Slightly higher proportion of children received BCG vaccination while there was a drop out by 6 percentage points by the time they were to receive complete vaccination coverage. Emphasis on taking the third doses of DPT, polio and measles should be encouraged.



Note: \*Value differs significantly from the value of 2006

### Childhood Illnesses and Treatment Practices

Among the various childhood illnesses Acute Respiratory Infections and diarrhea has been the major cause of death of Nepalese children under five years of age. Information on the prevalence of ARI and diarrhea was solicited in the Mid-term Survey 2009. This involved collecting information on the illness for the two weeks preceding the survey based on the mother's recall.

In case of ARI, mothers were asked if their children under five years had been ill with cough accompanied by short, rapid breathing and difficulty in breathing as a result of problem of chest, which is indeed a symptom of ARI. It can be noted here that there was no clinical verification carried for the survey.

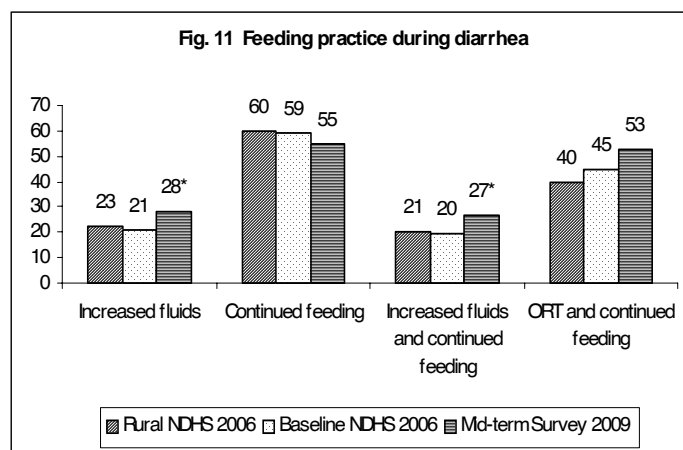
About 4 percent of children showed any signs and symptoms of ARI in the two weeks preceding the survey. There has been a declining trend in the prevalence of ARI in the country, which could be attributed by the early detection of the problem in children. This could partly be contributed by the community-based ARI intervention programs being in place in Nepal. More than half (54 percent) of the children with symptoms of ARI were taken to health facilities for treatment. This is a significant improvement since the last three years when only 36 percent of children having symptoms of ARI were taken for treatment.

Similarly, 19 percent of children in rural Nepal suffered from fever in the two weeks preceding the survey. Though fever in itself may not be a serious problem it is an indication of some type of infection or other ailments. Nearly one-third of the children who suffered from fever in the two weeks preceding the survey were taken to a health facility or provider for treatment. Twenty-one percent of these children were given antibiotic drugs. However, there has not been any significant improvement on practice of seeking health care during fever among children.

Another killer illness among Nepalese children is diarrhea whereby some 5 percent of children under five years die due to diarrhea with some 13 percent of children 12-59 months dying due to diarrhea. The present study indicated that the prevalence of diarrhea is still high in rural Nepal with 14 percent of children were suffering from diarrhea during the two weeks preceding the survey. About two percent of these children had bloody diarrhea.

As recommended, early and proper management is essential for the well being of children and the study indicated an improvement in practice of management of diarrhea among children. About 35 percent of children suffering from diarrhea were taken to a health care provider<sup>3</sup>. Similarly, the practice of giving ORS during diarrhea has also improved significantly since the baseline, a rise from 38 percent to 46 percent. Though very uncommon during the baseline, the practice of giving Zinc supplements during diarrhea has improved over the years with 7 percent of children receiving it during their last episode of diarrhea.

Among those who were taken to a health facility for treatment of diarrhea about one in five were taken to government health facility while some 47 percent received treatment from the private sector. The role of FCHVs in providing services during diarrhea has become prominent with 15 percent reporting it.



Note: \*Value differs significantly from the value of 2006

Similarly, management of diarrhea at the household level has also improved over the years with 27 percent of children given increased fluids and continued feeding as recommended. Moreover, more than half of these children were given ORT (ORS packet and increased fluids) and continued feeding, which is the appropriate practice of managing diarrhea at the household level.

<sup>3</sup> This excludes pharmacy, shops and traditional practitioners

## **NUTRITION OF CHILDREN AND WOMEN**

The Mid-term Survey 2009 assessed the nutritional status of women and children in the study districts. The information on nutritional status basically included the early initiation of breastfeeding, breastfeeding and complementary feeding practices, Infant and Young Child Feeding (IYCF) practice, micronutrient intake among women and children and their nutritional status measured through height and weight assessment.

### **Breastfeeding and Complimentary Feeding**

It is vital for a newborn to be breastfed within an hour of delivery. The findings indicated that about two in five newborns were breastfed within an hour of delivery. The practice is more prevalent among children born in health facilities (50 percent) than those born non-institutional setting (37 percent). There has been a significant decline in the practice of providing prelacteal feed to newborns, a decline by 21 percent.

Though it is recommended that newborns should be exclusively breastfed till 0-5 months (<6 months), the Mid-term Survey 2009 indicated that only 43 percent of children less than six months were exclusively breastfed. There has been an increasing practice of giving water with breastfeeding in the recent days. However, early initiation of complementary feeding has not been observed indicating mothers emphasizing on breastfeeding for children 0-5 months. Similarly, as recommended, the practice of continued breastfeeding among children 12-15 months has been encouraging in rural Nepal with 97 percent of these children being breastfed along with other food.

Introduction of complementary feeding for infants should be at the age of 6 months. The assessment as done by the IYCF indicator assesses proportion of children receiving solid, semi-solid or soft foods. The Mid-term Survey 2009 indicated that 63 percent of these children were introduced to solid, semi-solid or soft foods.

The IYCF assesses the feeding practice for children 6-23 months based on the frequency of feeding and dietary diversity. The findings indicate that some 70 percent of children 6-23 months receive the minimum dietary diversity in rural Nepal. Similarly, 82 percent of children 6-23 months receive meals at the minimum frequency required for growth. Therefore a composite review of these indicators, known as the *minimum acceptable diet*, shows that 64 percent of children 6-23 months receive the minimum acceptable diet for optimal growth requirement. This is a significant improvement from the baseline 2006 (57 percent).

### **Micronutrient Intake among Women and Children**

Information on micronutrient intake among women and children was collected for the Mid-term Survey 2009 with specific reference to intake of vitamin A and iron rich food and the vitamin A and iron supplements.

The dietary intake information was taken for children under three years of age and their mothers on the basis of a 24 hour recall. The study found that about two in three children (67 percent) under the age of 3 years and four in five mothers (80 percent) of these children

consumed food rich in Vitamin A in the 24 hours preceding the survey. On the contrary, only a quarter of children and 29 percent of mothers consumed food rich in iron. This could be an indication of food availability and affordability in the context of rural Nepal.

In order to meet the demand of micronutrient nutrients, which is so vital for growth and development there has been a mechanism of universal coverage of vitamin A and iron supplementation, which is carried out through regular campaigns. The study indicated that 92 percent of children 6-59 months received vitamin A during the recent round of National Vitamin A Program (NVAP). In order to protect children from anemia it is equally important to address the possible worm infestation among children. The NVAP in the recent years have included supplementation of deworming tablets to children 12-59 months. Some 89 percent of eligible children in rural Nepal received deworming tablets during the recent distribution.

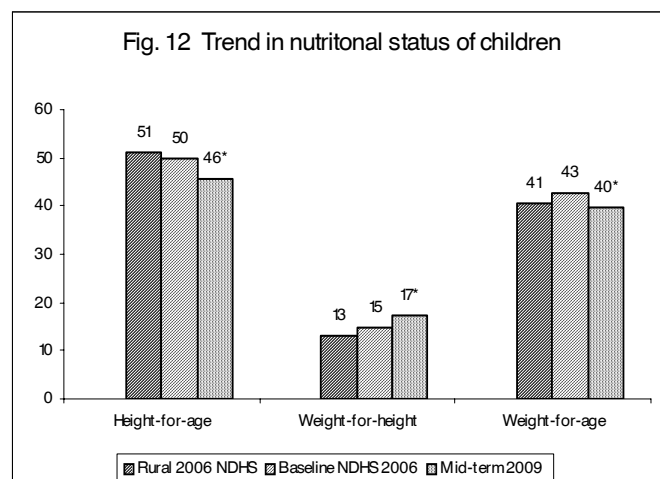
More than four in five women reported receiving iron tablets during their last pregnancy, which is a significant rise from the baseline 2006. However, only a quarter of the women took the iron tablets for the recommended duration of 180 days. There has been a significant rise in women receiving postpartum iron tablets (46 percent) and those receiving postpartum Vitamin A dose (48 percent).

### Nutritional Status

The Mid-term survey 2009 indicated some improvement in the nutritional status of children in rural Nepal. Nutritional status of children was assessed through the anthropometric measurements. The assessment of height-for-age (stunted), weight-for-height (wasted) and height-for-age (underweight) in relation to the reference population as recommended by the WHO growth standards was carried out.

There has been a significant reduction in the proportion of children who are stunted, a reduction from 50 percent to 46 percent in 2009. Similarly, the proportion of children underweight has reduced significantly from 43 percent to 40 percent. This is an indication of reduction in the situation of acute and chronic malnutrition among children in rural Nepal over the years.

An assessment of nutritional status of women indicates that there has not been much improvement on the nutritional status of women in rural Nepal. About 27 percent of rural women still suffer from acute malnutrition with Body Mass Index (BMI) below the cut-off value of 18.5. Similarly, obesity as an indication of malnutrition has also been observed among women in rural Nepal.



Note: \*Value differs significantly from the value of 2006

## **HIV/AIDS KNOWLEDGE**

As indicated by the previous studies knowledge of rural women on HIV/AIDS has been relatively high in Nepal with 88 percent having ever heard about HIV/AIDS. This is a significant rise from the baseline 2006 when 65 percent of rural women had reported on hearing about HIV/AIDS.

### **Knowledge of HIV/AIDS Prevention and Transmission**

Among the various preventive measures on HIV/AIDS transmission respondents were asked if HIV could be prevented by using condoms every time one had sex, limiting sexual contact with only one uninfected partner, and abstaining from sexual intercourse. Compared to the baseline figures as reported during NDHS 2006, a significant proportion of women seem to be aware about these preventive measures on HIV/AIDS. More than 70 percent of all women were aware about these preventive measures with four in five women being aware about limiting sexual intercourse to only one uninfected partner.

### **Comprehensive Knowledge on HIV/AIDS Transmission**

Comprehensive knowledge on HIV/AIDS is derived to assess the ability of a person to correctly identify two major ways of preventing HIV/AIDS, namely, consistent use of condom and limiting sexual partners to one uninfected person while also being able to reject two major common misconceptions and then correctly mention that a healthy looking person could be infected with HIV/AIDS. In the context of the present study the common misconceptions assessed were transmission through mosquito bites and sharing food with someone with AIDS.

There has been a significant rise in the proportion of rural women having comprehensive knowledge on HIV/AIDS. This proportion has increased from 19 percent to 24 percent in 2009. However, it cannot be ignored that still 65 percent of rural women still think that HIV/AIDS can be transmitted through mosquito bites. However, some 71 percent believe that HIV/AIDS cannot be transmitted by touching someone who has AIDS.

Women most often thought HIV tests could be carried out in the government facilities (47 percent). About one in five women reported that the test could be carried out in private facilities. Still nearly half of the women did not know where they could go for HIV test. Only about four percent of the women had ever tested for HIV.

## **OTHER HEALTH ISSUES**

Information on other general health issues were solicited from women of the study districts. This included general practice on hand washing, knowledge on FCHV in their community and the services provided by them and also knowledge on health services provided by the government health facilities.

### **Hand Washing Practices**

The practice of hand washing with soap has improved over the three years period. The findings indicate that 74 percent of rural women used soap to wash their hands in the 24 hours preceding the survey, which has increased from 65 percent as reported three years ago. Overall, 86 percent of women reported having used soap in the 24 hours before the survey.

### **FCHV as Health Service Providers**

Rural women in Nepal were very much aware about FCHVs in their community with only 5 percent mentioning that they were not aware about the presence of FCHV in their locality. The average distance to reach an FCHV in their locality was 13 minutes indicating a close proximity to community level service. Only some 5 percent of women reported that distance to the nearest FCHV in the community was more than 30 minutes.

Women were mostly aware about the services provided by FCHVs in the community. The most commonly reported service from FCHV was distributing Vitamin A capsules (99 percent), giving advice to pregnant mothers (88 percent), giving advice on treatment of diarrhea (79 percent), advice and treatment of ARI (61 percent) and other health information. About half of the rural women were aware that about the mothers' group meeting that had participation of the FCHVs in the community. However, 72 percent of women had never participated in any of these meetings. Only 12 percent of these women had recently participated in these meetings within a month.

### **Awareness on Health Services in Government Facilities**

It is important to understand the level of knowledge of rural women on the services provided by the government facilities so that proper targeted programs can be formulated. More than two in three women were aware that there was free delivery service in the government health facilities. Similarly, 75 percent of the women knew that women would get incentives if they delivered in the government health facilities.

In order to derive information on the actual services they received in the government health facilities women who had visited government health facilities in the 12 months preceding the survey were asked if they had to pay registration fee, received prescription drug and if they received drugs free of cost. About two in three women did not have to pay registration fee in the government health facility. Seventy-six percent of these women received prescription drugs and among them 46 percent received medicine free of cost. This indicates that is still space for improvement in the services provided by the government health sector.

**Summary in Relation to Basic Target Indicators  
Mid-Term Survey Indicators – 2009**

S. No.	MDG goals (8 Goals)	2006 NDHS	2006 (Rural NDHS)	Baseline 2006	Mid-term Survey 2009	MDG target in 2015
<b>Goal 1</b>	<b>Eradicate extreme poverty and hunger</b>					
	Prevalence of underweight children under five years of age	38.6	40.7	42.6	39.7	29
<b>Goal 4</b>	<b>Reduce child mortality</b>					
	Under-five mortality rate (per 1,000 live births)	61	60	64	50	54
	Infant mortality rate (per 1,000 live births)	48	49	48	41	34
	Percentage of 1 year-old children immunized against measles	80.0	78.4	81.7	85.6	90
<b>Goal 5</b>	<b>Improve maternal health</b>					
	Percentage of births attended by skilled birth attendant	18.7	15.8	17.4	28.8	60
	Contraceptive prevalence rate (any)	48.0	45.9	47.9	49.6	67
<b>Other indicators</b>	<b>Other</b>					
	Total Fertility Rate	3.1	3.3	3.2	2.9	2.5



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