Home visits during the first month of delivery for Recently Delivered women in Uttar Pradesh, India

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Abstract: The current article of Uttar Pradesh (UP) is about the ASHAs who are the daughters-in-law of a family that resides in the same community that they serve as the grassroots health worker since 2005 when the NRHM was introduced in the Empowered Action Group (EAG) states. UP is one such Empowered Action Group (EAG) state. The current study explores the actual responses of Recently Delivered Women (RDW) on their visits during the first month of their recent delivery. From the catchment area of each of the 250 ASHAs, two RDWs were selected who had a child in the age group of 3 to 6 months during the survey. The response profiles of the RDWs on the post-delivery first month visits are dwelled upon to evolve a picture representing the entire state of UP.

The relevance of the study assumes significance as detailed data on the modalities of postnatal visits are available but not exclusively for the first month period of their recent delivery. The details of the post-delivery first month period related visits are not available even in large scale surveys like National Family Health Survey 4 done in 2015-16. The current study gives an insight into these visits with a five-point approach i.e. type of personnel doing the visit, frequency of the visits, visits done in a particular week from among those four weeks separately for the three visits separately. The current study is basically regarding the summary of this Penta approach for the post-delivery one-month period.

The first month period after each delivery deals with 70% of the time of the postnatal period & the entire neonatal period. Therefore, it does impact the Maternal Mortality Rate & Ratio (MMR) & the Neonatal Mortality Rates (NMR) in India and especially in UP through the unsafe Maternal & Neonatal practices in the first month period after delivery. The current MM Rate of UP is 20.1 & MM Ratio is 216 whereas the MM ratio is 122 in India (SRS, 2019). The Sample Registration System (SRS) report also mentions that the Life Time Risk (LTR) of a woman in pregnancy is 0.7% which is the highest in the nation (SRS, 2019). This means it is very risky to give birth in UP in comparison to other regions in the country (SRS, 2019). This risk is at the peak in the first month period after each delivery. Similarly, the current NMR in India is 23 per 1000 livebirths (UNIGME, 2018). As NMR data is not available separately for states, the national level data also hold good for the states and that’s how for the state of UP as well.

These mortalities are the impact indicators and such indicators can be reduced through long drawn processes that includes effective and timely visits to RDWs especially in the first month period after delivery. This would help in making their post-natal & neonatal stage safe. This is the area of post-delivery first month visit profile detailing that the current article helps in popping out in relation to the recent delivery of the respondents.

A total of four districts of Uttar Pradesh were selected purposively for the study and the data collection was conducted in the villages of the respective districts with the help of a pre-tested structured interview schedule with both close-ended and open-ended questions. The current article deals with five close ended questions with options, two for the type of personnel & frequency while the other three are for each of the three visits in the first month after the recent delivery of respondents. In addition, in-depth interviews were also conducted amongst the RDWs and a total 500 respondents had participated in the study.

Among the districts related to this article, the results showed that ASHA was the type of personnel who did the majority of visits in all the four districts. On the other hand, 25-40% of RDWs in all the 4 districts replied that they did not receive any visit within the first month of their recent delivery. Regarding frequency, most of the RDWs in all the 4 districts received 1-2 times visits by ASHAs. Regarding the first visit, it was found that the ASHAs of Barabanki and Gonda visited less percentage of RDWs in the first week after delivery. Similarly, the second visit revealed that about 1.2% RDWs in Banda district could not recall about the visit. Further on the second visit, the RDWs responded that most of them in 3 districts except Gonda district did receive the second postnatal visit in 7-15 days after their recent delivery. Less than half of RDWs in Barabanki district & just more than half of RDWs in Gonda district received the third visit in 15-21 days period after delivery. For the same period, the majority of RDWs in the rest two districts responded that they had been entertained through a home visit.
INTRODUCTION

As RDWs were selected from the catchment area of the ASHAs in the four districts, the following section briefs out the details on ASHAs. The ASHAs were recruited by the Local Self Governance from their own communities as per the guidelines set by NHM. Subsequent to the roll out of guidelines at the central level, the state of UP also rolled out the recruitment of ASHAs through the setting up of State Program Management Unit of NHM at state level and the District Program Management Unit (DPMU) at district level. These DPMUs helped set up the Block Program Management Unit at the block level. These units got in touch with the Panchayati Raj Institutions which was part of LSGs and these PRIs represented by the Gram Pradhans or the village panchayat head nominated the ASHAs from the respective communities. They attached the ASHAs with the public health system at the block level to work as ASHAs who are incentive based workers. (GOUP, PIP, NHM, 2008).

Like India, UP also went through the CHW scheme in 1970s through the introduction of Village Health Guide in 1977 (5th Plan GOI, 1974-79) and the concept was ratified further in the Alma Ata conference of 1978 on primary health care. On the other hand, with the introduction of Integrated Child Development Services in 1975 (5th Plan GOI, 1974-79) the Angan Wadi Workers were in place as CHWs in phases. Simultaneously, local Traditional Birth Attendants were in place since 1977 as CHWs (5th plan, GOI, 1974-79). Thereafter, the multipurpose male and female health workers came in to place through the Child survival and Safe Motherhood program in 1992 (Yearly Plan, GOI, 1992). Besides the sporadic efforts of NGOs putting in place CHWs through their small efforts in definite geographic areas, the cadre of Basic Health Workers were put in by the health system from 1992 till 2005 (GOI, 2005). Gradually the CHWs came here to stay with the introduction of ASHAs in 2005 through the introduction of NRHM (GOI, 2005). As per GOUP, there were 1,50,000 ASHAs in UP in 2019. The selection of RDWs in this study is dependent on the ASHAs.

Studies on RDWs in UP have not covered on responses related to the visits in the first month period postdelivery. Usually, this timing is clubbed with the post-natal visits. Actually, the postnatal visits are for a period of 42 days after delivery whereas the current article focuses only on the first month period after delivery. The details of the responses of RDWs on various modalities of the visits that includes the type of personnel, timing in weeks & frequency are not mentioned in many studies mentioned below including large-scale surveys like NFHS 4. The current article reflects on these aspects of each of the three post-delivery first month visit through the profile of actual responses given by the RDWs.

RDWS & THEIR POSTDELIVERY FIRST MONTH PERIOD IN UP

The current study done in 2017 is unique in the sense that it examines the responses of RDWs and their families in the catchment area of ASHAs regarding the visits within a month of their recent delivery. The study delves into the timing of the visits in weeks followed by the type of the personnel who did the visit including the frequencies of these visits. These responses of RDWs are influenced by the planned visits of the personnel who needs to track all the deliveries in their catchment area. This shows that the current article also throws a light on the planning of these visits by the personnel depending on their work load for that particular month. The following paragraph outlines the importance of the first month.
The prescribed schedule of postnatal visits in the book by World Health Organization on counselling for maternal & newborn health care mentions that the first visit should be within one week preferably on 3rd day of birth. Similarly, the 2nd & 3rd visit should be during 7-14 days & 4-6 weeks after birth respectively (WHO, NCBI, 2013). On the similar lines, the three visits in the first month after delivery in this article is per the weeks. The postnatal period is till 42 days or 6 weeks after delivery and the period mentioned in this article is for only 4 weeks period. It is to be noted that the time period range of the 3rd postnatal visit starts at 4 weeks & ends at 6 weeks.

The neonatal deaths were also related to the maternal deaths. In UP, 216 mothers died per 100000 live births whereas 122 mothers died in India per 100000 live births (SRS, 2019). Half of these deaths occurred in the neonatal period (INAP, GOI, 2014). This means during the first month after delivery, 50% of all maternal deaths happen. As the current MM rate of UP is 20.1, 10 of them die during the period of 42 days after delivery. Out of this, 7 die in the first month period as 30 days constitute 70% of the total postnatal period. Similarly, the current MM ratio of UP is 216 which means out of these deaths 108 die within 42 days after delivery & out of these 108 deaths 76 die during the first month after delivery. However, these are hypothetical numbers estimated using the time factor only. This aspect helps to value the importance of visits in the first month after delivery.

Further, this precarious situation makes the newborn more vulnerable as the maternal death became a barrier towards maintaining the vital indicators of warmth and breast feeding of the new-born (Chatterjee P, 2017). To address the problem of maternal deaths, GOI initiated the MAPDIER (Maternal and Perinatal Death Inquiry and Response) process in 2007 so that we can know the cause of death and prevent such deaths in future (Chatterjee P, 2007). Currently, this process is the Maternal Death Review as mentioned in the maternal health section of the PIP of NHM of Government of UP for 2019-20. These deaths can be prevented by the timely visits of the health personnel to the homes of RDWs especially in the first month after delivery. This is exactly the subject discussed in this article.

The report of NFHS 4 of UP mentions that 62% of mothers had a postnatal check after their most recent birth & 59% of mothers had a postnatal check within two days of their last birth. Further, 28% of last births in the five years preceding the survey received a health check in the first two days after birth. Among the home births, only 18% received a health check in the first two days after birth (NFHS 4, 2016). Thus, we see that the survey only mentions the visit in the first week after birth. It is also noted that the risks of a home birth in UP is very high as not all of these home births received a visit in the first month after delivery.

The breakup of visits in the first month after recent delivery in UP by ASHAs is mentioned in an evaluation study of ASHAs. As per the ASHAs, 42.4% Eligible Women (EW) were visited immediately after delivery, 55% of EW were visited twice a week, only 2% of EW were visited after a week and a mere 0.6% of EW were visited within a month (GOUP, 2013). Thus, the data on both the frequency & timings of the visits are clubbed together in this study unlike the current article that deals with this issue exclusively as per the first four weeks. The type of personnel other than ASHA is also not mentioned in the study mentioned above.

The breakup of home visits by ASHAs for the mothers & newborns as responded by Eligible Women (EW) in UP in another evaluation study in 2013 states that 15.2% of EW received a visit within one hour of birth, 18.2% of EW received two visits, 39.9% of EW received 3 to 5 visits & 26.7% of EW received more than 5 visits (GOUP, CCSP report, 2013). Here, it is to be noted that all these visits are in tune with the time period mentioned in this current article. It also focuses on the frequency of visits as mentioned in this article. The difference is that the evaluation does not segregate the visits by weeks nor by personnel.

Analysis of the causes of maternal deaths in UP is also reflected in a study by Lancet where UP was also a state as the study area. In the study, in UP 40738 number of pregnancies were identified out
of which 147 numbers were reported as maternal deaths. The cause determined deaths were 131 in number. Out of these, indirect causes of maternal deaths or non-obstetric complications contributed to 44% of deaths. Besides, the causes like hypertension during pregnancy, child birth & puerperium contributed 14 number of deaths or 11% of all the cause attributed maternal deaths (Lancet, 2018). This again reiterates the fact that number of deaths due to indirect causes & during puerperium can be reduced through effective home visits in the first month period after each delivery. Evidences have already shown that as maternal deaths are prevented and reduced, neonatal death prevention & reduction will follow (Chatterjee P, 2017).

Thus, it is seen that except one study, the breakup of the visits & other modalities like type of personnel & frequency is not mentioned exclusively in other studies. Further, these postdelivery first month visits if prioritized can reduce mortality of the mothers through early identification & referral. This aspect further substantiates the relevance of this article.

3 | RESEARCH METHODOLOGY

Using purposive sampling technique, four districts were chosen from the four different economic regions of UP, namely Central, Eastern, Western and Bundelkhand. Further, the Government of UP in 2009 categorized the districts as per their development status using a composition of 36 indicators. Purposefully, the high developed district chosen for the study is Saharanpur from the western region, the medium developed district chosen for the study is Barabanki from the central region, the low developed district chosen for the study is Gonda from the eastern region and the very low developed district chosen for the study is Banda from the Bundelkhand region (GOUP, 2009).

In the next step, purposefully two blocks were selected from each of the district and all the ASHAs in these blocks were chosen as the universe for the study. From the list of all the ASHAs in each of the two blocks, 31 ASHAs were chosen randomly from each block for the study. In this way, 62 ASHAs were chosen for the study from each of the districts. In Gonda district, 64 ASHAs were selected to make the total number of ASHAs for the study to 250. From the catchment area of each ASHA, two Recently Delivered Women (RDW) were chosen who had a child in the age group of 3-6 months during the time of the data collection for the study. In this way, 124 RDWs from three districts and 128 RDWs from Gonda district were chosen thus a total of 500 RDWs were selected for the study.

The data was analyzed using SPSS software to calculate the percentage and absolute values of three visits to the homes of RDWs as replied by RDWs using their detail responses regarding the personnel, frequency & timing of the visit in weeks. These visits are in relation to the first month period of the recent delivery of the respondents. The quantitative data related to these three visits during the month following the recent delivery of the respondents were seen in percentages as per the response of the RDWs. All these responses both in quality (type of personnel) & quantity (frequency, timing) form the basis of the ensuing results and discussion section given below.

Research tool
The RDWs were interviewed using an in-depth, open-ended interview schedule which had five sections that included a section on various components of Natal & Post Natal Care. The five tables mentioned here are from the section four of the tool that comes under the stage after a month of the delivery. The section 4 of the tool deals with Natal and Post Natal care. They were asked about the timing of these visits in weeks including the type of the personnel who did the visit. It also included the frequency of the visits. Five hundred research tools were used for the study to interview 500 recently delivered women who had a child in the age group of 3 to 6 months during the survey. The following section details out the results and discussions related to the study.

4 | RESULTS AND DISCUSSIONS

This section has five tables. The first table is about RDWs reply about the type of personnel visiting their homes after delivery for advice and newborn care. The second table is about the number of times these personnel visited during the first month of their delivery. The third table is whether the first visit was in the first week or afterwards. The fourth table is on the second visit & examines whether the visit was in the second week or afterwards. Similarly, the fifth table sees whether the third visit took place in the third week or afterwards. As there are three visits mentioned here, there are three tables on the timing of the visits & the other two focusing on the personnel and frequency of these visits. All the tables are regarding information on visits in the month following the recent delivery of respondents.

TABLE 1:

| Names of the districts & Number of RDWs surveyed (N=500). | Banda (N=124) | Barabanki (N=124) | Gonda (N=128) | Saharanpur (N=124) |
|----------------------------------------------------------|--------------|-------------------|--------------|-------------------|
| Percentage of RDWs replying on the home visit of ASHA or AWW after delivery for advice and care of newborn | Visited by ASHA | 68 | 56.4 | 71 | 71 |
| | Visited by AWW | 0.0 | 0.0 | 0 | 1.6 |
| | Visited by both ASHA and AWW | 0.0 | 4 | 0.0 | 1.6 |
| | Nobody visited | 32 | 39.6 | 27 | 25.8 |

The above section was on the period after the first month of delivery. This section was on postnatal visits in the first month after delivery. RDWs in the 4 districts replied on the personnel who visited after the delivery for advice and care of newborn. AWW visited 2% RDWs in Gonda and 1.6% in Saharanpur. Both ASHA and AWW visited 4% RDWs in Barabanki and 1.6% in Saharanpur. 71% of RDWs each in Gonda and Saharanpur were visited by ASHAs. ASHAs also visited 68% in Banda and 56% in Barabanki district.

While the majority of the RDWs were visited by ASHAs in the 4 districts, 40% in Barabanki, 32% in Banda, 27% in Gonda and 26% in Saharanpur received no visit within the first month of delivery. This showed that 25-40% of RDWs in the 4 districts did not receive any postnatal visit within the first month of delivery.

TABLE 2:

| Names of the districts & Number of RDWs surveyed (N=500). | Banda (N=124) | Barabanki (N=124) | Gonda (N=128) | Saharanpur (N=124) |
|----------------------------------------------------------|--------------|-------------------|--------------|-------------------|
| Percentage of RDWs replying on the number of times ASHA and AWW did home visit in the first month after delivery | 1-2 times by ASHA | 67 | 53 | 56.4 | 66.8 |
| | More than 2 times by ASHA | 33 | 43 | 44 | 30 |
| | 1-2 times by AWW | 0.0 | 4 | 1.5 | 3.2 |

For those RDWs who were visited, out of them 4% in Barabanki, 3% in Saharanpur and 1.5% in Gonda received 1-2 postnatal visits by AWWs. 67% each in Saharanpur and Banda, 55% in Gonda and 53% in Barabanki received 1-2 postnatal visits by ASHAs. 44% in Gonda, 43% in Barabanki, 33% in Banda and 30% of RDWs in Saharanpur received more than 2 postnatal visits by ASHAs.

TABLE 3:

| Names of the districts & Number of RDWs surveyed (N=500). | Banda (N=124) | Barabanki (N=124) | Gonda (N=128) | Saharanpur (N=124) |
|----------------------------------------------------------|--------------|-------------------|--------------|-------------------|
| Percentage of RDWs replying on the first home visit within a month of delivery | Visits within 1-7 days | 64.5 | 60 | 53 | 74 |
| | Visits after 7 days of delivery | 35.5 | 40 | 47 | 26 |

When RDWs replied the visits in days within a month of delivery the data in the 4 districts showed some interesting patterns.
that 74% in Saharanpur, 65% in Banda, 60% in Barabanki and 53% in Gonda received the first visit within 1-7 days of delivery. The rest of the RDWs received after 7 days of delivery. This showed that the ASHAs of Barabanki and Gonda visited less percentage of RDWs in the first week after delivery thus losing out on the vital time to provide postnatal care.

**TABLE 4:**

| Districts | Banda (N=124) | Barabanki (N=124) | Gonda (N=128) | Saharanpur (N=124) |
|-----------|---------------|-------------------|---------------|--------------------|
| Percentage of RDWs receiving the second home visit within a month of delivery | 88.8 | 88 | 70 | 95 |
| Visit in 1-7 days after delivery | 0.0 | 9 | 17 | 0.0 |
| More than 15 days after delivery | 0.0 | 2 | 13 | 4 |
| No second visit | 1.2 | 0.0 | 0.0 | 0.0 |
| Do not recall | 1.2 | 0.0 | 0.0 | 0.0 |

The data on second home visit within a month of delivery for postnatal care showed that 17% in Gonda and 9% in Barabanki received the visit after more than 15 days of delivery. 13% in Gonda, 4% in Saharanpur and 2% in Barabanki did not receive any second postnatal visit.

About 1.2% RDWs in Banda could not recall about the visit. 99% of RDWs in Banda, 96% in Saharanpur, 89% in Barabanki and 70% in Gonda received the second postnatal visit in 7-15 days after delivery.

**TABLE 5:**

| Districts | Banda (N=124) | Barabanki (N=124) | Gonda (N=128) | Saharanpur (N=124) |
|-----------|---------------|-------------------|---------------|--------------------|
| Percentage of RDWs receiving the third postnatal visit within a month of delivery | 97.5 | 44.6 | 60 | 91.5 |
| Visit in 15-21 days after delivery | 1.2 | 53.4 | 47 | 4.5 |
| More than 21 days after delivery | 1.2 | 0.0 | 0.0 | 0.0 |
| No second visit | 0.0 | 2 | 13 | 4 |

The data on the third postnatal visit within a month of delivery revealed that 53% in Barabanki and 47% in Gonda received the third visit more than 21 days after delivery. 5% in Saharanpur and 1.2% in Banda also received third visit after more than 21 days of delivery. 98% in Banda, 92% in Saharanpur, 60% in Gonda and 45% in Barabanki received the third postnatal visit in 15-21 days after delivery. Those RDWs who did not receive the second postnatal visit also did not receive the third visit. The data in all the 4 districts regarding the three visits showed that ASHAs visited the households of majority of the RDWs but the performance of ASHAs of Gonda and Barabanki showed that they were not covering all the RDWs and were delaying the postnatal visits thereby diluting the purpose of these visits.

5 | CONCLUSIONS

The above results showed that ASHA was the type of personnel who did the postdelivery first month period visit in all the four districts. The most reported frequency of the visits as responded by RDWs across the four districts was 1-2 times. Less percentage of RDWs of Barabanki & Gonda districts received first & third visits while Gonda district lagged behind for the second visit. The dissemination process for the universalization of focus on visits during the first month after delivery in all pregnancies are very critical especially for home deliveries which gets the least visits as already mentioned above.

The effectiveness of postdelivery first month period visits leads to adaption of safe delivery & neonatal practices. These visits are a part of the entire MCH package & these should be planned & done for each pregnancy by the health personnel. All these efforts during the stage of one month after delivery can significantly reduce maternal & neonatal deaths. As a result, reduction in impact indicators like MMR, NMR & Life Time Risk in UP & India will follow gradually as envisaged in the indicators of goal 3rd of the Sustainable Development Goal of the United Nations. As already mentioned above, there is a direct link between visits during postdelivery first month period and reduction in deaths during postnatal stage. Half of all maternal deaths occur during the postnatal period (INAP, 2014) out of which the first month period after delivery is a very critical period. It all adds up to emphasize that there is an urgent need to reinforce these visits & bring out the benefits of these visits through academic & community-based studies.
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