

## Research Article

### ASHA, RECOLLECTION, PLACE- A TRIAD IN HOME BASED NEWBORN CARE MESSAGE FORRECENTLY DELIVERED WOMENIN UTTAR PRADESH, INDIA

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#### ABSTRACT

The response profiles of the Recently Delivered Women on the newborn care period on the messages related to newborn care in the first month of life of the baby are dwelled upon to evolve a picture representing the entire state of UP through this article. The relevance of the study assumes significance as detailed data on the modalities of each of the messages on newborn care are available but not exclusively for the first month period of the life of the baby. The details of the Home Based Newborn Care related messages are not available even in large scale surveys like National Family Health Survey 4 done in 2015-16. The current study gives an insight in to each of these messages with atri analysis, the first being the recollection capacity of the RDWs, the second is whether ASHA gave the particular message 7 the third is if the RDW received the message at home. The current study is basically regarding the summary of this triad approach during the newborn care period. The newborn care 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 live births (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 of the life of the baby. This would help in making their post-natal& neonatal stage safe. This is the area of newborn care message profile detailing that the current article discusses 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 apre-tested structured interview schedule with both close-ended and open-ended questions. The current article deals with 14 close ended questions with options, three aspects foreach of the HBNC messages. 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 the triad profile of each message varied widely across the 4 districts. The first message was on initiating breastfeeding within an hour of birth. Here except Barabanki district, rest three districts showed better results. The next message was feeding only breast milk to the newborn up to 6 months. For this message, except for Saharanpur district, all the three other districts fared poorly. For the message on maintaining warmth of the baby to continue to keep the baby warm, Barabanki district had less than 60% of RDWs replying on the message in all the three aspects of the message. For the message on not to apply anything on the cord again Barabanki district had about half achievement in all the three aspects of the message and in rest of the districts it was more than half in all the aspects of the message. Regarding identification of danger signs, the place component was poor in Barabanki district. In the rest of the aspects of this message in all the three districts more than half of RDWs replied on the message. About the message of weighing the newborn, it was more than 65% in the rest of the districts except Barabanki district where it was poor in all the three aspects of the message. Similarly, for the message on delaying bathing up to one week, it was less than 50% across in Barabanki district and less than 60% in Gonda district in receiving the message from ASHA and at home. The message on telling the RDW to take to a health facility in case of health problem of a newborn showed that the ASHAs in Barabanki district had done the message delivery very poorly. Similarly, the ASHAs of Barabanki district had done poorly for the message on contraception/family planning services. In all the three aspects of the message on caring equally for boy or girl, the ASHAs of Barabanki district had delivered the message to just about more than half of RDWs in all the three aspects of the message. Regarding the message on skin to skin care, the ASHAs of Barabanki district lagged behind among the ASHAs of 4 districts in delivering the message. In Barabanki and Gonda districts, about 60% RDWs replied in all the three aspects of the message on maternal nutrition. Finally, it was evident that only with the use of job aides the message delivery could be effective but ASHAs particularly in Barabanki and Gonda districts did not cover all the RDWs to deliver messages through job aides on newborn care.

**Keywords:** RDW, ASHA, NMR, MMR, NHSRC, KMC.

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## 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 (5<sup>th</sup> 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 (5<sup>th</sup> 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 (5<sup>th</sup> 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 newborn care messages in the first month of the life of the baby. Usually in many reports, this timing is clubbed with the post-natal visits without focusing in detail about each component of the message. The details of the responses of RDWs on various modalities of the messages in the first month of the life of the baby that includes the recollection by RDWs, role of ASHA & the place of message are not mentioned in many studies mentioned below including large-scale surveys like NFHS 4. The current article reflects on these three aspects of each of the 12 newborn care messages through the profile of actual responses given by the RDWs.

### RDWs & HBNC in UP

The NRHM was launched in 2005 and the HBNC strategy was launched in 2011 (GOI, INAP, 2014). The RMNCH+A strategy were in place in 2013 (GOI, 2013, UP NHM PIP, 19-20) and currently we have the India Newborn Action Plan since 2014. (INAP, GOI, 2014). As it rolled out at the national level, all these programs also rolled in the state of 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 three factors on the HBNC messages within a month of their recent delivery. The three factors that the study looks into are the recollection capacity of the RDWs on the message, if ASHA has delivered the particular message and whether the RDWs received the message at home. These responses of RDWs are obtained during the first month of the baby i.e. timing of newborn care. This shows that the current article also throws a light on the planning of the neonatal visits by the ASHA. The following paragraph outlines the importance of the HBNC messages received by the mothers in the first month of the life of the baby.

The prescribed module of GOI to train ASHAs on neonatal care is in the 6<sup>th</sup> module of the ASHA training modules. There are 8 training modules for the ASHAs prescribed by GOI. The second part of 6<sup>th</sup> module has a section where the details regarding newborn care related home visits & the related activities to be done are mentioned (GOI, 2005). These modules were developed by NHSRC as the NRHM rolled out in 2005. The current study checks if the newborn care messages are given by ASHAs or not. It is inevitable that the ASHAs would give the messages effectively after being trained. 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 new-born care period, 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 the first 30 days (new-born care period) 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 or the new-born care period.

The report of NFHS 4 of UP mentions that 74% of home births followed the recommendation that the baby be immediately wiped dry and then wrapped without being bathed first (NFHS 4, 2016). Thus, we see that the survey only mentions the actions by the RDWs but does not talk about the messages given by health personnel exclusively on neonatal care. The neonatal section is clubbed under the postnatal section in the report. The breakup of home visits in the first month after recent delivery in UP by ASHAs is mentioned in an evaluation study of ASHAs. It mentions that only 4.6% of ASHAs replied that they have visited the houses of newborns more than 7 times while 38.3% replied that they visited houses of newborns 6 to 7 times (GOUP, 2013). Thus, the data on the actual messages are not elucidated during these visits unlike the current article where each newborn care message is detailed out separately.

The breakup of home visits by ASHAs for the mothers & newborns as responded by ASHAs in UP in another evaluation study in 2013 states that 79.1% of ASHAs reported that they provided Home Based Newborn Care (HBNC) support to Eligible Women (EW). Regarding counselling by ASHAs on Kangaroo Mother Care (KMC) during home visits to mother & child, the report mentions that 98.8% ASHAs counselled on initiation of breastfeeding, 90.6% ASHAs counselled on seasonal clothes for newborn & 92.9% ASHAs counselled on personal hygiene (GOUP, CCSP report, 2013). Here, it is to be noted that only three KMC based messages are talked about whereas the current article deals with 12 messages on newborn care. The difference is that the evaluation does not detail out each of the message unlike the current article. Another evaluation of ASHAs done in 2012 in 8 states out of which UP was one state mentions that 75% of pregnant women across the eight states received counselling on breastfeeding but this was 60% for other aspects notably warmth & postpartum care (Sundararaman *et al.*, 2012). Here also, the evaluation dealt with only 2 messages on newborn care unlike the current article. Following that, another evaluation study on ASHAs in UP informs that as responded by ASHAs themselves, 99% of them registered births, 98% visited newborns within one week of birth. It also mentions that 73% of newborns were visited by ASHAs (Bajpeyi, Dholakia, 2011). Here also only visits to newborns are mentioned without touching upon

the message aspect. Thus, it is seen that in most of the studies, the breakup of the visits & other modalities like type of personnel & frequency is mentioned but the visits do not reflect the messages given during these visits. Further, on newborn care messages exclusive details are not mentioned. The aspects like the HBNC messages & especially on the triad component for each message mentioned in this article are not focused by other studies which further substantiates the relevance of this article.

## MATERIALS AND METHODS

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 following figure shows the four districts of UP in the map of the state of UP.

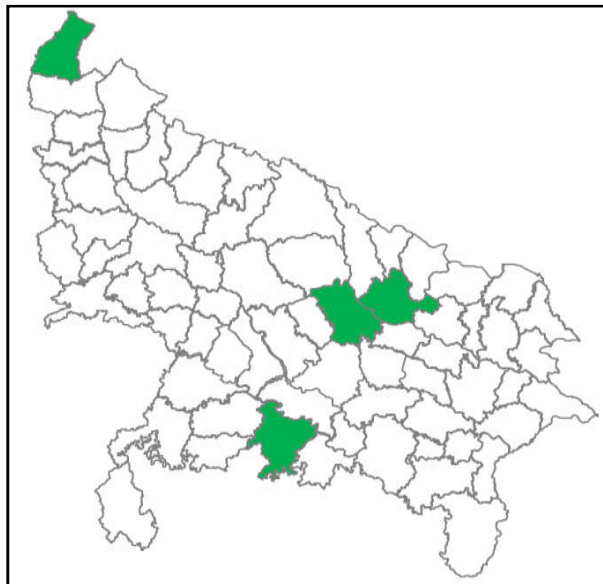


Figure 1

The data was analyzed using SPSS software to calculate the percentage and absolute values of three components of each of the message on Home Based Newborn Care given to RDWs through visits to their homes. These three components of each of the messages are recollection of messages by RDWs, whether ASHA gave this message & if RDWs received the message at home. The quantitative data related to these responses by RDWs during the first month following their recent delivery. The responses of the respondents were seen in percentages. Further, analytical statistics related to these responses were also elicited. All these responses are represented as data & its analysis forms 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 18 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. This article deals with question 426 of the RDW research tool which had 12 options as 12 messages on HBNC. After that, question 427 of the tool dealt with the use of IEC materials on these messages by health personnel through home 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.

## RESULTS AND DISCUSSION

This section has eighteen tables. The first table is about RDWs reply about the messages on newborn care. This table has three components such as recollection, whether ASHA gave this message & if RDWs received the message at home. Thereafter, there are 11 messages on Home Based Newborn Care practices through 11 tables & each messages is seen through the three components as mentioned above. Next four

tables are on the analytical statistics related to the first twelve tables. There is a graph subsequent to these tables on the Analysis of Variance (ANOVA) used as an inferential statistic based on the data of table 1<sup>st</sup> to 12<sup>th</sup> table. Following that the 14<sup>th</sup> table is the response of RDWs regarding the use of IEC materials to spread these messages. All the tables are regarding information based on the response of respondents in the first month following the recent delivery of respondents.

**Table 1. Percentage of RDWs replying about the messages they received from ASHA at home related to newborn care within a month of delivery**

Initiate breastfeeding within an hour of birth				
Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	60.4	71.8	74.2
Percentage of RDWs who received this message from ASHA	67.7	60.4	65.6	74.2
Percentage of RDWs who received this message at home	67.7	59.7	62.5	74.2

The above tables on the messages on newborn care that the RDWs received during postnatal visits done within a month of delivery. The messages here and in section on messages during pregnancy that was mentioned above were the same set of messages. These were to be received by the RDWs on newborn care within a month of delivery. The first message was on initiating breastfeeding within an hour of birth. Here we saw that 74% RDWs in Saharanpur, 72% in Gonda, 68% in Banda and 60% in Barabanki could recollect this message. The ASHAs had given this message to 74% RDWs in Saharanpur, 68% in Banda, 66% in Gonda and 60% in Barabanki district. 74% RDWs in Saharanpur replied that they received the message at home while it was 68% in Banda, 63% in Gonda and 60% in Barabanki district.

**Table 2. Feed only breast milk to the newborn up to 6 months**

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	60.5	72.6	73.4
Percentage of RDWs who received this message from ASHA	67.7	60.5	66.4	73.4
Percentage of RDWs who received this message at home	67.7	59.7	64.1	73.4

The next message was feeding only breast milk to the newborn up to 6 months. Except for Saharanpur, which showed 74% in all the three aspects of the message, all other districts had below 70% for all the aspects of the message. Barabanki district had just about 60% in all the three aspects of the message.

**Table 3. Continue to keep the newborn warm**

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	59.7	72.7	74.2
Percentage of RDWs who received this message from ASHA	67.7	59.7	63.3	74.2
Percentage of RDWs who received this message at home	67.7	58.9	61.7	74.2

For the message on maintaining warmth of the baby to continue to keep the baby warm again Barabanki district had less than 60% of RDWs replying on the message in all the three aspects of the message. Rest of the districts had more than 60% in all the aspects while Saharanpur led with 74% in all the three aspects of the message.

**Table 4. Do not apply anything on the cord**

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	58.1	71.9	74.2
Percentage of RDWs who received this message from ASHA	67.7	57.3	63.3	74.2
Percentage of RDWs who received this message at home	67.7	57.3	61.7	74.2

For the message on not to apply anything on the cord again Barabanki district had less than 60% in all the three aspects of the message and in rest of the districts it was more than 60% in all the aspects of the message.

**Table 5. Identifying the danger signs in newborn**

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	30.6	68	74.2
Percentage of RDWs who received this message from ASHA	67.7	30.6	47.7	70.2
Percentage of RDWs who received this message at home	67.7	29.8	48.4	70.2

Regarding identification of danger signs, in Barabanki only 30% could recollect, 30% had received from ASHA and 30% RDWs received the message at home. In Gonda less than 50% had received from ASHA and at home. In the rest of the aspects in all the three districts more than 60% RDWs replied on the message.

**Table 6. Weighing the newborn**

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	49.2	71.9	74.2
Percentage of RDWs who received this message from ASHA	67.7	49.2	50	74.2
Percentage of RDWs who received this message at home	67.7	48.4	49.2	74.2

Regarding the message of weighing the newborn, Barabanki had less than 50% across and Gonda with just 50% with ASHA and at home. It was more than 65% in the rest of the districts and the three aspects of the message.

Table 7. Delay bathing up to one week

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	48.4	71.9	74.2
Percentage of RDWs who received this message from ASHA	67.7	48.4	55.5	74.2
Percentage of RDWs who received this message at home	67.7	47.6	54.7	74.2

For the message on delaying bathing up to one week, it was less than 50% across in Barabanki and less than 60% in Gonda in receiving from ASHA and at home.

Table 8. Which health facility to take in case of health problem in newborn

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	16.1	71.9	74.2
Percentage of RDWs who received this message from ASHA	67.7	16.1	30.5	41.1
Percentage of RDWs who received this message at home	66.1	12.9	29.7	41.1

The message on telling the RDW to take to a health facility in case of health problem of a newborn showed that the ASHAs in Barabanki district had done the message delivery very poorly. In Barabanki district, only 16% RDWs could recollect the message, 16% said that they received the message from ASHA and only 13% said that they received the message at home. The scenario in Gondawas also similar. In Gonda, 72% of RDWs could recollect the message whereas only 31% said that they received the message from ASHA and another 31% said that they received the message at home. Even in the developed district of Saharanpur, 74% could recollect the message and only 41% received the message from ASHA and 41% also said that they received the message at home. In Banda, 67% could recollect, 68% could recollect, 68% said that they received the message from ASHA and 66% said that they received the message at home.

Table 9. Education on contraception/family planning services

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	33.9	71.9	74.2
Percentage of RDWs who received this message from ASHA	66.9	33.9	42.2	66.1
Percentage of RDWs who received this message at home	66.9	33.1	40.6	66.9

The ASHAs of Barabanki had done poorly for the message on contraception/family planning services. In Barabanki, only 34% could recollect, 34% said that they received the message from ASHA and only 33% said that they received the message at home. In Gonda if 72% could recollect only 42% replied that they received the message from ASHA and 41% said that they received the message at home. More than 66% RDWs replied in all the three aspects of the message in Banda and Saharanpur districts.

Table 10. Caring equally for boy/girl

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	58.9	69.5	74.2
Percentage of RDWs who received this message from ASHA	67.7	58.9	59.4	73.4
Percentage of RDWs who received this message at home	67.7	58.1	57.8	74.2

In all the three aspects of the message on caring equally for boy or girl, the ASHAs of Barabanki district had delivered the message to just less than 60% of RDWs in all the three aspects of the message. Just less than 60% RDWs also said that they received the message from ASHA and at home in Gonda district. 70% RDWs could recollect the message in Gonda district. In Banda, 68% RDWs replied in all the three aspects of the message. Similarly in Saharanpur, 74% RDWs replied in all the three aspects of the message.

Table 11. Skin to skin care

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	21	71.1	74.2
Percentage of RDWs who received this message from ASHA	65.3	19.4	48.4	48.4
Percentage of RDWs who received this message at home	65.3	18.5	47.7	48.4

Regarding the message on skin to skin care, the ASHAs of Barabanki again lagged behind among the ASHAs of 4 districts in delivering the message. In Barabanki district, only 21% could recollect, 19% RDWs said that they received the message from ASHA and 19% also said that they received the message at home. In Gonda, 72% could recollect and just less than 50% RDWs received the message from ASHA and at home. In Saharanpur also, 74% could recollect and just less than 50% received the message from ASHA and at home. More than 65% RDWs replied in all the three aspects of the message in Banda district.

Table 12. Maternal nutrition

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
Percentage of RDWs who could recollect the message	67.7	58.9	60.9	74.2
Percentage of RDWs who received this message from ASHA	67.7	58.9	60.9	74.2
Percentage of RDWs who received this message at home	67.7	58.1	60.2	74.2

In Barabanki and Gonda districts, about 60% RDWs replied in all the three aspects of the message on maternal nutrition. 74% RDWs replied in all the three aspects of the message on maternal nutrition in Saharanpur where as it was 68% in all the three aspects of the message in Banda district. The table below gave the descriptive statistics like mean, standard deviation, standard error, lower and upper values for mean for variables of table 1 to 12.

Table 13.0

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
1. Banda	124	8.0484	5.58286	.50136	7.0560	9.0408
2. Barabanki	124	5.5323	4.65289	.41784	4.7052	6.3593
3. Gonda	128	6.6328	4.59522	.40616	5.8291	7.4365
4. Saharanpur	124	8.0323	4.83203	.43393	7.1733	8.8912
Total	500	7.0580	5.02525	.22474	6.6165	7.4995

The below table mentioned the minimum and maximum values for the variables on awareness level of table 1 to 12.

Table 13.1.0

	Minimum	Maximum
1 Banda	.00	12.00
2 Barabanki	.00	12.00
3 Gonda	.00	12.00
4 Saharanpur	.00	13.00
Total	.00	13.00

The table below mentioned the Analysis Of Variance (ANOVA) values for the variables of table 1 to 12. A one-way ANOVA was conducted to determine the awareness level of RDWs among between groups of RDWs in the four districts and within groups of RDWs in each district. The difference between the groups of RDWs in the four districts is statistically significant,  $F(3, 496) = 7.562, P < 0.05$ .

The Table 13.1.1 given below is regarding ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	551.124	3	183.708	7.562	.000
Within Groups	12050.194	496	24.295		
Total	12601.318	499			

The table below gives the descriptive statistics such as mean difference, standard error, significance, minimum and maximum values of the variables from table 124 to 135.

Table 13.1.2

(I) QA_D	(J) QA_D	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1 Banda	2 Barabanki	2.51613*	.62598	.000	.8580	4.1743
	3 Gonda	1.41557	.62107	.138	-.2296	3.0607
	4 Saharanpur	.01613	.62598	1.000	-1.6420	1.6743
2 Barabanki	1 Banda	-2.51613*	.62598	.000	-4.1743	-.8580
	3 Gonda	-1.10055	.62107	.462	-2.7457	.5446
	4 Saharanpur	-2.50000*	.62598	.000	-4.1581	-.8419
3 Gonda	1 Banda	-1.41557	.62107	.138	-3.0607	.2296
	2 Barabanki	1.10055	.62107	.462	-.5446	2.7457
	4 Saharanpur	-1.39945	.62107	.148	-3.0446	.2457
4 Saharanpur	1 Banda	-.01613	.62598	1.000	-1.6743	1.6420
	2 Barabanki	2.50000*	.62598	.000	.8419	4.1581
	3 Gonda	1.39945	.62107	.148	-.2457	3.0446

\*. The mean difference is significant at the 0.05 level.

The figure below showed the graph of the mean values as mentioned in table 135.1 and showed that the awareness level in Barabanki district was lowest among the four districts.

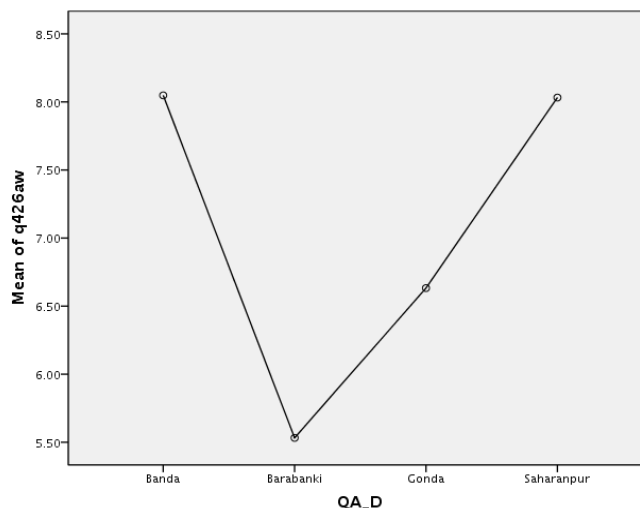


Figure 2.

The figure shows 426 aw which means this graph is related to the question number 426 of the RDW research tool and the 12 newborn care messages in the form of options were from option A to W.

**Table 14. Percentage of RDWs replying about use of picture books to deliver the above-mentioned messages related to newborn care within a month of delivery**

Names of districts & Number of RDWs surveyed (N=500)	Banda (N=124)	Barabanki (N=124)	Gonda (N=128)	Saharanpur (N=124)
ASHA used picture books	0.0	0.0	9.0	6
AWW used picture books	0.0	0.0	0.0	0.0
None of them used	100	100	91	94

Regarding the use of IEC materials by ASHAs to deliver the above-mentioned messages only 9% RDWs in Gonda and 6% in Saharanpur replied that ASHA has used the IEC materials while delivering the message at home. In the other 2 districts, ASHAs had not used. Besides ASHA, AWWs had also not used any material to deliver any such messages either. It was evident that without the use of job aides the message delivery could not be effective and also ASHAs particularly in Barabanki and Gonda districts did not cover all the RDWs to deliver messages on post-natal care.

## Conclusion

The above results showed that ASHA among the districts, Saharanpur fared better for the triad components for all the 12 messages on newborn care dealt in this article. Less percentage of RDWs of Barabanki & Gonda districts received critical messages on newborn care in the first month of the life of the newborn. The dissemination process for the universalization of focus on the newborn care messages during the first month of life of the baby are very critical especially for home deliveries which are the high-risk deliveries as already mentioned above.

The effectiveness of messages on newborn care in the first month of the life of the baby period visits leads to adaption of safe delivery & neonatal practices. These visits are a part of the entire HBNC package & these should be planned & done for each pregnancy by the health personnel like ASHA who are trained the neonatal visits. As already mentioned above, there is a direct link between HBNC visits during the first month period of the life of the baby and reduction in deaths during neo-natal 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 focus on reducing maternal deaths will result in reduction of neonatal deaths as well.

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