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## **Socio-economic profile and background of recently delivered women in Uttar Pradesh, India**

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### **Abstract**

The state of UP has witnessed the CHW engagement through a long history since the 70s and currently it is the key strategy to percolate primary health care to the masses. The current lot of CHWs in UP are 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 EAG states. UP is one such state. The current study explores some of the crucial variables of the socio-economic profile of the Recently Delivered Women (RDW) or mothers in four districts of UP. From the catchment area of each ASHA, two RDWs were selected who had a child in the age group of 3 to 6 months. Through this profile, the selection criteria of RDWs, education profile of RDWs, religion of RDWs are reflected upon to give a picture that represents the entire state of UP.

The relevance of the study assumes significance as data on the details of socio-economic profile of recently delivered mothers are not available even in large scale surveys like National Family Health Survey 4 done in 2015-16. The social characteristics of women in the age group of 15-49 years are discussed in NFHS 4 but the current study had women less than 30 years of age as they had to be RDWs.

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. In addition, in-depth interviews were also conducted amongst the RDWs and a total 500 respondents had participated in the study.

Among the children, across the districts more children were in the age group of 5-6 months than the 3-4 months age group. The average number of live births of RDWs in Barabanki district was 2.6 followed by Saharanpur with 2.5 and 2.3 in each of the rest of the two districts. The average age of RDWs in the 4 districts was in the range of 26-30 years. The data showed that in Barabanki the average number of surviving children of RDWs was 2.6 followed by 2.5 in Saharanpur, 2.3 in Gonda and 2.2 in Banda district. The average age of RDWs at the time of marriage across the four districts showed that the age was 19 years in Barabanki and 18 in the rest of the 3 districts.

A look at the profile of the social category of RDWs across the four districts showed that majority were in the SC or OBC category. The educational profiles of RDWs reflected that most of the RDWs across the four districts were illiterate. 71% of RDWs in Barabanki, 42% in Banda, 37% in Gonda and 32% in Saharanpur were illiterate. Majority of the RDWs across the four districts were Hindus.

The occupation profile of the households of RDWs told us that most households had cultivation as the main occupation. 80% of the households of RDWs in Saharanpur, 69% in Banda, 63% in Barabanki and 55% in Gonda did cultivation. The average number of family members in Barabanki was 8.4 followed by Saharanpur and Gonda with 8.2.

Analysis of the average monthly income of the household of RDWs showed that Saharanpur had the maximum average monthly income of the house-holds of RDWs among the 4 districts.

**Keywords:** RDW, ASHA, NRHM, EAG, CHW

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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 panachayat

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 2017. The selection of RDWs in this study is dependent on the ASHAs.

Studies on RDWs in UP have not covered on aspects like education criteria and had not touched upon their age, years of marriage, household income, social category, religion profiles and the community they reside. The current study reflects on these aspects in detail.

### Background of ASHAs

CHWs may be the only feasible and acceptable link between the health sector and the community that can be developed to meet the goal of improved health in the near term (Kahssay, Taylor and Berman, 1998) [7]. This was the exact proposition on which the ASHAs were put in place since 2005.

The ASHAs emerged in India's public health system during the launch of NRHM in 2005 in the state of Uttar Pradesh (GOI, 2005). The ASHAs were in fact inducted to NRHM with the primary aim to roll out the JSY component of NRHM (GOI, 2005).

CHWs are indigenous, trusted and respected members of the underserved community. They can serve as a bridge between peers and health professionals. The article cited three best practice domains namely therapeutic alliance, risk reduction and health care utilization that can be used as evaluative indicators to reduce health disparities with enhanced utilization of CHWs (Mary Ann, Rosemary S, 2003) [8].

Another study in 2012 regarding evaluation of ASHA program in 8 states (includes UP) mentioned that educational qualification of ASHAs did not make a difference to health outcomes but duration and content of training made a difference (Sundarraman, *et al*, 2012) [9]. This finding emphasized the importance of strengthening the process of selection of ASHAs who have capacity to work.

An appraisal of NRHM was done in 2010 which covered UP regarding the role and performance of ASHAs. It stated that selection process and criteria to select ASHAs were not proper, they had less than prescribed work hours per week and were covering more population than they should cover (Ved *et al.*, 2011) [10]. Hence, it also suggested a career progression for the ASHA to become a part of the formal health system (Bajpai N, Dholakia R, 2011) [11].

The current study done in 2017 examines the profile of RDWs in the catchment area of ASHAs. In NFHS 4, information was collected from 97,661 women in the age group of 15-49 years. Further, the study mentions that 82% of households are headed by Hindus the rest 18% are headed by Muslims. As per the survey, the average family size is 5 members per family (NFHS 4, 2015-16).

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



Fig 1

The data was analyzed using SPSS software to calculate the percentage and absolute values of RDWs using the detail profiles as per the data in the four study districts. The quantitative data related to the profiles was seen for RDWs that forms the basis of the ensuing results and discussion.

### Research tools

The RDWs were interviewed using an in-depth, open-ended interview schedule which included a section on variables on socio-demographic aspects. Under the background section of the tool, the RDWs were asked on their socio-economic profiles that reflected on their status socially and economically. 500 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. The following section details out the results and discussions related to the study.

## Results and Discussions

**Table 1:** Background profile of RDWs surveyed

Number of RDWs surveyed (n= 500)	Banda (n= 124)	Barabanki (n=124)	Gonda (n= 128)	Saharanpur (n= 124)
Age and sex breakup of children of RDWs in age group of 3-6 months				
Percentage of children in age group of 3-4 months	25.8	39.5	46.9	45.2
Percentage of children in age group of 5-6 months	74.2	60.5	53.1	54.8
Percentage of boys	58.9	60.5	51.6	58.9
Percentage of girls	41.1	38.7	47.6	40.3
Twins	0	0.8	0.8	0.8

The first table regarding the RDWs is the background profile of the RDWs interviewed in the study. In all, 500 RDWs were interviewed in the four districts where Gonda district had 128 RDWs and the other 3 districts had 124 RDWs each. The RDWs were chosen if they had a child in the age group of 3-6 months during the time of survey. Two such RDWs were selected randomly for the study in the catchment area of each ASHA. The first section was on the details of the children of the RDWs. Among the children, across the districts more children were in the

age group of 5-6 months than the 3-4 months age group. In the 5-6 months age group, Banda district had 74% children, Barabanki had 60%, Gonda had 53% and Saharanpur had 55%. The rest of the children were in the age group of 3-4 months.

Further, the percentage of boys was more than the girls across the four districts. Banda had 59%, Barabanki had 60%, Gonda had 52% and Saharanpur had 59% of boys. The rest were the girl children. Except Gonda, the rest 3 districts had a pair of twins each among the children.

**Table 2:** Number of live births of RDWs

Names of districts (n=500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Average number of live births	2.3	2.6	2.3	2.5
Number of RDWs having 1-2 live births	64	82	72	81
Number of RDWs having 3-5 live births	45	37	48	38
Number of RDWs having more than 5 live births	15	5	8	5

The next part was on the live births of RDWs. The average number of live births of RDWs in Barabanki district was 2.6 followed by Saharanpur with 2.5 and 2.3 in each of the rest of the two districts. Barabanki and Saharanpur had more number of live births per RDW implying that the deliveries in these two districts were safer than the other two districts. On analyzing the number of RDWs having number of live births, we found that maximum

numbers of RDWs across the four districts had 1-2 numbers of live births.

Among the 3-5 number of live births, Gonda had the maximum number of RDWs followed by Banda, Saharanpur and Barabanki districts. Among more than 5 live births category, 15 RDWs were in Banda, 8 in Gonda and 5 each in rest of the two districts. This showed that the family size of RDWs of Banda district was largest among the four districts.

**Table 3:** Number of surviving children of RDWs

Names of districts (n= 500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Average number of surviving children	2.2	2.6	2.3	2.5
Number of RDWs having 1-2 surviving children	63	83	71	80
Number of RDWs having 3-5 surviving children	47	37	49	39
Number of RDWs having more than 5 surviving children	14	4	8	5

Having seen the number of live births, let us analyze the child survival aspects among the live births. The data showed that in Barabanki the average number of surviving children of RDWs was 2.6 followed by 2.5 in Saharanpur, 2.3 in Gonda and 2.2 in Banda district. This showed that child survival among the RDWs in Barabanki was best among the four districts and in Banda, although the number of live births was more; the number of surviving children were less among the four districts. Analysis of the RDWs with the number of surviving children across the four

districts showed that most of the RDWs across the 4 districts had 1-2 numbers of surviving children. RDWs having 3-5 numbers of surviving children across the four districts showed that Gonda district had the maximum number of RDWs in this category followed by Banda, Saharanpur and Barabanki districts. Although the average number of surviving children was less in Banda, the number of RDWs having more than 5 surviving children was the most in Banda followed by Gonda, Saharanpur and Barabanki districts.

**Table 4:** Age breakup of RDWs in completed years

Names of districts (n=500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Number of RDWs in 20-25 years age group	51	63	43	50
Number of RDWs in 26-30 years age group	42	48	68	60
Number of RDWs in more than 30 years age group	31	13	17	14
Average age of RDWs in their last birthday	28	26	27.5	26.5

Analysis of the average age of RDWs among the four districts showed that it was 28 in Banda, 27.5 in Gonda, 26.5 in Saharanpur and 26 in Barabanki. This showed that Banda had relatively aged mothers for interview than the rest 3 districts. Further, it was seen that across the four districts, most of the RDWs were in the age group of 26-30 years where Gonda had

the maximum number of RDWs in this category. Barabanki had the maximum number of RDWs in the 20-25 year age group and Gonda had the minimum number in this category. Banda had the maximum number of RDWs who were more than 30 years of age followed by Gonda, Barabanki and Saharanpur.

**Table 5:** Age breakup of RDWs in completed years at the time of marriage

Names of Districts (n=500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Average age of RDWs at the time of marriage	18	19	18	18
Number of RDWs who were below 18 years of age	20	18	39	12
Number of RDWs who were in 18-25 year age group	103	101	87	112
Number of RDWs who were above 25 years of age	1	5	2	0

The average age of RDWs at the time of marriage across the four districts showed that the age was 19 years in Barabanki and 18 in the rest of the 3 districts. This meant that the RDWs of Barabanki had a delayed marriage than the most developed district among the four districts. In absolute numbers when we saw the data, we found that Gonda had the maximum number of RDWs who were below 18 years of age. The number of RDWs in the four districts in this sensitive indicator showed that Gonda had 39 followed by 20 in Banda, 18 in Barabanki and 12 in Saharanpur. Maximum numbers of RDWs across the four districts were married when they were in the 18-25 year age group. However, there was one mother in Banda who was married at ten years of age. There were 6 mothers in Gonda and one mother each in Barabanki and Saharanpur who were married at 14 years of age. At 15 years of

age 3 mothers in Gonda, 5 in Barabanki, 11 in Gonda and 1 in Saharanpur were married. By 16 years of age, the figures were 11,10,8 and 5 for Banda, Barabanki, Gonda and Saharanpur respectively. Similarly, the figures of these districts were 5, 2, 14, and 5 for mothers who were married at 17 years of age. This showed that so many mothers and newborn in all the 4 districts were at risk when they became mothers. Banda and Barabanki had 5 RDWs who was married when they were more than 25 years of age, Gonda had 2 and Banda had only 1 RDW in this age category. The most developed district Saharanpur had no RDW in this age category. The table below gave the descriptive statistics like mean and standard deviation for the variables of table 1 to table 5.

**Table 6**

Districts	Number of live births till now	Out of them, number of children surviving currently	Age(in years) on your last birthday	Age (in years) when you married
Banda				
Mean	2.9	2.88	27.75	18.40
N	124	124	124	124
SD	1.923	1.907	5.245	2.110
Barabanki				
Mean	2.33	2.28	26.12	18.93
N	124	124	124	124
SD	1.539	1.538	3.842	2.589
Gonda				
Mean	2.60	6.97	27.48	18.32
N	128	128	128	128
SD	1.736	1.543	4.254	2.279
Saharanpur				
Mn	2.33	2.35	26.53	18.35
N	124	124	124	124
SD	1.430	1.426	3.695	1.223
Total				
Mean	2.54	2.53	26.98	18.50
N	500	500	500	500
SD	1.680	1.663	4.340	2.122

**Table 7:** Social category of RDWs

Names of districts (n=500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Percentage of RDWs in SC category	43.5	39.5	32.8	24.1
Percentage of RDWs in ST category	0.8	0	0	0
Percentage of RDWs in OBC category	49.1	53.2	46.8	73.3
Percentage of RDWs in general category	6.6	7.3	20.4	2.6

A look at the profile of the social category of RDWs across the four districts showed that majority were in the SC or OBC category. Banda had 43.5% of RDWs in SC category followed by Barabanki 39.5%, Gonda 33% and Saharanpur 24%. Similarly, for OBC category, the percentage figures were 73% in Saharanpur and 53% in Barabanki. The other two districts of Banda and Gonda had 49% and 47% respectively. This showed that if the very low developed district Banda had more RDWs in

SC category, the most developed district Saharanpur had more RDWs in OBC category. The breakups of the general category showed that Gonda had 20% of RDWs followed by 7.3% in Barabanki, 6.6% in Banda and 2.6% in Saharanpur. So among the 4 districts, more number of mothers in general categories was interviewed in the study. There was only one RDW in ST category in Banda district.

**Table 8:** Educational profile of RDWs in percentage

Names of districts (n=500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Illiterate	41.9	70.9	36.7	32.2
Literate but no formal education	9.6	0.0	0.7	8.06
Primary school (up to 5 <sup>th</sup> class)	10.4	5.6	12.5	11.2
Middle school (up to 8 <sup>th</sup> class)	21.7	10.7	27.3	27.6
High school	12.3	5.6	9.3	16.9
Intermediate and above	4.1	7.2	13.5	4.04

The educational profiles of RDWs reflected that most of the RDWs across the four districts were illiterate. 71% of RDWs in Barabanki, 42% in Banda, 37% in Gonda and 32% in Saharanpur were illiterate. 10% in Banda, 8% in Saharanpur, only one RDW in Gonda and none in Barabanki were literate but had no formal education. 12.5% of RDWs in Gonda, 11.2% in Saharanpur, 10.4% in Banda and 5.6% in Barabanki had studied up to class 5<sup>th</sup>. RDWs who had studied up to 8<sup>th</sup> class was 28% in Saharanpur, 27% in Gonda, 22% in Banda and 11% in Barabanki district. Similarly, Saharanpur led among RDWs who had education up to high school level with 17% followed by 12% in Banda, 9% in Gonda and 6% in Barabanki district. In Gonda, there were 13.5% of RDWs who had studied up to intermediate and above. In this category the percentage figures in the rest of the 3 districts were 7% in Barabanki and 4% each in Banda and Saharanpur. This told us that although the low developed Gonda district had most percentage of RDWs having the highest formal education among the four districts, the high developed Saharanpur district had more percentage of RDWs who had formal education as a whole.

percentage of Hindu RDWs and Barabanki has the minimum percentage of Hindu RDWs among the four districts.

**Table 10:** Primary occupation profile of the household of RDWs in percentage

Names of districts (n=500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Business	13.7	12.9	8.5	16.9
Cultivation	68.5	62.9	55.4	79.9
Agricultural labor	4.8	10.4	12.5	1.6
Wage labor	9.6	7.2	17.9	0.0
Service	2.4	6.6	5.7	1.6
Other menial jobs	1.0	0.0	0.0	0.0

The occupation profile of the households of RDWs told us that most households had cultivation as the main occupation. 80% of the households of RDWs in Saharanpur, 69% in Banda, 63% in Barabanki and 55% in Gonda did cultivation. The next major occupation in the list was business where Saharanpur led with 17%, Banda with 14%, Barabanki with 13% and Gonda with 8.5%. Agricultural labor occupation was done by 13% in Gonda, 10% in Barabanki, 5% in Banda and 2% in Saharanpur. This showed that Gonda district had more households who did not own land followed by Barabanki. The very low developed district in the difficult Bundelkhand region had only 5% house-holds without land in comparison to the other two better developed districts than Banda. Similarly, the percentage of house-holds doing wage labor was more in Gonda followed by Banda and then Barabanki district. The high developed Saharanpur district had no households of RDWs with wage labor as the occupation. Service occupation was done by 7% house-holds in Barabanki and 6% in Gonda. Banda had 2.4% while Saharanpur had 1.6% of house-holds in this category. Only 1% of house-holds of RDWs in the very low developed Banda district did menial jobs as their occupation.

**Table 9:** Religion of RDWs in percentage

Names of districts (n=500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Hindu	91.9	84.6	95.3	91.1
Muslim	8.1	15.4	3.9	7.2
Christian	0.0	0.0	0.8	0.8
Sikh	0.0	0.0	0.0	0.9

The religious background of RDWs showed that there was only one Sikh RDW in Saharanpur. There was one Christian RDW each in Gonda and Saharanpur. Majority of the RDWs across the four districts were Hindus. Muslims constituted 15% of RDWs in Barabanki, 8% in Banda, 7% in Saharanpur and 4% in Gonda. Gonda had the maximum

**Table 11:** Family size of RDWs

Names of districts (n=500)	Banda (n=124)	Barabanki (n=124)	Gonda (n=128)	Saharanpur (n=124)
Average number of family members	8.06	8.4	8.2	8.22
Monthly income of household of RDWs				
Average monthly income of households of RDWs in ₹	15435	11580	9371	19112

When we saw the data on family size of the house-holds of RDWs, we found that the average number of family members in Barabanki was 8.4 followed by Saharanpur and Gonda with 8.2. The least average number of family members was in Banda with 8.06 members. Saharanpur had the maximum average monthly income of the house-holds of RDWs among the 4 districts. The

next district in this list was Banda followed by Barabanki and then Gonda. This showed that the socio-economic profile of the house-holds of RDWs in Gonda was behind Banda despite being the least developed district among the four districts. The table below gave the descriptive statistics like mean and standard deviation for the variables of table 52.

Table 12

Names of Districts	Member Family	Monthly Income
1 Banda	Mean	8.06
	Std. Deviation	2.380
	N	124
2 Barabanki	Mean	8.49
	Std. Deviation	2.539
	N	124
3 Gonda	Mean	8.20
	Std. Deviation	3.128
	N	128
4 Saharanpur	Mean	8.22
	Std. Deviation	2.451
	N	124
Total	Mean	8.24
	Std. Deviation	2.642
	N	500

### Conclusions

The above results showed that the profile of the RDWs vary a lot across the districts. The process should also focus on involving all the stake holders and the RDWs should represent all the social categories and religious groups optimally so that their heterogeneity are better accepted by the communities. This will help RDWs to be in focus so that maternal health also get priority. Data should be collected in large scale surveys on these socio-economic profiles of RDWs as they can give crucial information regarding maternal health. There is no specific output in terms of maternal health as the category of 15-49 years are primarily addressed for reproductive health and not exclusively on maternal health.

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