

# Assessment of services provided by urban ASHAs to mothers of urban slums in Lucknow district – A cross-sectional study

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## ABSTRACT

**Context:** Maternal and child health is an important public health issue which indicates the level of socioeconomic development in any country. Urban accredited social health activist (U-ASHA) workers in India are the main front-line urban health workers in primary health care delivery for slum and urban poor. **Aims:** To assess the services provided by U-ASHA workers to mothers of urban slums for antenatal and postnatal care. **Settings and Design:** Cross-sectional study in urban slums of Lucknow where recently delivered women (up to 2 years) were selected. **Methods and Material:** To include the desired sample size of 320 recently delivered women (RDW), the U-ASHAs of the selected slums were contacted and a list of RDWs was made for each slum. By simple random sampling, 20 RDWs were selected from each slum. A predesigned and pretested interview schedule was used for data collection. **Statistical Analysis Used:** SPSS-version-26 was used.  $P < 0.05$  was considered statistically significant. **Results:** The registered pregnancies were 95%. Only 43.1% of RDW had at least four ANC visits. The institutional delivery was 84.7%. Only 27.7% of RDW visited health facilities for PNC services. About 39.4% received Janani Suraksha Yojana incentives. Contraceptive users were only 41.9%. Counseling by U-ASHA workers regarding all the ANC and PNC services had better utilization among counseled RDW except for child-care counseling. **Conclusions:** Counseling services regarding ANC and PNC services have a significant impact on their utilization. Better results can be achieved if the counseling by U-ASHA is enhanced to reach out more beneficiaries.

**Keywords:** Counseling, RCH, recently delivered women, slums, U-ASHA

## Introduction

Accredited social health activist (ASHA) workers introduced through NRHM by MoHPW in 2005 have a pivotal role in delivering the health care services at the grass-root level, especially in difficult-to-reach and tribal hamlets. The Union Cabinet gave its approval to launch a National Urban Health Mission (NUHM) as a new submission under the overarching

National Health Mission (NHM) in 2013. One Urban ASHA (U-ASHA) was introduced for 200 to 500 households and nearly 1000–2500 urban poor population under NUHM. The U-ASHA will work on the pattern of rural ASHA and serve as the link between urban poor and health services.<sup>[1]</sup> One of the major responsibilities of U-ASHA is to deliver services related to MCH care, which includes community sensitization, counseling, survey of health-related events, escort beneficiaries, family planning, immunization, and provision of drugs to name some.<sup>[2]</sup> Meticulous efforts by the U-ASHA workers in provision of these services are also reflected in improved numbers of demographic, mortality, and other indicators since their inception in the year 2013. Yet, there is a scope for further improvement in the above indicators.

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Received: 24-04-2024

Revised: 24-06-2024

Accepted: 24-06-2024

Published: 09-12-2024

### Access this article online

#### Quick Response Code:



#### Website:

<http://journals.lww.com/JFMPC>

#### DOI:

10.4103/jfmprc.jfmprc\_687\_24

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**How to cite this article:** Kumar S, Agarwal M, Kumar HD. Assessment of services provided by urban ASHAs to mothers of urban slums in Lucknow district – A cross-sectional study. *J Family Med Prim Care* 2024;13:5667-73.

Preventing the death of the mothers during pregnancy and after childbirth is one of the key interventions to bring down maternal mortality. In India, the maternal mortality ratio (MMR) has declined from 130 deaths per 100,000 live births in 2014–16 to 97 deaths per 100,000 live births in 2018–20<sup>[3]</sup> and the infant mortality rate (IMR) declined from 47 to 28 deaths per 1000 live births in the previous 10 years (2010–2020).<sup>[4]</sup> Despite the targets achieved, both IMR and MMR still have major issues in urban poor.

Maternal and child health is an important public health issue which indicates the level of socioeconomic development in each and every country. U-ASHA workers are the main front-line urban health workers in primary health care delivery for slum and urban poor, who are expected to work in this domain to bring out betterment in RCH indicators. They are being trained in this regard since the year 2013.<sup>[5]</sup> Therefore, it is expected that they would perform better in this regard with repeated training than the other domains of their work. Several studies had been conducted in India on evaluation of their works, but in the context of Lucknow, there is a scarcity of researches in assessing this RCH domain.

Therefore, the current study had been taken up to assess the practices of U-ASHA workers related to reproductive and child health and family planning and to find out their performance affecting factors in a slum population. The objective of the study is to assess the services provided by U-ASHA workers to mothers of urban slums for antenatal and postnatal care.

## Subjects and Methods

A cross-sectional study was conducted among selected recently delivered women (up to 2 years) and children less than 2 years of age, residing in the urban slum of Lucknow, who fulfil the inclusion criteria. The period of the study was 17 months, starting from July 2020 to November 2021.

### Inclusion criteria

1. Recently delivered women (up to 2 years) and children less than 2 years of age residing in slums of Lucknow.
2. Participants willing to participate in the study.
3. Participants currently residing in the study area for at least the past 3 years.

### Exclusion criteria

1. Participants who will not give consent for the study.
2. Participants suffering from known mental illness.
3. Migrant population.

### Sample size calculation

The sample size was calculated using the following formula:

$$n = \frac{(Z_{1-\alpha/2})^2 \times P(1-P)}{d^2}$$

where  $Z_{1-\alpha/2}$  = value of two-tailed alpha errors at 95% confidence interval = 1.96. According to **NFHS-4**,<sup>[6]</sup> about 56.1% of mothers have had at least four antenatal care visits in urban areas in Lucknow, where  $n$  = sample size,  $p$  = prevalence,  $d$  = margin of error,  $Z_{1-\alpha/2}$  = 1.96,  $p$  = 56.1%,  $q$  = 43.9%, and  $d$  = 6%.

$$n = \frac{1.96^2 \times 0.561 \times 0.439}{0.0036} = 263$$

Considering an attrition rate of 20%, the desired sample size is 316 recently delivered women. Sixteen slums were selected, and 20 RDWs (by rounding off) were chosen from each slum, making the total figure 320.

### Sampling technique

Sixteen slums were selected using the simple random sampling technique. To include the desired sample size of 320 RDW, the U-ASHAs of the selected slums were contacted and a list of RDWs was made for each slum. By simple random sampling, 20 RDWs were selected from each slum. However, where the sample size was not fulfilled, remaining RDWs were selected from the next geographically adjacent slum. This process was repeated for each selected slum till the desired number of RDWs was obtained.

### Definitions

**Recently delivered women (RDW):** Women who delivered within 2 years before data collection regardless of the new-born outcome. In case of two deliveries within previous 2 years, details were asked about the most recent delivery.

**Data Collection:** A predesigned and pretested interview schedule was used for data collection. Each selected slum was visited, and identified RDWs were contacted. An attempt was made to convince all the RDWs fulfilling the inclusion criteria to participate in the study after informing them about the aims, objectives, and likely benefits which would accrue from the study.

**Statistical Analysis:** The continuous variables were presented in mean  $\pm$  standard deviation (SD), whereas Chi-square test was used to test the association between two categorical variables. Statistical package for social sciences, version-26 (SPSS-26, IBM, Chicago, USA) was used for data analysis.  $P < 0.05$  was considered statistically significant.

### Ethical consideration

The ethical clearance was obtained from the Institutional Ethics Committee of King George's Medical University UP, Lucknow before commencing the study. Institutional ethical clearance number: 101<sup>st</sup> ECM IIB-Thesis/P55 (No. 536/Ethics/2020).

## Results

Sociodemographic characteristics of the RDW show that 36.2% RDW belonged to the less than 25 years age group, the majority (51.6%) of RDW were in the age group 25–34 years,

and the remaining 12.2% RDWs were more than 35 years of age. Notably, 71.3% of RDW were Hindu, while the rest were from the Muslim community. More than half (57.5%) RDW belonged to other backward class (OBC), and 24.7% and 17.8% RDW were SC/STs and general category, respectively. The majority of RDW (45.9%) had school education as their highest qualification, while 40.9% were illiterate. Most RDW (93.1%) were either nonworking or housewives. About 76.6% of RDW belonged to nuclear families, and 23.4% were of joint families. The majority of these RDW belonged to the middle socioeconomic group (78.8%), and 15.6% were of the lower socioeconomic group.

Registered pregnancies were 95%, and the majority were registered in Government health facilities. The majority of the participants were escorted by U-ASHA for ANC in the first trimester (53.1%), yet only 43.1% of the RDW had at least four ANC visits escorted by U-ASHA. The TT (2 doses) coverage among these RDW was 81.3%, whereas IFA consumption was only 35.9%. Only 39.4% RDW received JSY incentives [Table 1].

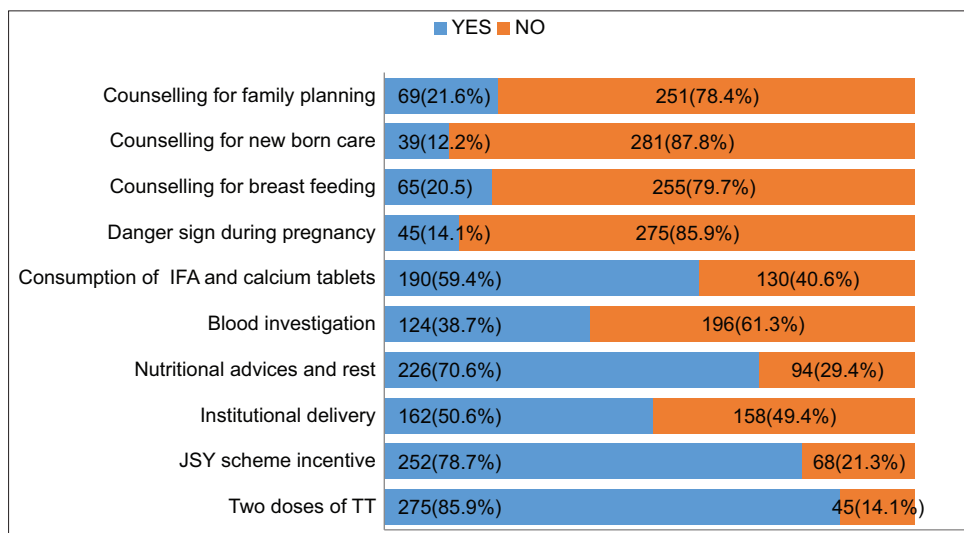
The majority of the counseling services provided by U-ASHA were directed toward 2 doses of TT (85.9%), followed by information regarding JSY incentives, nutritional advices, and IFA consumption in decreasing order. Counseling about new-born care, danger signs during pregnancy, breast feeding, and family planning counseling were least stressed upon [Figure 1]. The institutional delivery was found to be 84.7%, of which 70.8% were in Govt facilities [Figure 2].

Only 27.7% of RDW visited health facilities for PNC services, and the majority (54.6%) of them visited beyond 14 days of delivery. U-ASHA visited 75.6% of these RDW within 6 weeks post delivery, and among these, 61.2% visits were within first week post delivery. Among these visited RDW, PNC counseling services were provided to 88.8% beneficiaries. Counseling

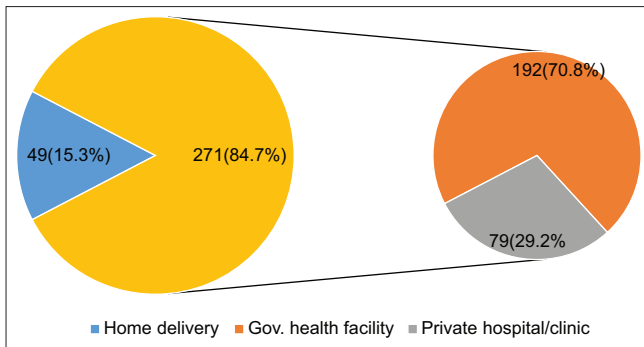
services regarding breast feeding, immunization, consumption of IFA, and calcium tablets were most frequently delivered, whereas danger signs in new-born and during the postnatal period were least talked about [Table 2].

**Table 1: Utilization of ANC services by recently delivered women during recent pregnancy (n=320)**

Antenatal services	Frequency (n)	Percentage (%)
Registration for ANC services		
Not registered for ANC services	16	5.0
Registered		
Total cases registered for ANC services	304	95.0
Gov. health facility	236	77.6
Private hospital/clinic	68	22.4
Mother having mother-child protection (MCP) card		
Yes	288	90.0
No	32	10.0
Number of ANC visits escorted by USHA		
None visit escorted by USHA	16	5.0
1-3	166	51.9
4	58	18.1
>4	80	25.0
Time of first ANC visit escorted by USHA		
First trimester	170	53.1
Second trimester	96	30.0
Third trimester	38	11.9
Two doses TT escort by USHA		
Yes	260	81.3
No	60	18.7
IFA Tablet given to RDW by USHA worker 180 days		
Yes	115	35.9
No	205	64.1
JSY Incentive by RDW		
Received	126	39.4
Not received	194	60.6



**Figure 1: Counseling services provided by U-ASHA workers to beneficiaries during ANC checkup**



**Figure 2:** Distributions of RDW according to place of delivery

Family planning service users among RDW were only 41.9%, and among these users, about 90% were counseled by U-ASHA. But counseling regarding various domains in family planning services was almost less than 30% in each individual domain except for availability of family planning methods at health facility, which is also just about 37% [Table 3].

Counseling by USHA workers regarding all the ANC services had better utilization among counseled RDW as compared to their counterpart, and all these were found to be statistically significant [Table 4].

Counseling by U-ASHA workers regarding all the PNC services had better utilization among counseled RDW as compared to their counterpart except for child-care counseling, but only the counseling for family planning services was found to be statistically significant. Counseling for breast feeding and immunization to RDW had better uptake of services yet not statistically significant implying better awareness even among uncounseled RDW. Utilization of child-care services was more among uncounseled RDW and also found to be statistically significant. This may be attributed to poor delivery of counseling for child-care by U-ASHA workers and also more robust health seeking nature of parents toward infant health concern even for minor ailments [Table 4].

## Discussion

In the current study, registered pregnancies were 95% and the majority (77.6%) were registered in Government health facilities and 22.4% registered at private hospitals/clinics. Similar findings were observed in various studies by Pai D V *et al.* (2018),<sup>[7]</sup> Kumar A *et al.* (2016),<sup>[8]</sup> and Sangita *et al.* (2012).<sup>[9]</sup>

About 43.1% of beneficiaries were escorted by U-ASHA workers to the hospital/health center for recommended ( $\geq 4$ ) antenatal care visits, and the majority (51.9%) of RDW had less than four visits. Similar results were obtained in various studies by Kaur R *et al.* (2015),<sup>[10]</sup> Singh R *et al.* (2019),<sup>[11]</sup> Sharma S *et al.* (2020),<sup>[12]</sup> and Chaurasiya SK *et al.* (2020).<sup>[13]</sup> The majority of the beneficiaries escorted by USHA for ANC were in first trimester (53.1%).

TT (2 doses) coverage escorted by U-ASHA workers among these RDW was 81.3%, whereas beneficiaries who received the

**Table 2: Postnatal care visit services provided by U-ASHA workers to the beneficiaries during home visits (n=320)**

Services	Frequency (n)	Percentage (%)
RDW visited health care facility for PNC services		
No	232	72.5
Yes	88	27.5
Timing of first PNC visit health care facility by RDW (n=88)		
0-7 day	10	11.4
8-14 day	30	34.0
>14 day	48	54.6
Home visit by U-ASHA workers within 6 weeks of delivery (n=320)		
No	78	24.4
Yes	242	75.6
Timing of first home visit by U-ASHA (n=242)		
0-7 days	148	61.2
8-14 days	46	19.0
>14 days	48	19.8
PNC counseling services provided by U-ASHA during home visits (n=242)		
No	27	11.2
Yes	215	88.8
If yes*		
Breastfeeding	214	99.5
Immunization	210	97.7
Child care	113	52.5
Family planning	120	55.8
Consumption of IFA and calcium tablets	180	83.7
Danger signs in the postnatal period	89	41.4
Danger signs in new-born	88	40.9

\*Multiple responses

recommended number (i.e., more than 180 days) of IFA tablets from U-ASHA workers were only 35.9%. Kaur R *et al.* (2015)<sup>[10]</sup> observed that only 12.9% of ASHAs had correct knowledge regarding the dosage of iron tablets for pregnant women.

In the present study, the majority of the counseling services provided by U-ASHA were directed toward 2 doses of TT (85.9%), followed by information regarding JSY incentives (78.7%), nutritional advices (70.6%), IFA consumption (59.4%), and institutional delivery (50.6%) in decreasing order. Counseling about new-born care (12.2%), danger signs during pregnancy (14.1%), breast feeding (20.3%), and family planning (21.6) counselling were least stressed upon. Similar findings were reported in a study by Kaur M *et al.* (2023),<sup>[14]</sup> wherein danger sign in pregnancy, institutional delivery, family planning, nutritional advice, anemia during pregnancy, and breast feeding were all in agreement with the present study. Pal J *et al.* (2019)<sup>[15]</sup> also reported that all the ASHA workers advised the mothers for TT immunization and informed about baby's immunization schedule. The institutional delivery advised/motivated by USHA workers was found to be 50.6%. Similarly, Fatima FN *et al.* (2015)<sup>[16]</sup> observed 60% of beneficiaries

**Table 3: Information provided by U-ASHA workers to recently delivered women about family planning services (n=320)**

Family planning services	Total	Percentage
Nonusers	186	58.1
Users	134	41.9
Information provided by U-ASHA workers about family planning services to the users (n=134)		
No	14	10.4
Yes	120	89.6
If yes*		
Available family planning methods at the health facility	45	37.5
How to use chosen family planning method	35	29.2
The side effect of these family planning methods	34	28.3
Management of side effects of family planning methods	31	25.8
Switching to another family planning method (if required)	16	13.3
Husband present during counseling	36	30.0

\*multiple responses, percentages are presented within parentheses. For total, column % whereas in rest, row %

**Table 4: Association between various ANC and PNC counseling services by U-ASHA workers and the respective ANC services availed by RDW (n=320)**

Counselling by U-ASHA Workers	ANC services availed		P	
	Yes	No		
For two doses TT	Yes (275)	235	40	<0.01
	No (45)	25	20	
For JSY Incentive	Yes (252)	120	132	<0.01
	No (68)	6	62	
For institutional delivery	Yes (262)	129	33	0.01
	No (158)	142	16	
For consumption of IFA and Calcium	Yes (190)	100	90	<0.01
	No (130)	15	115	
<b>PNC services availed</b>				
For breast feeding	Yes (214)	202	12	0.723
	No (106)	99	7	
For child care	Yes (113)	38	75	<0.01
	No (207)	195	12	
For family planning	Yes (120)	80	40	<0.01
	No (200)	54	146	
For immunization	Yes (210)	188	22	0.695
	No (110)	100	10	

Data are presented in number and association was tested using Chi-square test

motivated for institutional delivery by ASHA workers and Chaurasiya S *et al.* (2020)<sup>[13]</sup> found that 71.9% of the institutional deliveries were advised by ASHA workers. In the present study, about 78.7% of beneficiaries were informed regarding JSY and incentives under it by U-ASHA workers; similarly, Bhattacharya *et al.* (2015)<sup>[17]</sup> mentioned that 70% of the recently delivered women could avail the JSY benefit and all of them were facilitated by ASHA. In another study by Kumar *et al.* (2017)<sup>[18]</sup> about 64.8% of beneficiaries were given information and knowledge about JSY by ASHA workers. Chaurasiya S *et al.* (2020)<sup>[13]</sup> found that 72.1% of beneficiaries responded that ASHA workers informed her about the incentive for institutional delivery under Janani Suraksha Yojna (JSY) scheme.

The present study showed that the institutional delivery was found to be 84.7%, of which 70.8% were in Government facilities, which was found to be in line with NFHS-5<sup>[19]</sup> data.

Similar findings were also reported by Sharma S *et al.* (2020)<sup>[12]</sup> and Pai DV *et al.* (2020)<sup>[7]</sup>

Only 27.7% of RDW visited health facilities for PNC services, and the majority (54.6%) of them visited beyond 14 days of delivery. Only 39.4% RDW received JSY incentives. Similar findings were obtained by Singh R *et al.* (2019)<sup>[11]</sup>

U-ASHA visited 75.6% of these RDW within 6 weeks post delivery, and among these, 61.2% visits were within the first week post delivery. Kaur M *et al.* (2023)<sup>[14]</sup> observed that 59.72% of ASHA workers responded that there are seven postnatal home visits. In a study by Garg S *et al.* (2022)<sup>[20]</sup> a key finding of the study was that 74.1% of rural new-borns had received the designated six visits for HBNC. A study of a smallscale intervention in Uttar Pradesh by Pathak PK *et al.* (2021)<sup>[21]</sup> had reported a PNC coverage rate of 66%. Sharma S *et al.* (2020)<sup>[12]</sup> reported that only 43% of women had received home visits during the postpartum period. Chaurasiya S *et al.* (2020)<sup>[13]</sup> revealed 96% of beneficiaries responded that ASHA workers visited her home after delivery. In 57.2%, ≥6 home visits were done and in 42.8% cases less than 6 visits by ASHA. Similar findings were observed in Fathima *et al.* (2015)<sup>[16]</sup> wherein PNC visits by ASHA were 72.4%. Sinha LN *et al.* (2014)<sup>[22]</sup> reported that ASHAs' visit on the first day (within 24 hours of home delivery) was 33%.

Among these visited RDW, PNC counseling services were provided to 88.8% beneficiaries. Counseling services regarding breast feeding (99.5), immunization (97.7), consumption of IFA, and calcium tablets (83.7) were most frequently delivered, whereas family planning (55.8), child care (52.5), and danger signs in new-born (40.9) and during the postnatal period were least talked about. Pathak PK *et al.* (2021)<sup>[21]</sup> revealed that 74% of mothers got counseling on new-born care in the postnatal period and the maximum counseling was given on breastfeeding (66.5%), immunization (66.5%), and the danger signs of new-born (51%). The present study also showed that counseling for breast feeding and immunization were the highest with better coverage than that in Pathak PK *et al.* (2021)<sup>[21]</sup> and

new-born care counseling was near about similar. Sinha LN *et al.* (2014)<sup>[22]</sup> reported that mothers who reported all seven postnatal home visits by ASHAs for new-born care were 15% and safe breastfeeding (48%). Pal J *et al.* (2019)<sup>[15]</sup> reported that all beneficiary mothers who were interviewed reported that ASHA workers came to visit her during the postnatal period. Almost all the ASHA workers (98.95%) counseled the postnatal mothers about diet, personal hygiene, birth registration, scheduled immunization of baby, and exclusive breast feeding, while more than 95% of ASHA workers counseled them about baby's positioning and attachment for successful breast feeding.

Family planning service users among RDW were only 41.9%, and among these users, about 90% were counseled by U-ASHA. Khan MF *et al.* (2019)<sup>[23]</sup> in their study found the postpartum women using the modern contraceptive method were 24.6%. In a study by Rushender R *et al.* (2017),<sup>[24]</sup> it was found that utilization of family planning services was 59.67% among mothers practicing spacing methods. Counseling regarding various domains in family planning services was almost less than 30% in each individual domain except for availability of family planning methods at health facilities, which is also just about 37%. Abdulreshid M *et al.* (2020)<sup>[25]</sup> showed that service providers informed their clients about how to use a family planning method in 60.3%, informed their clients about the possible side effect related to the use of family planning methods in 25.8%, and explain how to deal with these possible side effects in 14.8%. All these findings are almost similar to those of the present study.

## Conclusions

Early ANC registration (as soon as pregnancy is detected) and at least four ANC visits escorted by U-ASHA before safe confinement are still far to be achieved. IFA consumption was very low, and it is a matter of concern in a country where prevalence of anemia is high (over 50%). The findings regarding PNC services reflect huge neglect toward PNC care among both RDW and U-ASHA. Only 39.4% RDW received JSY incentives, which is again a setback at the program level not incentivizing the beneficiaries. HBNC visits by U-ASHA have further scope of improvement. Counseling services regarding breast feeding, immunization, consumption of IFA, and calcium tablets were most frequently delivered, whereas danger signs in new-born and during the postnatal period were least talked about by U-ASHA, which also had a significant setback in terms of their utilization. Adequate counseling by U-ASHA pertaining to all the domains is to be strictly implemented to improve these numbers and overall uptake of contraception in the postpartum period.

To conclude, the present study showed that some of the services delivered by U-ASHA were less stressed upon, family planning, child care, and timely HBNC visits to name some. Counseling services by U-ASHA regarding ANC and PNC services have a significant impact on their utilization by RDW.

## Recommendation

ASHA's regular visits to the pregnant women should be promoted to help in developing confidence among women regarding safe confinement. This can be done by motivating ASHA for regular field visits and making her more accountable for service delivery. Incentives of the JSY scheme should be ensured in all the mothers completely and timely. Health authorities should intensify ANC, institutional delivery, PNC, child care, immunization, and family planning services for slum residents as the utilization of RCH services is woefully inadequate. To enhance the health condition of slum inhabitants, the government should take initiatives to increase the coverage and frequency of such activities in the slums to enhance comprehensive care.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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