Intranatal (labor & child birth) and postnatal care services – Role of ASHAs

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ABSTRACT

Background: Maternal mortality and neonatal mortality are substantial burden in developing countries. Every pregnant woman during all the 3 trimesters, during labor & postpartum period is at the risk of facing sudden, unpredictable complications that could end in death or injury to herself or to her infant. Complications like abortion, preeclampsia, eclampsia, ruptured uterus, puerperal sepsis, postpartum haemorrhage etc. which result in maternal mortality, morbidity and perinatal death are unpredictable.

Objective: To assess the knowledge of ASHAs regarding intranatal and postnatal care services.

Methodology: A cross sectional study was conducted on ASHAs of 2 PHCs and 1 CHC of Belagavi Rural area. All (100) ASHAs were included in the study. Ethical clearance and Informed consent was obtained. Data regarding the knowledge of ASHAs about their roles and responsibilities towards intranatal and postnatal care services was collected using questionnaire by JHPIEGO.

Results: The findings of the study revealed that ASHAs had knowledge about high BP 75%, 64%, severe vaginal bleeding 82%, 95%, convulsions (43%) during Labor and Childbirth and during postpartum period respectively. They had very low knowledge regarding - prolonged labor (12%), retained placenta (7%). Early breastfeeding (93%), dry wrap (100%) and exclusive breastfeeding (80%) were 3 basic cares provided to the baby. There was a significant linear association between knowledge and level of education of ASHAs (p-value = 0.0092).

Conclusion: Knowledge of ASHAs about intranatal and postnatal care services was poor. Hence need of the hour is to train ASHAs regarding intranatal and postnatal care services.

1. Introduction

Maternal Mortality is a rampant problem of developing and less developed countries. Global maternal mortality ratio (MMR) of 216/1,00,000 live births was seen in 2015 which resulted in a total of 3,03,000 maternal deaths. India has progressed from 556 maternal deaths per 1,00,000 live births in 1990 to 130/1,00,000 live births in 2016. India should achieve a target of an MMR below 70 by 2030 according to Sustainable Development Goals (SDG).¹ The current (year 2021) infant mortality rate (IMR) in India is 29/1000 live births which has been declined 3.61% from the year 2020.³

Every pregnant woman during pregnancy, labor & postpartum period is at the risk of facing sudden, unpredictable complications that could end in death or injury to herself or to her infant. Complications like abortion, preeclampsia, eclampsia, ruptured uterus, puerperal sepsis, postpartum haemorrhage etc. which result in maternal mortality, morbidity and perinatal death are unpredictable.³ Major barrier for reducing maternal morbidity and mortality is a delay in responding to

the onset of complications and onset of labor.¹ Most of maternal deaths are in low-resource settings, rural areas and poor communities. The presence of a skilled attendant at birth (SBA) is the key strategy to prevent the leading causes of maternal and neonatal mortality and morbidity.⁵ Preparing for birth and being ready for complications reduces all three phases of delays in – identifying the complication and deciding to seek care, identifying and reaching a health facility and receiving adequate and appropriate treatment at the health facility.⁶

Government of India launched the National Rural Health Mission on 5th April 2005. Accredited Social Health Activist (ASHA), a new band of community based grass root level health workers was proposed to escort and transport the client to reach the hospital and provide referral services in case of complications. A time to time assessment of the knowledge of ASHAs is essential as the success of government's health programmes in rural areas depends on them.^{2,4} ASHAs also act as health activists in the community who will create awareness on health and its determinants, counsel mothers on key healthy behaviours and mobilize the community towards local health planning and increased utilization

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and accountability of the existing health services.⁴

There is scarcity of studies on ASHAs regarding their role in intranatal and postnatal care service provision at study area. Hence this study has been conducted to - assess the knowledge of ASHAs regarding intranatal (labor & child birth) and postnatal care services and to estimate the association between knowledge of intranatal and postnatal care services and sociodemographic profile of ASHAs.

2. Materials and method

2.1. Study design: cross sectional study

Source of Data: Rural area of Belagavi Taluka consists of 11 Primary Health Care Centres (PHCs) and one Community Health Care Centre (CHC). Two PHCs were selected by simple random sampling and a CHC was included in the study. .

Study Period: May 2019 to December 2020.

Study population: All ASHAs from three selected clusters were included in the study. Complete enumeration sampling technique was used. All ASHAs had completed 6 months in their job and they gave consent for study.

Inclusion Criteria: 1. ASHA workers who had an experience of more than 6 months.

2. AHSA workers who gave the consent

Exclusion Criteria: Newly joined ASHA workers with less than 6 months of experience.

Data Collection Tool: A predesigned and structured questionnaire from *JHPIEGO* (Johns Hopkins Program for International Education in Gynecology and Obstetrics) was used for data collection. Questionnaire was validated and customized through pilot study.

Ethical Considerations: Ethical approval was obtained from Ethical Committee (Human) for Ph.D Research, KAHAR, Belagavi. Permission to collect data from ASHAs was obtained from Department of Health and Family Welfare Services (RCH). Informed consent was obtained from all the participants after providing detailed information.

Data Collection Procedure: Data collectors were from Masters in Public Health (MPH) background and were trained thoroughly prior to data collection. Data regarding the knowledge of ASHAs about their roles and responsibilities towards intranatal and postnatal care services was collected through individual interview using questionnaire by *JHPIEGO*. Confidentiality of the study participants was maintained throughout the study.

Statistical Analysis of Data: Data was entered by the researcher and was analyzed by the Biostatistician to maintain the accuracy and appropriateness. Descriptive analysis of the data is done using R 3.6.3. Continuous variables are represented by mean $\pm$ standard deviation form. Categorical variables are represented by frequency tables. Categorical variables are compared using chi-square test, p-value < 0.05 considered as significant.

3. Results

Table 1: Most of the subjects were of the age group 30–39 years. Majority of the subjects (86%) were married. About 98% of the subjects were Hindus. Around 69% of the subjects had secondary level of education. Majority of the subjects (97%) belonged to BPL family. Around 78% of the subjects had more than 3 years of working experience.

Table 2: As per ASHA workers, high BP (75%), severe vaginal bleeding (82%), convulsions (43%) can occur during Labor and Childbirth. They had very low knowledge regarding - prolonged labor (12%), retained placenta (7%), severe headache, high fever etc. Prepare clean items for birth (94%), save money for delivery & complication (82%) and mode of transportation (74%) were 3 common things a woman to prepare for the birth. Only 3% of them knew about identifying the blood

Table 1

Distribution of Subjects according to their Sociodemographic Data.

Factors	Sub-category	Count
Age group	<30 years	9 (9%)
	30–39 years	64 (64%)
	40–49 years	24 (24%)
	≥ 50 years	3 (3%)
Current Marital status	Single	1 (1%)
	Married	86 (86%)
	Widowed	11 (11%)
	Divorced	0 (0%)
	Separated	2 (2%)
	Hindu	98 (98%)
Religion	Muslim	2 (2%)
	Christian	0 (0%)
	Others	0 (0%)
	Primary	18 (18%)
Level of education	Secondary	69 (69%)
	Undergraduate	12 (12%)
	Graduate	1 (1%)
	Post-graduate	0 (0%)
Level of education of Husband	NR	13 (13%)
	Primary	23 (23%)
	Secondary	44 (44%)
	Undergraduate	16 (16%)
	Graduate	4 (4%)
	Post-graduate	0 (0%)
Income of the family		8995 $\pm$ 4352.22
Family belongs to	BPL	97 (97%)
	APL	3 (3%)
Household structure	Nuclear	53 (53%)
	Joint	47 (47%)
	Extended	0 (0%)
Work experience of ASHAs	6–12 months	9 (9%)
	13–24 months	7 (7%)
	25–36 months	6 (6%)
	>36 months	78 (78%)
Rounds of training	1 round	5 (5%)
	2 rounds	5 (5%)
	3–4 rounds	35 (35%)
	>4 rounds	55 (55%)
Any training in last 3 months		39 (39%)

Table 2

Distribution of subjects by labor and childbirth – knowledge.

What are some serious health problems that can occur during Labor and Childbirth?		
Key Danger signs	Severe vaginal bleeding	82%
	Prolonged labor (>12 h)	12%
	Convulsions	43%
	Retained placenta beyond 30 min	7%
Other Danger signs	Severe headache	5%
	High fever	5%
	Loss of consciousness	16%
	High BP	75%
	Excessive water leakage	6%
In your opinion could a woman die from any of the above-mentioned problems?*		84%
What are some things a woman can do to prepare for birth?	Identify health facility	39%
	Identify skilled provider	6%
	Identify mode of transportation	74%
	Save money for delivery, complications	82%
	Identify birth companion	34%
	Identify blood donor	3%
	Prepare clean items for birth	94%
	Reports & documents	24%

donor and 6% knew about identifying skilled provider.

Table 3: Majority of ASHAs knew about severe vaginal bleeding (95%) and high BP (64%) during the first 2 days after birth. Early breastfeeding (93%), dry and wrap (100%) and exclusive breastfeeding (80%) were 3 common basic cares provided to the baby. They advised

Table 3
Distribution of subjects by postpartum care – knowledge.

Some serious health problems that can occur during the first 2 days after birth that could endanger the life of the woman:		
Key Danger Signs	Severe vaginal bleeding	95%
	Malodorous vaginal discharge	17%
	High fever	22%
Other Danger signs	Convulsions	19%
	Severe headache	19%
	Blurred vision	5%
	Loss of consciousness	21%
	Difficulty breathing	1%
	Severe weakness	21%
	Swollen hands/face	4%
	High BP	64%
	Infection of stitches	12%
In your opinion could a woman die from any of the above-mentioned problems?		88%
Basic care that can be provided to a newborn baby immediately after birth	Early breastfeeding (within 1 h)	94%
	Exclusive breastfeeding	55%
	Dry and wrap	88%
	Cord care	15%
	Kangaroo Mother Care (KMC) for LBW babies	12%
	Feeding the first milk (colostrum) to the baby	9%
Postpartum checkup after childbirth	Once at 3 weeks	33%
	Once at 6 weeks	1%
	3 times: at 6 h, 6 days, and 6 weeks	3%
	Any time she has danger signs	28%
	Only if she has danger sign	35%
Advise to the mother during postpartum visit	Rest for at least 6 weeks	27%
	Eat more nutritious food	85%
	Exclusive breastfeeding for 6 months	83%
	Need for contraception methods	15%
	Personal hygiene	36%
Advice regarding baby care after childbirth	Dry the baby and keep the baby warm	100%
	Delay first bath for the baby for at least 6 h	33%
	Cord care	24%
	Hygiene	17%
Advice regarding breastfeeding	Start breastfeeding within 1 h after birth	93%
	Exclusive breastfeeding for 6 months	80%
	Breastfeed as and when the baby needs it	70%
	Correct position for breastfeeding	58%
	Burping after breastfeeding	21%

about eating nutritious food (85%) and exclusive breastfeeding for 6 months (83%). Only 15% of them advised regarding contraception methods, 17% regarding hygiene and 24% regarding cord care.

Table 4: There was a significant increasing linear trend in proportion of Knowledge score “ ≥ 4 ” over level of education using Chi Square test (p-value = 0.0092). Receiving training within last 3 months was not significantly associated with knowledge about key danger signs.

4. Discussion

The present Cross Sectional Study was conducted with an objective to assess the knowledge of ASHA regarding intranatal and postnatal care services and to estimate the association between knowledge and sociodemographic profile of ASHAs. In India, with the introduction of ASHA workers under the National Rural Health Mission (NRHM) from 2005, utilization of healthcare services at the peripheral level has

Table 4

Association between knowledge of intranatal and postnatal care services and sociodemographic profile of ASHAs.

Factors	Sub-category	Scores for knowledge of key danger signs		P-value
		≥ 4 (n = 46)	< 4 (n = 54)	
Age	<30 years	4 (44.44%)	5 (55.56%)	0.9147
	30–39 years	30 (46.88%)	34 (53.13%)	
	40–49 years	10 (41.67%)	14 (58.33%)	
Level of education	≥ 50 years	2 (66.67%)	1 (33.33%)	0.0092*
	Primary	4 (22.22%)	14 (77.78%)	
	Secondary	34 (49.28%)	35 (50.72%)	
Work experience of ASHA	Undergraduate	7 (58.33%)	5 (41.67%)	0.1127
	Graduate	1 (100%)	0 (0%)	
	6–12 months	3 (33.33%)	6 (66.67%)	
	13–24 months	2 (28.57%)	5 (71.43%)	
	25–36 months	1 (16.67%)	5 (83.33%)	
Rounds of training	>36 months	40 (51.28%)	38 (48.72%)	0.2486
	1 round	3 (60%)	2 (40%)	
	2 rounds	1 (20%)	4 (80%)	
	3–4 rounds	12 (34.29%)	23 (65.71%)	
Any training in last 3 months	>4 rounds	30 (54.55%)	25 (45.45%)	0.3968
	Yes	20 (51.28%)	19 (48.72%)	
	No	26 (42.62%)	35 (57.38%)	

improved.⁹ ASHA is a female volunteer selected by the community, deployed in her own village (1/1000 population) after a short training on community health.⁸ Studies on intranatal and postnatal care services are very limited in India and nonexistent in the study area.

Most of the ASHA workers are having very less knowledge regarding intranatal and postnatal care services. Skill based training is not provided to ASHA workers which is a hindrance for their knowledge and practice. Incentive provided for them is also negligible compared to their workload.¹ They are overburdened with other works apart from Mother and Child Health services. There are many gaps in understanding of intranatal and postnatal care services by health care workers and provision of essential services towards intranatal and postnatal care. Hence the current research is aimed to address gaps in understanding of intranatal and postnatal care services.

The results of the present study showed that majority of the ASHA workers were middle aged and married. A study by Kochukuttan S et al. showed that mean age of ASHAs was 30–35 years, 90% were married.⁷ Findings from a study conducted in Delhi also showed that majority of the participants were from the age group of 25–45 years and were married.¹¹

In the present study 69% of ASHAs completed secondary level of education. Similarly a study conducted by P. K. Garg et al. in rural Haryana showed most of ASHA workers had completed minimum 8th std.⁴ A study by Swati S. et al also showed 65% of secondary level of education.¹²

A study from Aligarh showed that 88% ASHAs had knowledge about excessive vaginal bleeding.¹⁰ A study conducted by P. K. Garg et al. in rural Haryana showed 78% ASHAs had knowledge about excessive vaginal bleeding.⁴ Similarly in present study also more than 80% of the ASHAs were aware about excessive bleeding as complication.

A study by Swati S. et al showed that majority (71%) of ASHA workers were aware about the fact that exclusive breastfeeding should be done up to 6 months.¹² Similarly in our study also 83% of ASHAs were aware of exclusive breastfeeding. Present study revealed that 93%

of ASHAs knew about early initiation of breastfeeding, similarly 83.5% of ASHAs knew in a study conducted by Fatima F. N. et al.¹⁶

In a study by Baghel A et al., 58.9% of ASHAs reported to have 5–10 years of work experience.¹³ Similarly in present study also 78% of ASHAs had 3–10 years of experience.

Present study showed that only 15% of ASHAs had postpartum knowledge about contraceptive methods. Similarly Das A. et al. showed that only 20% ASHAs had contraceptive knowledge.¹⁴

Present study revealed that only 12% of ASHAs had knowledge about prolonged or obstructed labor whereas Kori S. et al. showed that 88.6% ASHAs were aware about obstructed labor which is in contrast with present study.¹⁵

Strengths of the study: Present study was carried out in an appropriate manner following all the necessary steps. Ethical approval (Human) and permission from Department of Health and Family Welfare Services (RCH), Karnataka was obtained to conduct the study.

Limitation of the study: Due to resource constraints only 2 PHCs and 1 CHC was included and limited number of participants were interviewed.

This study is an initiation to carry out an interventional study which will be conducted by the researcher in near future.

5. Conclusion

ASHAs are the most important activists/key workers in maintaining the health of women during pregnancy, childbirth and postpartum period especially in rural areas where health facilities are scarce. More than 80% of ASHAs were aware of severe bleeding as key danger sign, more than 65% were aware about high BP but their knowledge regarding other key danger signs like - prolonged labor, retained placenta, swollen hands/face, blurred vision, convulsions, high fever, severe headache was negligible. Knowledge regarding cord care, Kangaroo Mother Care, colostrum feeding, contraception, burping and hygiene was also very low. Hence need of the hour is to train ASHAs regarding intranatal and postnatal care services.

Ethical approval

Obtained from Ethical Committee (Human) for Ph.D Research, KAHER, Belagavi.

Consent to participate

Obtained.

Consent for publication

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Declaration of competing interest

The authors declare that they have no conflict of interest.

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