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ANTENATAL AND POSTNATAL CARE PRACTICES AMONG THE DIBONGIYA DEORI OF ASSAM

ABSTRACT: Care during pregnancy as well as after childbirth is important for the health and survival of both the mother and the newborn. The utilization of maternity care services is not uniform in society. Beliefs and practices associated with antenatal and postnatal care also show variation among the population groups as it depends on their perception level. The present study aims to understand the utilization of antenatal and postnatal care among the Dibongiya Deori population residing in the rural and urban areas of Assam. Few socio-demographic variables are also considered to compare with their healthcare practices during pregnancy and childbirth. The present cross-sectional study is conducted in the Lakhimpur district of Assam, India with a total of 504 Dibongiya mothers (rural: 405; urban: 99). The Dibongiya is a numerically small territorial group (Khel) of Deori of Assam. They belong to the Tibeto-Mongoloid ethnic group. The majority of Dibongiya mothers availed themselves medical treatment during pregnancy and immunized their children at different periods. The coverage is found to be more among the young aged mothers, having higher educational attainment, and engaged in salaried jobs in both the setup. Followers of traditional beliefs and practices associated with antenatal and postnatal periods are also observed among them. The impending necessity is to improve the basic health care facilities and provide proper maternal education for their betterment as well as to move forward.

KEY WORDS: Pregnancy - Childbirth - Belief - Care Seeking - Proximate Factors - Women- Dibongiya Mother

INTRODUCTION

Antenatal care (ANC) is one of the basic components of maternal care where the wellbeing of both the prospective mothers and babies depend (Kabir, Khan 2013). It helps to detect the existing problems of pregnancy and also provides advice and counseling on preventing care, diet during pregnancy, delivery care, postnatal care, and related issues. During the pregnancy period, the child and mother are really as a single unit because the child gets his nutrition from his mother in the antenatal period (Pallikadavath *et al.*

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2004). The main purpose of ANC is to save pregnant mother and fetus. In India despite affords by government and NGOs on ANC for healthy mothers and babies, still, the status of health service is poor in most of the urban and rural areas (Ujah *et al.* 2005, Singh *et al.* 2015).

Postnatal care (PNC) is also regarded as the most important maternal health care service for the prevention of physical and cognitive impairments as well as disability resulting from a postnatal cause (Dhakal *et al.* 2007). Care during this period is vital for the health and survival of both the mother and the newborn (Lawn, Kerber 2006). Cultural and traditional practices, values, and beliefs play an important role in the medical attention-seeking behavior of postpartum mothers as well as in newborn babies during the postnatal period (Dorland's Medical Dictionary for Health Consumers, 2007). A family that mirrors values, traditions, customs, and beliefs, i.e. culture of a society to which it belongs, plays an important role in physical, psychological, social development, and health in children (Datta 2007). In a rural situation, family members, elders, and traditional birth attendants are important sources to provide information about various health-related issues. Newborn care, similar to other human behaviors, is influenced by cultural beliefs. Hence, the exploration of cultural beliefs and practices of newborn care is essential (Dorland's Medical Dictionary for Health Consumers, 2007).

Institutional delivery with a skilled birth attendant is an important indicator of safe motherhood. Mothers deliver their babies in an appropriate setting, where life-saving equipment and hygienic conditions can also help reduce the risk of complications that may cause death or illness to mother and child (Campbell, Graham 2006). Breastfeeding is also one of the most important determinants of child survival, birth spacing, and prevention of childhood infections. It has been accepted as the most vital intervention for ensuring optimal growth and development of children (Iskandar *et al.* 1990).

The utilization of maternity care services is not uniformly distributed in Indian society. Beliefs and practices associated with antenatal and postnatal care also show variation among the population groups as it depends on their perception level. The present study aims to understand the utilization of antenatal and postnatal care among the Dibongiya Deori population residing in the rural and urban areas of Assam, India. Few socio-demographic variables are also considered to compare with their care practices regarding pregnancy and childbirth.

Deori is a riverine plains scheduled tribe of Assam who belongs to the Tibeto-Mongoloid ethnic group. They can also be traced in the Lohit and Changlang districts of Arunachal Pradesh. The numeric strength of the Deori population in Assam is 43,750 and the majority (89.21%) of the Deori population resides in the rural areas of Assam (Census of India, 2011). The Dibongiya Deori is one of the sub-divisions or territorial groups (*Khel*) of Deori, the name of which owes its origin from the river Dibong of their original homeland Sadiya in Arunachal Pradesh. The district Lakhimpur of Assam recorded the highest concentration of the Deori population and around 95.00 percent of the Deori villages of this district belong to the Dibongiya Deori *Khel* (Department of Welfare of Plains Tribe and Backward Classes, Assam, 2007).

The Dibongiya mothers remain busy with daily chores like carrying heavy water buckets from a distance, cultivation in a paddy field, and also in the kitchen garden until the time of delivery, however, they follow some restrictions that they do not cross the rope, quickly open the hand oven towel that is used for caring paddy seeds from the field and even refrain from weaving and cutting during carrying stage to avoid complicacy as per their belief. Dibongiya mothers from a rural area who even went for community fishing when their stipulated date of delivery got extended and didn't even consult with medical practitioners. They prefer a normal delivery at home with the help of elderly village women. They usually deliver their babies in their usual bedroom. Now a day, the government has launched various schemes (*Mamoni, Majoni Aachoni*) which provide a token amount of money, few baby products for the newborn child, and also some nutritious food for the mothers.

During pregnancy, traditional beliefs and practices with regards to diet and daily activities are also noticed among them. They prefer food items like various locally available vegetables e.g., a banana flower (*koldil*), banana shoot (*kolpacala*), taro (*kocu*), sweet potato (*tagodhiya*), etc. from their vegetable garden. These food items are specially prescribed to enrich the iron levels of the pregnant mother. Again, they avoid some food items like pineapple, pork, swamp eel, egg, and also any mucilaginous food items since it is believed to harm them. Scores of Dibongiya mothers drink *suje* (home made rice beer) as a stimulant during pregnancy. They have a belief that drinking *suje* is

helpful for the pregnant mother for mitigating the burning sensation during urination. However, many of them believe it causes harm to the baby in the mother's womb.

Substantial numbers of Dibongiya mothers encounter different kinds of a problem during conceiving as well as parturition time. In the rural area availability of the hospitals and physicians are less. These institutes are also not properly maintained. The Primary Health Centre (PHC) can provide only a little support to the villagers and during an emergency, one has to cover a long distance to get the services from the healthcare providers. Recently governmental schemes like communication facilities (ambulance service) have been launched to render services to the people during their urgent situation. Although quite a good number of Dibongiya mothers availed of such facility, in some remote areas ambulance service is also difficult to avail by the people because of poor road construction. There are also instances of using pushcart (*thela)*, bicycle, rickshaw, and also bamboo bier in an emergency.

After the birth of a baby, a fireplace (*dudepati*) is prepared and placed it nearby the mother's sleeping bed for easy recovery of the mother after childbirth and also for saving the newborn and the mother from supernatural forces. Right after the birth of a baby, the neighbours of the village bring some foodstuff for the mother. It includes cooked rice, a special curry of tender colocasia shoots, *suje*, and also raw food materials since the mother is not physically active to prepare her food. During the period, the Dibongiya mother avoids a few food substances which include Duggal fiber tree (*mecaki*), chilly, sour food, black gram, pork, etc. Duggal fiber tree is not permitted because they believe it soaks the mother's breast milk. Pork is considered hot food. Chilly, sour food, black gram, etc. are believed to affect the soft naval cord of the mother. After a normal delivery, the Dibongiya mother doesn't sit in the chair or any other rough wooden tools. Following their traditional belief, a soft cushion is prepared by using a paddy straw and sit with much pressure on it with the help of the left heel for getting relief from the vaginal atrophy after the birth of the baby.

MATERIALS AND METHODS

A cross-sectional investigation was conducted at different consecutive phases during the year 2014 to 2016. A total of 504 ever-married Dibongiya mothers (rural: 405; urban: 99) have been selected from five villages depending on the population concentration namely, Borchapori Deori *Gao*n, Kinapather Deori *Gaon*, Bhogpur Deori *Gaon,* Pichola Deori *Gaon*, and Majorchapori Deori *Gaon* from a rural area and the different urban settlement from Bihpuria, Bandardewa, and Narayanpur in the district of Lakhimpur, Assam. Mothers who volunteered and have at least one surviving child were only taken into consideration. Written consent in the local language was collected from the participants, their guardians as well as the village head. The mothers have been interviewed in presence of at least one family member for cross-examining the information given by the mothers. The retrospective method was followed for collecting the data. A questionnaire /interview schedule was prepared following the SWAN study (Sommer *et al.* 1999). Statistical analysis i.e., the chi square test is performed by the computer software, Chi-Square Test of Independence. All the tables are prepared through the data from Microsoft Office Excel sheet.

RESULTS

The proportion of Dibongiya mothers who have availed antenatal care is a little higher in rural areas as compared to the urban area (*Table 1*). Markedly higher proportions of the mothers belong to the age group of ≤29 years are found to avail antenatal care, which gradually comes down as the age of the mother increases. The mothers having educational status beyond high school standard mostly got immunized during their conceiving stage. Working mothers have availed antenatal care in higher proportions than non-working mothers. However, relatively higher proportions of the mothers from joint families are found to immunize during their pregnancy period (*Table 2*).

TABLE 1: Antenatal care among the Dibongiya mothers.

Antenatal care	Rural No. of mothers	%	Urban No. of mothers	%	χ^2
Yes	353	87.16	88	88.89	0.22
No	52	12.84	11	11.11	p=0.64
Total	405	100.00	99	100.00	

TABLE 2: Background characteristics and antenatal care among the Dibongiya mothers. * Figures within parentheses indicate the percentage.

Background characteristics	Rural	Antenatal care		Urban	Antenatal care	
	No. of mothers	Yes	No	No. of Mothers	Yes	No
Present age (in years)						
≤ 29	122	120(98.36)	2(1.64)	20	20(100.00)	0
30–39	116	112(96.55)	4(3.45)	30	30(100.00)	0
40–49	109	92(84.40)	17(15.60)	24	20(83.33)	4(16.67)
≥ 50	58	29(50.00)	29(50.00)	25	18(72.00)	7(28.00)
Educational status						
Non-literate	77	55(71.43)	22(28.57)	3	1(33.33)	2(66.67)
Primary	52	43(82.69)	9(17.31)	5	4(80.00)	1(20.00)
Up to high school	137	121(88.32)	16(11.68)	22	17(77.27)	5(22.73)
Beyond high school	139	134(96.40)	5(3.60)	69	66(95.65)	3(4.35)
Occupational status						
Working	26	26(100.00)	0	22	20(90.91)	2(9.09)
Non-working	379	327(86.28)	52(13.72)	77	68(88.31)	9(11.69)
Family type						
Joint	217	191(88.02)	26(11.98)	30	27 (90.00)	3(10.00)
Nuclear	188	162(86.17)	26(13.83)	69	61(88.41)	8(11.59)

The majority of the Dibongiya mothers sought medical assistance from government institutions like PHC. Nominal numbers of mothers had treatment and advice from private physicians (*Table 3*). Even in the urban area, the frequency of mothers facilitates from the simple traditional healer and private organizations are also fairly high, although it seems measly in the overall situation. The mothers who did not seek treatment of any kind during their pregnancy period are also considerably high.

TABLE 3: Health seeking behaviour among the Dibongiya mothers.

Health seeking behaviours	Rural		Urban		χ^2
	No. of mothers	%	No. of mothers	%	
Government Hospital	290	71.60	71	71.72	
Private physician	3	0.74	4	4.04	
Traditional healer	2	0.49	3	3.03	
Village quack	6	1.48	0	0	
Both government & private	44	10.86	11	11.11	15.02, p=0.09
Both government & traditional	3	0.74	2	2.02	
Both government & village quack	9	2.22	0	0	
Government, private, traditional	2	0.49	1	1.01	
Both pharmacist & village quack	2	0.49	0	0	
No treatment / medical assistance	44	11.60	7	7.07	
Total	405	100.00	99	100.00	

The majority of the mothers take usual food items that are consumed on other days (*Table 4*). However, a substantial number of mothers prefer to take some specific food ingredients during the carrying stage. The mothers who avoided a few specific food substances during pregnancy time are also very limited. The mothers who drink *suje* during pregnancy are markedly higher among the mothers living in rural areas than their urban counterparts. The test of significance shows statistically significant differences between the two samples in this regard (*Table 5*).

TABLE 4: Prescribed and prohibited food among the Dibongiya mothers during pregnancy.

Category	Rural		Urban		χ^2
	No. of mothers	%	No. of mothers	%	
Food prescribed					
Usual food	277	68.40	65	65.66	0.27, p=0.60
Preferred food	128	31.60	34	34.34	
Total	405	100.00	99	100.00	
Food prohibited					
Prohibited food	20	5.02	6	6.06	0.21, p= 0.65
No avoidance	385	94.98	93	93.94	
Total	405	100.00	99	100.00	

TABLE 5: Users of *suje* during conception among the Dibongiya mothers. Note * indicates statistically significant at 5.0% level of probability.

Category	Rural		Urban		χ^2
	No. of mothers	%	No. of mothers	%	
User of *suje*	255	62.96	43	43.43	12.55, p=0.0001*
Non user	150	37.04	56	56.57	
Total	405	100.00	99	100.00	

Among them, the cases of home delivery are more (*Table 6*). The frequency of delivery at a government hospital is tenuously higher in urban areas than their rural counterparts. Fairly higher proportions of the mothers residing in the urban areas had their deliveries at a private hospital in comparison to the meager number of mothers from the rural area. The test of significance shows significant differences between the two samples with regards to their place of delivery. The instances of home delivery are quite high among the mothers who belong to the age group of ≥50 years and no instances of delivery at a private nursing home are recorded among them. An inclination towards institutional delivery is increased steadily among the younger mother. The preference for home delivery is more common among non-literates. The proportions of mothers that prefer institutional delivery are found to increase gradually according to their level of education increases (*Table 7*). Working mothers have shown more interest in institutional delivery. The incidence of home delivery is relatively higher among the mothers belong to the nuclear family than the joint family.

Maximum numbers of mothers irrespective of habitation areas availed the facility from health workers known as Accredited Social Health Activist (ASHA). However, a negligible number of mothers availed the facility from Auxiliary Nursing Midwives (ANM) appointed by government agencies. Quite a good number of mothers from urban areas couldn't avail of the services from midwives and a small proportion of them were found to be served by the untrained midwife

TABLE 6: Place of delivery among the Dibongiya mothers. Note: * indicates statistically significant at 5.0% level of probability.

Place of birth	Rural No.	%	Urban No.	%	χ^2
Government hospital	432	38.23	97	42.93	
Home	673	59.56	112	49.34	23.89,
Private hospital	25	2.21	18	7.93	p=0.0001*
Total	1130	100.00	227	100.00	

or *dhai* during the time of need, which was not observed in the rural area.Very few rural Dibongiya mothers were also helped by village quacks during the time of childbirth and the variation observed in this regard turned out to be statistically significant (*Table 8*).

A sizeable section of Dibongiya mothers used sharp bamboo strips for incising the navel cord. All of them gave birth at home and were helped by experienced mothers of the village. Statistically, significant differences exist between the two samples of Dibongiya Deori mothers in this regard (*Table 9*).

TABLE 7: Place of delivery according to background characteristics among the Dibongiya mothers. * Figures within parentheses indicate the percentage.

Background characteristics	Rural Home	Govt.	Private	Total	Urban Home	Govt.	Private	Total
Present age (in years)								
≤29	48(24.24)	137(69.19)	13(6.57)	198	1(3.33)	25(83.33)	4(13.33)	30
30–39	136(46.26)	153(52.04)	5(1.70)	294	14(24.56)	33(57.89)	10(17.54)	57
40–49	260(68.97)	110(29.18)	7(1.86)	377	36(61.02)	19(32.20)	4(6.78)	59
≥50	229(87.74)	32(12.26)	0	261	61(75.31)	20(24.69)	0	81
Educational level								
Non-literate	242(79.34)	60(19.67)	3(0.98)	305	8(88.89)	1(11.11)	0	9
Primary	135(71.43)	53(28.04)	1(0.53)	189	14(77.78)	4(22.22)	0	18
Up to High School	213(57.41)	151(40.70)	7(1.89)	371	48(75.00)	15(23.44)	1(1.56)	64
Beyond High School	83(31.32)	168(63.40)	14(5.28)	265	42(30.88)	77(56.62)	17(12.50)	136
Occupational status								
Working	45(55.56)	35(43.21)	1(1.23)	81	23(48.94)	21(44.68)	3(6.38)	47
Non-working	628(59.87)	397(37.85)	24(2.29)	1049	89(49.44)	76(42.22)	15(8.33)	180
Family type								
Joint	295(55.24)	223(41.76)	16(3.00)	534	24(39.34)	30(49.18)	7(11.48)	61
Nuclear	378(63.42)	209(35.07)	9(1.51)	596	88(53.01)	67(40.36)	11(6.63)	166

TABLE 8: Midwife during childbirth among the Dibongiya mothers. Note: *indicates statistically significant at 5.0% level of probability.

Midwife	Rural No. of mothers	%	Urban No. of mothers	%	χ^2
ASHA workers	245	60.49	47	47.47	
Auxiliary Nursing Midwifes (ANM)	44	10.86	6	6.06	
Village quack	16	3.95	0	0	24.66,
Traditional (untrained midwife/*dhai*)	0	0	3	3.03	p=0.0001*
None	100	10.86	43	43.43	
Total	405	100.00	99	100.00	

TABLE 9: Cutting of naval cord during childbirth among the Dibongiya mothers. Note: * indicates statistically significant at 5.0% level of probability.

Category	Rural No. of mothers	%	Urban No. of mothers	%	χ^2
Bamboo strips	141	34.81	20	20.20	7.81, p=0.005*
Blade	264	65.19	79	79.80	
Total	405	100.00	99	100.00	

TABLE 11: Knowledge of colostrums among the Dibongiya mothers. Note: * indicates statistically significant at 5.0% level of probability.

Knowledge of colostrums	Rural No. of mothers	%	Urban No. of mothers	%	χ^2
Yes	208	51.36	39	39.39	4.56, p=0.03*
No	197	48.64	60	60.61	
Total	405	100.00	99	100.00	

TABLE 10: Preservation of naval cord among the Dibongiya mothers. Note: * indicates statistically significant at 5.0% level of probability.

Category	Rural No. of mothers	%	Urban No. of mothers	%	χ^2
Preserved in a casket made from silkworm cocoon(Sc. name: *Bombyx mori*)	281	69.38	64	64.65	
Following the tradition only	58	14.32	17	17.17	
Used as locket	5	1.23	6	6.06	16.63,
Lost	23	5.68	10	10.10	p=0.005*
Thrown away	36	8.89	2	2.02	
Preserved by wrapped in white cloth	2	0.49	0	0	
Total	405	100.00	99	100.00	

The majority of the Dibongiya mothers preserved the detached navel cord in a casket prepared from the cocoon of silkworm and tied it in the hands of the newborn baby with a thread. The Dibongiya mothers usually used the naval cord as a locket and put on the baby's neck as a pendant tied to a chain, but at present, they simply follow their age-old tradition. Some women preserved by wrapping it with a white cloth while some of them didn't give much importance. In this connection, statistically significant differences between the samples are observed (*Table 10*).

The level of knowledge on the feeding of colostrums among the Dibongiya mothers is relatively higher in rural areas.The difference is found to be statistically significant as per the chi-square test of significance (*Table 11*).

Although, a substantial number of mothers could breastfeed their child up to 3 years and more (*Table 12*), yet the numbers of the mothers that fed their child for one year or one and half year only are also considerably high. The differences in the duration of breastfeeding between samples are found as statistically significant. Sizeable proportions of the kids belonging to the urban areas had to discontinue their mother's breast milk due to natural reasons. Quite a considerable proportion of the mothers residing in rural areas weaned their feeding practices due to immediate pregnancy. The problem of insufficient breast milk is found to be a little bit higher in the urban area than the mothers living in the rural area. There are statistically significant differences between the two segments concerning the reason for weaning (*Table 13*).

Postnatal immunization exhibits considerably higher proportions of mothers from urban areas who immunized their children at different periods (*Table 14*). The mothers living in rural areas who immunized their children is also not negligible in number. In this regard, the test of significance, however, shows significant

TABLE 12: Duration of breastfeeding among the Dibongiya mothers. Note: * indicates statistically significant at 5.0% level of probability.

Duration of breastfeeding	Rural		Urban		χ^2
	No. of mothers	%	No. of mothers	%	
Up to 1.5 years	92	22.72	10	10.10	
1.5 yrs to 3 years	172	42.47	54	54.55	16.53,
More than 3 years	60	14.81	24	24.24	p=0.001*
Still feeding	81	20.00	11	11.11	
Total	405	100.00	99	100.00	

TABLE 13: Reason of weaning among the Dibongiya mothers. Note: * indicates statistically significant at 5.0% level of probability.

Category	Rural		Urban		χ^2
	No. of mothers	%	No. of mothers	%	
Natural	155	47.84	60	68.18	
Immediate pregnancy	153	47.22	20	22.73	
Insufficient breast milk	8	2.47	4	4.55	19.41,
Working condition	3	0.93	3	3.41	p=0.001*
Others	5	1.54	1	1.14	
Total	324	100.00	88	100.00	

TABLE 14: Postnatal immunization of children among the Dibongiya mothers. Note: * indicates statistically significant at 5.0% level of probability.

Postnatal immunization	Rural		Urban		χ^2
	No. of mothers	%	No. of mothers	%	
Yes	289	71.36	89	89.90	
No	116	28.64	10	10.10	14.59, p=0.0001*
Total	405	100.00	99	100.00	

differences between the two samples. Immunization of the children is appreciably high among the mothers belongs to the age group of ≤29 years. Nevertheless, there is a variation between rural and urban samples regarding the proportion of immunized mothers in each age cohort. Among the mothers who attained education up to high school standards and beyond, the incidence of immunization are considerably high. Almost half proportions of the total non-illiterate mothers are reluctant to go for immunizing their kids. A comparatively higher number of working mothers are found to immunize their children than their non-working counterparts. Considerably higher proportions of the urban mothers who belong to the joint family inoculated their children, on the other hand, more proportions of rural mothers from the nuclear family background are found to get immunize their children (*Table 15*).

DISCUSSION

It is apparent from the present study that appreciably higher numbers of pregnant Dibongiya mothers availed antenatal care, where the mothers from urban setup register meagerly higher proportions. Chanu (2007) also recorded the similar findings in Manipur in which fairly higher proportions of the Loi women in urban set up have availed antenatal care than

TABLE 15: Background characteristics and postnatal immunization of children among the Dibongiya mothers. * Figures within parentheses indicate the percentage.

Background characteristics	Postnatal immunization					
	Rural No. of mothers	Yes (%)	No (%)	Urban No. of mothers	Yes (%)	No (%)
Present age (in years)						
≤ 29	122	98(80.33)	24(19.67)	20	20(100.00)	0
30-39	116	82(70.69)	34(29.31)	30	30(100.00)	0
40-49	109	80(73.39)	29(26.61)	24	21(87.5)	3(12.5)
≥ 50	58	29 (49.12)	29(50.88)	25	18(72.00)	7(28.00)
Educational status						
Non-literate	77	40(51.95)	37(48.05)	3	1(33.33)	2(66.67)
Primary	52	37(71.15)	15(28.85)	5	3(60.00)	2(40.00)
Up to high school	137	98(71.53)	39(28.47)	22	18(81.82)	4(18.18)
Beyond high school	139	114(82.01)	24(16.55)	69	67(97.10)	2(2.90)
Occupational status						
Working	26	23(84.62)	5(15.38)	22	21(95.45)	1(4.55)
Non-working	379	267(70.45)	112(29.55)	77	68(88.31)	9(11.69)
Family type						
Joint	188	125(66.49)	63(33.51)	30	28 (93.33)	2(6.67)
Nuclear	217	164(75.58)	53(24.42)	69	61(88.41)	8(11.59)

in rural areas. The proportions of the mothers who have taken medical assistance during pregnancy are more among the young categories. The present finding corroborates with the findings of Manna *et al.* (2011), Gupta *et al.* (2015), and Purkayastha and Singh (2017). The frequency of Dibongiya mothers availing antenatal care is found to be more among the educated section. The results is in conformity with the study of Nanda and Niranjan (1999), Sunil *et al.* (2006), Ram and Singh (2006), Saikia and Singh (2009), Manna *et al.* (2011), Singh *et al.* (2012), Gupta *et al.* (2015), Singh *et al.* (2017) and Purkayastha and Singh (2017). Associations of mother's age and education with ANC visits during pregnancy are also reported by Chanu (2007). Higher proportions of working mothers are taking antenatal care up to a great extent than non-working mothers. The study of Manna *et al.* (2011), Gupta *et al.* (2015), and Purkayastha and Singh (2017) have also observed the preference for antenatal care among mothers belongs to better economic conditions.

Several aged Dibongiya mothers did not get any medical assistance during their pregnancy period and also they are not aware of such facilities. But, now a day maximum number of the younger generation mothers are interested in improving their health condition and have sought medical assistance from PHC nearby. Besides taking help from the governmental organization, they are also taking help from a private physician, and pharmacist. The frequency of the mother getting help from a private physician is not frequently met with since it is costly and one has to cover long distances to reach the private medical institutes. The basic reason for seeking treatment from village quack and traditional sources is because of its easy accessibility and that it can be availed at a lower cost.

The present study records a little higher proportions of infant mortality among rural Dibongya mothers (4.35%) than urban mothers (3.64%) and the incidence is not much higher than the studies reported earlier from different states of India (Borah and Sengupta, 2017-18). Higher incidence of infant mortality is found among the mothers (18.18%) from a urban area who have not adopted antenatal care contrary to those (6.82%) who have adopted. On the other hand, no

incidence of infant mortality is experienced by the mothers from a rural area who did not take care during conceiving stage.

Although the younger mothers are showing a preference for delivery at a government hospital, the incidence of home delivery is quite high. The preference for home delivery is also reported by Sharma (2007), Manna *et al.* (2011), Grover and Chhabra (2012), and Sarmah (2014) among the various population groups of India. Among the Dibongiya, the cases of home delivery are quite high in both the setup. The study conforms to the study of Chanu (2007) and Singh *et al.* (2012). The preference for institutional delivery is found to be more among the mothers of young age groups, having higher educational status, engaged in the salaried job, and belong to a joint family. An increasing trend for safe delivery care among the educated mother was also reported from the study of Singh *et al.* (2012).

The maximum number of mothers who gave birth at home and were helped by elderly village women were using sharp bamboo strips for cutting the navel cord. The people have a strong belief in using the bamboo strips for cutting the navel cord with the hope that the baby will become stronger like bamboo as well as brilliant too. Studies conducted by Nagda (1992), Reddy (2003), Bindu (2005), Rao (2008), Giridhar *et al.* (2011), and many others reported the use of bamboo strips, kitchen knife, the sickle or sharp edge of an arrow, wood or stone, either new or old shaving blades or other sharp instruments for cutting the naval cord. After detaching the umbilical cord, the Dibongiya mothers apply mustard oil, coconut oil, powder, and any antiseptic cream for the easy recovery of the baby. Traditionally, they use to tie the navel cord in the hands of the newborn baby with a thread for that it would protect them against unwanted forces. Before wearing it is dried in the sun and they carefully keep it away from the birds that are believed to bring illness. When a baby suffers from a fever or stomach problem, the same is kept in a glass of water and that water is given to the baby.

Many Dibongiya mother has no scientific knowledge of the colostrums. The relatively higher proportion of unaware mothers about colostrums in an urban area may be that they are mostly from nuclear family backgrounds and hence this knowledge gap. They have a belief that if a newborn child is breastfed directly then the child will face discomfort during urination afterward. The first breast milk is soaked in a cloth to avoid its fall into the earth. Dropping off the first breast milk into the earth is believed to parch the mother's breast milk in the future. The study carried out by Mishra (1993) among the women from Western Orissa recorded only 5.5 percent of a mother who fed their breast milk directly (colostrum). In the study of Bhardwaj and Tungdim (2010), around seventy-five percent of scheduled caste and scheduled tribe women in Rajasthan are found to feed first breast milk (colostrum) directly after birth. Interestingly, Singh and Jain (2012) recorded a cent percent acceptance of colostrums among the mothers in Alwar city in Rajasthan.

The proportions of the rural mothers that had to wean the habit of feeding very early are more in comparison to the urban mother. The main reasons for weaning are less secretion of breast milk, immediate pregnancy, working conditions, natural weaning, and other conditions like the eruption of teeth of the baby, etc. Immediate pregnancy for non-breastfeeding of the child was also documented as a major cause in the study carried out by Singh and Jain (2012) among the mothers in Alwar city, Rajasthan. Among the Dibongiya, when the mother suffers from an insufficient amount of breast milk she is given some locally available herbs like *gakhiroti bon* (asthma weed, *Euphorbia hirta*), *garia aalu* (sweet potato, *Ipomoea batatas*), etc. On the contrary, when the mother has an excess amount of milk she is given *mecaki* (duggal fiber tree, *Debregeasia wallichiana*) to reduce the amount.

They organize a ritual on the seventh day from the date of the birth of a child. From that very day both the mother and the child are considered clean and can mingle with any other members of the family. During that day, generally cutting the hair of the newborn child is done by the elder maternal uncle, and the hairs are put within a ball made of cow dung and either kept on the wall of their house or in the root of the plant *Musa balbisianacolla (aathiyakol).* They never throw the newborn babies' hair in the open field to keep them away from any unwanted forces.

The maximum number of mothers is found to immunize their child. Comparatively higher proportions of the mothers (rural: 13.79%; urban: 20.00%) who have not vaccinated their offsprings experienced higher infant mortality in comparison to those who have immunized (rural: 11.07%; urban: 6.74%). Immunization of the children is appreciably high among the mothers belong to young ages. The study of Dyavarishetty and Kowli (2012) also reported that younger mothers are more concerned about getting their child vaccinated. The frequency of the

Dibongiya mother that immunized their child is found to be more in the educated category. Likewise, working mothers are more interested to immunize their children than non-working mothers. The study conducted by Dyavarishetty and Kowli (2012) and Patra (2013) also noted the influence of the educational status of Indian women on the uptake of vaccination.

CONCLUSION

The majority of Dibongiya mothers prefer modern antenatal care during pregnancy. A substantial number of mothers are also found to immunize their children at different time intervals. The coverage is found to be more among the young aged mothers, having higher educational attainment, and engaged in salaried jobs. The frequency of mothers utilizing antenatal care and postnatal immunization is noticeably higher in the urban area. In rural areas, people mostly face the problems of pitiable road communication, distantly situated medical center, non-availability of the doctors in the medical center, interference of the mother-in-law during a routine checkup, etc. Although the PHC are helpful for their routine checkup, yet at times they have to cover a long distance to avail of such facilities from a government hospital. The educational level of the rural Dibongiya mothers is relatively less. The necessity is to improve the basic health care facilities and provide proper maternal education for their betterment as well as to move forward.

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