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Original Research Article

Leave against medical advice from SNCU of a teaching hospital in Garhwal, Uttarakhand, India

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ABSTRACT

Background: Patients who leave against medical advice (LAMA) is a universal problem. Neonates being unable to decide for their own, are dependent on parents for all decisions for their treatment. LAMA is a sensitive issue in neonatology practice with ethical and medico legal ramifications. This study was done to evaluate the factors associated with the decision of LAMA by care givers in our special newborn care unit (SNCU).
Methods: This is a retrospective hospital based observational study and was conducted in SNCU of HNB Base Teaching Hospital, Srinagar, Garhwal. Data pertaining to LAMA between 1st August 2017 and 31st July 2018 was retrieved. Information obtained included place of birth, gestational age, weight, diagnoses, duration of hospital stay and reasons for LAMA. Data were entered into a Microsoft Excel Spread Sheet and analyzed using software. Graph Pad Prism v 7.04. Chi-Square test was used to test for significant difference among various groups.
Results: Out of 689 neonates admitted in SNCU during the study period, 167 (24.24%) took LAMA. Male to female ratio of 1:1.1. 102 (61%) were inborn and 65 (39%) were out born. Term babies constituted 62.87%. 78.44% neonates were discharged within 7 days of admission. 58 (34.73%) neonates had sepsis and 30 (17.96%) had birth asphyxia. The commonest reason in 25.15% for taking LAMA was to take the neonate to better equipped facility followed by false perception that the baby is well enough to be discharged.
Conclusions: Multiple factors contribute for getting a neonate discharged against medical advice. Improvement of infrastructure, training of health care staff for proper counselling, sensitivity and empathy towards neonate and the care givers can decrease the rate of LAMA.

Keywords: DAMA, Garhwal, LAMA, Neonate, SNCU

INTRODUCTION

Leave against medical advice (LAMA) or self-discharge is a universal problem and prevalent in both developing and developed countries with varying prevalence in different populations.[1,2] A report published by ministry of health and family welfare (MOHFW) India states the rate of LAMA to be 4% in inborn and 7% in out born neonates.[3] Leave against medical advice in neonates is a reason for concern as it many a times results in readmission and adverse outcomes including death. Neonates on their own are unable to give consent, ask or deny treatment. Caregivers decide for all matters pertaining to various aspects of treatment and they only make decision on behalf of neonates to leave against medical advice. They often persist for discharge even after due explanations of risks involved with the decision and the need for further care and treatment of the neonate. However, the parents have the right to seek treatment and get discharged with their own willing.

Possible reasons of LAMA may include financial constraints, familial problems, long stay for treatment and seeking resort to traditional therapies. It is important to identify the factors leading to self-discharge so as to prevent the practice and improve neonatal morbidity and mortality. Moreover, in areas with difficulty to access health care it is wise to ensure that those availing the services are discharged only when they are fit to go home.

Despite having economical, ethical, medico legal and clinical implications, factors associated with LAMA has been often overlooked and it remains a under evaluated area in a resource constrained country like India particularly in neonates. To the best of our knowledge this is the first study of this kind from the hilly regions of Garhwal and Uttarakhand. Authors have tried to elucidate the possible causes of LAMA from our SNCU with the aim that findings of the study may help to formulate policies to reduce the preventable neonatal morbidity and mortality.

METHODS

This is a retrospective hospital based cross sectional observational study. Data was retrieved from admission discharge registers of special newborn care unit (SNCU) of HNB Base teaching hospital from 1st August 2017 to 31st July 2018.

Hospital has 22 bedded SNCU with 2 nursing staff in each shift and a junior resident on rotation with a pediatrician on call residing within campus. All facilities including treatment and investigations are free of cost. It caters to both inborn and out born babies and mothers of out born babies are provided with beds in the postnatal ward. The food cost of mothers is borne by the hospital. Considering the facts, there is minimal cost borne by the family during treatment of neonate in the SNCU.

All the parents wishing to take neonate against medical advice are counseled against the decision and emphasized about the need of continued treatment and care of the neonate. Further if they insist on the same, they have to sign a written informed consent prior to discharge and the reason of taking the decision is duly noted. Information obtained included place of birth, gestational age, weight at birth, diagnoses, duration of hospital stay and reasons for LAMA as provided by caregivers.

Statistical analysis

Data were entered into a Microsoft Excel Spread Sheet and analyzed using statistical software Graph Pad Prism v 7.04 (trial version). Chi-Square test was used to test for significant difference among various groups. Statistical significance was set at $p < 0.05$.

Ethical committee of the institute approved the study.

RESULTS

A total of 689 neonates were admitted in the SNCU during the study period out of which 425 (61.68%) were inborn and 264 (38.32%) were out born. 102 (24%) inborn babies and 65 (24.6%) out born babies left against medical advice. Out of which 88 (52.6%) were male and 79 (47.4%) were female with male to female ratio of 1:1.1. No significant gender bias was observed.

Table 1 shows the demographic characteristics of the neonates. Birth weight ranged from 900 grams to 4000 grams, with a mean SD of 2499.40±705.14 grams.59.88% neonates were of more than 2500 grams. Majority (62.87%) were born term. Average age at admission was 3.3±5.3 days for out born with range of 0 to 25 days and 2.4±4.8 days for inborn neonates with range of 0-29 days. Gestational age ranged from 20 weeks to 43 weeks for inborn neonates with mean SD of 37.5±3.5 weeks and ranged from 28 to 42 weeks with mean SD of 37.3±3 weeks.

Table 1: Demographic characteristics.

	Inborn n (%)	Outborn n (%)	Total n (%)	p value (χ^2)
Sex				
Male	58 (56.86)	30 (46.15)	88 (52.69)	0.1765 (1.8265)
Female	44 (43.14)	35 (53.85)	79 (47.31)	
Age at admission				
< 24 hours	52 (50.98)	26 (40.00)	78 (52.16)	0.4144 (1.7618)
1-7 days	38 (36.27)	29 (44.62)	66 (39.52)	
>7 days	13 (12.75)	10 (15.38)	23 (13.77)	
Gestational age				
28-32	8 (7.84)	5 (7.69)	13 (7.78)	0.04385 (2.7102)
32-< 37	33 (32.35)	16 (24.62)	49 (29.34)	
37-42	59 (57.85)	44 (67.69)	103 (61.68)	
>42	2 (1.96)	0	2 (1.20)	
Weight				
<1000 grams	2 (1.96)	1 (1.54)	3 (1.79)	0.7234 (1.3241)
1000-1499 grams	5 (4.90)	6 (10.77)	11 (7.19)	
1500-2499 grams	32 (31.37)	20 (30.77)	52 (31.14)	
2500-4000 grams	63 (61.77)	37 (56.92)	100 (59.88)	

Table 2 shows the duration of hospitalization of neonates. Mean duration of stay for inborn neonates ranged from 0-

24 days with mean SD of 5.6±4.9 days. For outborn neonates the range of stay was 0- 17 days with a mean SD of 4.4±4.4 days. Overall mean duration of stay was 4.8 days. 15 (8.98%) neonates took LAMA within twenty-four hours and outborn babies were more likely to get LAMA (4.90% vs 28.58%) within twenty-four hours. There was no statistical significance difference in the duration of hospitalization of inborn and outborn neonates. 78.44% neonates took LAMA within 7 days of admission.

Table 2: Duration of hospitalization.

Duration of stay	Inborn n (%)	Outborn n (%)	Total n (%)	p value (χ^2)
<1 day	5 (4.90)	10 (15.38)	15 (8.98)	0.0897 (6.4999)
1-7	72 (70.59)	44 (67.69)	116 (69.46)	
7-14	17 (16.67)	6 (9.24)	23 (13.78)	
>14	8 (7.84)	5 (7.69)	13 (7.78)	

Table 3 shows sepsis 34.74%, birth asphyxia 17.97%, low birth weight 10.18% and neonatal jaundice 10.18% as the common causes of morbidity. Incidence of birth asphyxia is higher in outborn neonates than inborn neonates.

Table 3: Morbidity profile.

Diagnosis	Inborn n (%)	Outborn n (%)	Total n (%)	p value (χ^2)
Preterm	7 (6.86)	2 (3.08)	9 (5.34)	0.2129 (14.376)
TTNB	1 (0.98)	0 (0.00)	1 (0.60)	
Sepsis	37 (36.27)	21 (32.30)	58 (34.74)	
Neonatal jaundice	11 (10.78)	6 (9.23)	17 (10.18)	
Low birth weight	8 (7.84)	9 (13.85)	17 (10.18)	
HMD	10 (9.80)	1 (1.54)	11 (6.59)	
Congenital malformation	2 (1.96)	0 (0.00)	2 (1.21)	
Other	9 (8.83)	7 (10.77)	16 (9.59)	
Birth asphyxia	13 (12.75)	17 (26.15)	30 (17.97)	
Environmental hyperthermia	1 (0.98)	0 (0.00)	1 (0.6)	
Meconium aspiration syndrome	2 (1.96)	2 (1.96)	4 (2.40)	
Hypoglycemia	1 (0.98)	0 (0.00)	1 (0.6)	

Table 4 shows the various reasons given by caregivers form going LAMA. The most common reason (25.15%) for taking LAMA was to take the neonate to a better equipped centre while long stay (14.37%) and false perception that the neonate is well (14.97%) were the other two common reasons. Also, not providing guarantee that the neonate will be treated successfully emerged as an important reason for LAMA. Also 6.58% caretakers refused to divulge the reason for taking the neonate against medical advice.

Table 4: Reasons given by caregivers at the time of LAMA.

Reason	Inborn n (%)	Outborn n (%)	Total n (%)	p value (χ^2)
Baby appears fine	18 (17.65)	7 (10.77)	25 (14.97)	0.7544 (6.6894)
Too long stay	15 (14.71)	9 (13.85)	24 (14.37)	
No guarantee	8 (7.85)	7 (10.77)	15 (8.98)	
Wants to take to higher centre	27 (26.47)	15 (23.08)	42 (25.15)	
No money	6 (5.88)	7 (10.77)	13 (7.78)	
No improvement	3 (2.94)	1 (1.54)	4 (2.40)	
Family problems	7 (6.86)	2 (3.08)	9 (5.39)	
No one to look other children	7 (6.86)	5 (7.69)	12 (7.19)	
Resort to traditional therapies	1 (0.98)	2 (3.08)	3 (1.80)	
Do not want to disclose reason	5 (4.90)	6 (9.23)	11 (6.58)	
Poor prognosis	5 (4.90)	4 (6.14)	9 (5.39)	

DISCUSSION

The prevalence of LAMA in neonates in the present study was 24.23 % which corresponds to the prevalence of 25.4% reported by Devpura.[4] Rate of LAMA differs with study setting; time of study and socio-cultural factors also influence the rate. Prevalence of LAMA in present study is higher than those reported by other studies 8.32% by Rakholia and 9.63% as reported by Modi R et al.[5,6]

A systematic review of studies conducted in Iran revealed that the prevalence of DAMA varies from 4% to 35% in clinical departments with the lowest rate was related to patients in departments of pediatrics.[7] But the LAMA rate remains high in neonates 35.8 % as reported by Duru, and infants 40.4% by Gafri respectively.[8,9]

78.44% neonates were discharged within 7 days of admission. Studies by Eke and Abbas also reported high rate of LAMA within 7 days as 54% and 56% respectively.[10,11]

Term babies and babies with higher birth weight were more prone to LAMA. This is similar to findings of other studies.[12,13] Term babies are usually more active especially when not suffering from serious conditions which falsely assures the parents that the neonate is well.

This study showed that sepsis and birth asphyxia were the common causes, this is corroborated by other studies.[4,8,11] Hatim in his study found transient tachypnea of neonates and suspected sepsis to be the common morbidities in neonates being taken LAMA.

Most of the studies reported financial constraints as one of prominent reasons for requesting LAMA which is quite different in present study as treatment in SNCU is free of cost.[4,12,14]

Self-discharge to take the neonate to a better equipped facility was the commonest reasons cited in the present study. This may be because of the impending fear of deterioration of the neonate and lack of a nearby referral centre with difficult roads and unavailability of vehicles at odd times which may impede timely referral as and when required. Second common reason of LAMA was false perception of the care givers that the baby appeared well enough to be discharged and the stay is unnecessarily prolonged. This mostly occurred in neonates with meningitis who required long duration of antibiotics and in low birth weight neonate who required to stay to gain weight enough to be discharged. This may because of lack of education and understanding of the fact that incomplete treatment may result in complications and adverse outcome at a later stage.

Improving infrastructure and up gradation of facilities may help decreasing the rate of LAMA from the centre and will imbibe trust of parents with caregivers. Many of times caregivers want a guarantee that the neonate will remain safe, better counseling services are required to tackle this.

In study done by Hatim et al, and Abbas majority of LAMA were on weekends (Saturday and Sunday) 37% and 38% respectively, while in the present study LAMA on weekends accounted for only 26.95% of cases. Monday and Wednesday were the days with most LAMA. Month wise distribution showed march and October comprising 23.95% of LAMA.

To improve community involvement and ease access to health facility, NRHM enrolled community health workers namely, Accredited Social Health Activist (ASHA). Also, Home Based Newborn Care guidelines were formulated and ASHAS were trained in essential newborn care.[15] But lack of supervision, infrastructure and monitoring resulted in suboptimal results.[16]

Limitations: Being a single centre study and limited duration the results of study may not be generalized to other regions. Also, in the present study there was inability to follow up babies who LAMA to determine their outcome. Multicenter studies including more SNCUs of the state with follow up will result in better understanding of reasons of LAMAs.

CONCLUSION

Highest number of LAMA were taken within first week of admission. Taking to better facilities and false perception of wellness of neonates were the commonest reasons given. Issue of LAMA needs to be addressed. Policy reforms, enhanced infrastructure, training of healthcare staff for proper counselling, proper and timely communication, empathy of healthcare staff towards caregivers will result in decreasing the rate of LAMA and subsequent morbidity and mortality of neonate which may arise.

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