DISCHARGE AGAINST MEDICAL ADVICE AMONG NEONATES ADMITTED TO THE NEONATAL INTENSIVE CARE UNIT OF A TERTIARY CARE HOSPITAL

Dhirendra Prasad Yadav,[1] Vivek Kumar,[2] Manoj Kumar Gupta[1]

[1]Department of Pediatrics, National Medical College, Birgunj, Parsa, Nepal, [2]Department of Pediatrics, All India Institute of Medical Sciences, Ansari Nagar, New Delhi, India

ABSTRACT

Discharge against medical advice is a condition where patient leaves the hospital against physician's advice and is a serious public health issue, especially among neonates and a challenge faced commonly by physicians. It is a risk factor that can lead to adverse events like mortality and readmissions in neonatal units. To decrease neonatal mortality rate, it is necessary to investigate the causes leading to self-discharge. This study aimed to find out prevalence and reasons for discharge against medical advice among neonates admitted to neonatal intensive care units of a tertiary care hospital. A descriptive cross-sectional study was conducted among neonates admitted to the Neonatal Intensive Care Units who were discharge against medical advice (DAMA) from 15th March 2022 to 14th March 2023 after obtaining ethical approval from the Institutional Review Committee (Reference number: F-NMC/544/078-079). Neonatal demographic information and reason for self discharged were recorded. A convenience sampling method was used among neonates who met eligibility criteria. Data were presented as frequency with percentage. A point estimate with 95% confidence interval was calculated. Out of 910 neonates admitted to NICU, 86 (9.4%; 95% CI:7.62-11.53) were discharged against medical advice. Among these, 72 (83.7%) were outborn neonates and 51 (59.3%) male. The most common morbidity was sepsis 53 (61.6%). The common reasons for parents to take DAMA was poor financial condition 72 (83.7%). The prevalence of discharge against medical advice among neonates admitted in the neonatal intensive care units was similar to other studies done in similar settings.

KEYWORDS

Discharge against medical advice, neonates, prevalence

***Received on**: April 11, 2024*
***Accepted for publication**: May 31, 2024*

CORRESPONDING AUTHOR

Dr. Dhirendra Prasad Yadav
Lecturer,
Department of Pediatrics,
National Medical College,
Birgunj, Parsa, Nepal
Email: drdhiru161@gmail.com
Orcid No: https://orcid.org/0009-0006-1962-4413
DOI: https://doi.org/10.3126/nmcj.v26i2.67213

INTRODUCTION

In everyday clinical practice, healthcare providers are faced with challenging tasks when patient (parents or care taker in case of neonates) decides to leave the hospital against the advice of the treating physician known as leave against medical advice (LAMA) or discharge against medical advice (DAMA).[1] DAMA raises serious clinical, ethical and legal issue for to the treating physician as well as to the hospital. It also burdens family and healthcare system by increasing the rates of readmission and other significant problems including mortality.[2,3] Despite having economical and clinical implication, factors associated with DAMA has been overlooked and it remains under evaluated area in a developing countries, particularly in neonates.[4]

Nepal has reduced neonatal mortality rate from 50 to 21 over the past two decades and aims to reduce it to at least 10 per 1000 live births by 2030 to meet the target of the Sustainable Development Goals.[5,6] DAMA in neonates adversely affects morbidity and mortality and may retard progress in achieving these targets. There have been a few studies done in neonatal populations from developing countries showing higher prevalence of DAMA in neonates and serious consequences due to their limitation in physiological reserves.[4,7] The prevalence of 8.8% and 18.0% were reported by two studies conducted in Chitwan, Nepal.[8,9] However it was conducted in a referral tertiary hospital catering to a larger area with both terai and hilly regions.

Although DAMA is common across hospital, reasons vary according to culture, hospital settings and other factors.[7] There have been only a few studies done on DAMA in neonatal intensive care units (NICU) in Nepal and there is need for more data across the country in Nepal. Hence, this study aimed to find the prevalence and possible risk factors of DAMA among neonates admitted to NICU of a tertiary care hospital in terai region.

MATERIALS AND METHODS

This descriptive cross-sectional study was conducted at the NICU of the Department of Pediatrics, National Medical College Teaching Hospital, Birgunj, Nepal for a period of one year from 15th March 2022 to 14th March 2023 after obtaining ethical approval from the Institutional Review Committee (Ref. No.: F-NMC/544/078-079).

The sample size was calculated by using following formula: $n = Z^2 \times p \times q / e^2$ where, n= minimum required sample size, Z= 1.96 at a 95% confidence interval, p (prevalence) = 18%, q= 1- p, e (margin of error)= 3% with the reference prevalence of DAMA in NICU from a previous study.[9] The calculated sample size was 631. However, 910 neonates were included in the study. A convenience sampling method was used. After written informed consent from parents or immediate caretaker in the patient consent form, neonates who decided to go on DAMA from NICU were included in study. Neonates whose parents denied consent were excluded from the study.

Neonatal details regarding maternal age, gestational age at birth, gravida number, place and mode of delivery, gender, birth weight, age of admission, address, duration of hospital stay etc. were recorded in a predesigned proforma for those going on DAMA. The criteria for diagnosing the different clinical conditions were based on guidelines being used in unit. Morbidities occuring during course of treatment in NICU were recorded. Daily counseling of the parents/ caretaker about neonatal clinical condition was done by consultants/ residents. The process of DAMA was initiated in neonates when parents communicated the decision of going DAMA. Consultant, on duty residents and nurse on shift were informed. Consultant and/or on duty residents had discussion with parents/ caretakers regarding various queries and counseled adequately for medical consequences before their decision. After all efforts if parents insisted on DAMA, they were made to sign the DAMA document. Regarding the reason of DAMA, parents/caregivers were interviewed to complete semi-structured questionnaire after informed consent before leaving the hospital by the principle investigator/on duty residents. Details of hospital course were also recorded at the time of DAMA in predesigned proforma.

Data were entered in Microsoft Access 2007 and analysed using STATA version 15.1. Prevalence of DAMA was calculated as number of neonates who went on DAMA to total admissions in NICU during the study period. Data were presented as frequency with percentage. The point estimate was calculated with its 95.0% CI.

RESULTS

Among 910 neonates admitted in NICU during the study period, the prevalence of discharged against medical advice was found in 86 (9.4%; 95% CI: 7.6-11.5). Among these 86 neonates, 72 (83.7%) were outborn and 51 (59.3%) were male (Table 1). The median gestational age was 38 weeks (interquartile range 36-39 weeks) with

median birth weight 2,600 grams (interquartile range 2,000-3,000 grams). The median duration of hospitalization before taking DAMA was 2 days (interquartile range 2-3 days).

Most common morbidity observed in DAMA neonates were sepsis 53 (81.5%), perinatal asphyxia 30 (34.9%) and prematurity 26 (30.2%) (Table 2).

Table 1: Baseline profile of neonates who underwent DAMA in the study

Characteristics	n (%)
Maternal age (years)	
≤ 20	24 (27.9)
21-30	59 (68.6)
≥31	3 (3.49)
Mode of delivery	
Vaginal	71 (82.6)
Cesarean	15 (17.4)
Place of delivery	
Inborn	14 (16.3)
Outborn	72 (83.7)
Gestation age	
≤31 weeks	10 (11.6)
32-36 weeks	16 (18.6)
≥37 weeks	60 (69.8)
Age at admission	
1 day	46 (53.5)
2 days	14 (16.3)
3- 5 days	7 (8.1)
≥ 6 days	19 (22.1)
Gravida	
Primigravida	51 (59.3)
Multigravida	35 (40.7)
Birth weight categories	
< 1500 grams	14 (16.3)
1500 to < 2500 grams	15 (17.4)
≥ 2500 grams	57 (66.3)
Gender	
Male	51 (59.3)
Female	35 (40.7)
Duration of hospital stay	
1 day	20 (23.3)
2 days	26 (30.2)
3- 5 days	33 (38.4)
> 5 days	7 (8.1)
Consent given by	
Father	66 (76.7)
Mother	3 (3.5)
Grandfather	11(12.8)
Grandmother	1 (1.2)
Other relatives	5 (5.8)

[*]Table 2: Morbidity profile among neonates who underwent DAMA

Diagnosis	n (%)
Neonatal sepsis	53 (61.6)
Birth Asphyxias	30 (34.9)
Prematurity	26 (30.2)
Respiratory distress	9 (10.5)
Meconium aspiration syndrome	8 (9.3)
Malformation	4 (4.6)
Neonatal jaundice	1 (1.2)

[*]Note: Some neonates have more than one morbidity at diagnosis

The commonest cause for DAMA was financial problem 72 (83.7%) (Table 3). More than one cause was stated by some parents.

[†]Table 3: Reason for DAMA

Reason	n (%)
Financial	72 (83.7)
No improvement	11 (12.8)
Perceived improvement	9 (10.5)
Poor prognosis	8 (9.3)
Family problem (no one at home)	7 (8.1)
No guarantee on outcome	7 (8.1)
Congenital anomalies	5 (5.8)
Dissatisfaction	2 (2.3)
Prolonged stay	2 (2.3)

[†]Note: Some neonates have more than one reason for DAMA

DISCUSSION

In the present study, the prevalence of DAMA among neonates admitted in NICU was found to be 9.4% which is comparable to the other studies done in Nepal by Sharma *et al*[8] (8.8%), Adhikari *et al*[10] (9.7%), Shrestha *et al*[11] (9.9%), and Kanodia *et al*[12] (10.6%) and was slightly lower in comparison to the studies done by Pokhrel *et al*[9] (18.0%), and Shah *et al*[13] (12.0%). The studies conducted in India by Kumar *et al*[4] (24.4%) and Devpura *et al*[7] (25.4%) showed higher incidence in comparison to our study. This differences in the DAMA rates may occurs with study settings, different time of study, local socio-cultural factors, quality of services offered by hospitals and across region.[7] However, a study done in Saudi Arabia found only 1.66%.[14] This may be due to better health facility and no financial burden to families.

In our study, 83.7% of neonates were outborn which is higher than the studies conducted by Sharma *et al*[8] (31.0%), Kumar *et al*[4] (38.3%) and Jalo *et al*[15] (32.0%). This is probably because most of the admitted neonates were outborn at our centre as it is a tertiary care referral centre in that region. In our study, 59.3% neonates were male which is comparable to other studies done from Nepal by Pokhrel *et al*[9] (65.9%), and Sharma *et al*[8] (58.8%).

In present study, 23.3% of neonates were discharged against medical advice on first day of admission which is consistent with other similar studies done by Sharma *et al*[8] (24.3%), Pokhrel *et al*[9] (24.0%), Devpura *et al*[7] (34.1%), and Hasan *et al*[16] (32.8%). In our study, majority (91.4%) of neonates went DAMA within week of admission, which is comparable to study done by Pokhrel *et al*[9] (66.0%), Sharma *et al*[8] (50.4%), Kumar *et al*[4] (69.4%), and Abdullahi *et al*[17] (71.6%). It is possible that the rituals of naming ceremony for neonates which is typically held at seven days of life have increased rate of DAMA during the first week. It is also possible that they may be seeking alternative cares from traditional healers.[17]

In this study, neonatal sepsis (86.5%) was the most prevalent morbidity among DAMA neonates which is consistent from other studies done by Pokhrel *et al*[9] (72.0%) and Devpura *et al*[7] (51.2%). Higher incidence may be due to most of our neonates being outborn referred from other centers with sepsis. Birth asphyxia (34.9%), prematurity (30.2%), respiratory distress (10.5%) and meconium aspiration syndrome (9.3%) were among other major diagnosis among neonates who went on DAMA. Some of the studies have reported birth asphyxia (25.7-41.9%)[15,16,18,19] while other studies have reported prematurity (40-60.5%)[8,17] as most common morbidity among DAMA neonates.

In present study, the most common reason forcing the caretakers to take neonates on DAMA was poor financial condition (83.7%) which is similar to other studies conducted from Nepal (58.7%),[9] India (70.7%)[7] and Nigeria (67.0%).[17] The reason might be due fact that all the admission and treatment expenses are being paid by the parents in this study. However, this finding was higher than another study reported by Sharma *et al*[8] from Bhartpur Hospital, Nepal (26.8%). Sharma *et al*[8] reported poor prognosis explained by treating physician (40.3%) followed by no improvement (33.6%) as most common reason for DAMA. This differences might be due to availability of free of cost NICU services to parents at that hospital through the free newborn care program of the Government of Nepal.[8] A study done in India by Kumar *et al*[4] reported wanting to take neonates to better equipped facility (25.1%) as commonest reason for DAMA. However, a study done by Abbas *et al*[19] in Pakistan reported perceiving poor clinical outcomes (36.7%) and family pressure (22.1%) were the common causes for DAMA. These differences in DAMA reason may be due to local social-cultural beliefs, level of care available at hospital, education and understanding of parents. The other important causes for DAMA in our study were no improvement (12.8%), slow improvement (10.5%), poor prognosis (9.3%) and family reason (8.1%). These causes of DAMA have also been reported by other similar studies.[4,7–9]

However, we acknowledge a few limitations of our study. This is a single-centre study with cost of services being fully borne by the parents, hence the results may not be generalized to other settings. Also, we did not calculate the cost for the families, thus estimate of true burden due to finances could not be estimated.

In conclusion, the prevalence of discharged against medical advice among neonates admitted in NICU was similar to other studies done in Nepal. The issue of DAMA needs an urgent attention and public awareness. Government and hospital needs to reforms their policies to decrease burden associated with DAMA. Further, larger studies with robust neonatal data are needed to understand the reason for DAMA to design appropriate preventive strategies.

ACKNOWLEDGEMENTS

We would like to acknowledge the Department of Pediatrics, National Medical College, Birgunj, Parsa, Nepal for the support during the data collection.

Conflict of interest: None

Source of research fund: None

REFERENCES

1. Alfandre DJ. "I'm going home": discharges against medical advice. *Mayo Clin Proc* 2009; 84: 255-60.
2. Al Ayed I. What makes patients leave against medical advice? *J Taibah Univ Med Sci* 2009; 4: 16-22.
3. Reinke DA, Walker M, Boslaugh S, Hodge D 3rd. Predictors of pediatric emergency patients discharged against medical advice. *Clin Pediatr (Phila)* 2009; 48: 263-70.

4. Kumar R. Leave against medical advice from SNCU of a teaching hospital in Garhwal, Uttarakhand, India. *Int J Contemp Pediatr* 2019; 6: 176-80.
5. Ministry of health and population (MoHP) Nepal, New ERA, ICF. Nepal demographic and health survey 2016. Kathmandu: *Ministry of Health and Population* 2017.
6. National Planning Commission. Nepal's sustainable development goals, baseline report, 2017.
7. Devpura B, Bhadesia P, Nimbalkar S, Desai S, Phatak A. Discharge against medical advice at neonatal intensive care unit in Gujarat, India. *Int J Pediatr* 2016; 1-8.
8. Sharma Y, Pathak OK, Sharma A *et al*. Leave against medical advice among neonates admitted to neonatal intensive care unit in a tertiary care centre: a descriptive cross-sectional study. *J Nepal Med Assoc* 2023; 61: 571–5.
9. Pokhrel RP, Bhurtel R. Discharge against medical advice from NICU in a tertiary hospital of central Nepal: a descriptive cross-sectional study. *Pediatr Health Med Ther* 2020; 11: 307-11.
10. Adhikari S, Rao KS, B K G, Bahadur N. Morbidities and outcome of a neonatal intensive care in Western Nepal. *J Nepal Health Res Counc* 2017; 15: 141-5.
11. Shrestha S, Sindan N, Kayastha N *et al*. Clinical profile and outcome of neonates admitted to the neonatal care unit in a rural teaching hospital. *J Karnali Acad Health Sci* 2018; 1: 23-7.
12. Kanodia P, Yadav SK, Bhatta NK, Singh RR. Disease profile and outcome of newborn admitted to neonatology unit of BPKIHS. *J Coll Med Sci-Nepal* 2015; 11: 20-4.
13. Shah GS, Yadav S, Thapa A, Shah L. Clinical profile and outcome of neonates admitted to neonatal intensive care unit (NICU) at a tertiary care centre in Eastern Nepal. *J Nepal Paediatr Soc* 2013; 33: 177-81.
14. Al-Turkistani HK. Discharge against medical advice from neonatal intensive care unit: 10 years experience at a university hospital. *J Family Community Med* 2013; 20: 113-5.
15. Jalo I, Isaac EW, Alkali YS, Nduibisi V. Determinants of discharge against medical advice amongst neonates admitted at federal teaching hospital Gombe, Nigeria. *Nigerian J Paediatr* 2019; 46: 5-8.
16. Hasan SH, Das JC, Nahar K *et al*. Discharge against medical advice in special care newborn unit in Chattogram, Bangladesh: prevalence, causes and predictors. *PLoS One* 2023; 18: e0284705.
17. Abdullahi UI. Neonatal discharge against medical advice: experience from a rural tertiary hospital in North Western Nigeria. *Sahel Med J* 2017; 20: 64.
18. Joel-Medewase VI, Adebami OJ, Oyedeji OA. Hospital discharges of sick neonates against medical advice. *Int J Recent Sci Res* 2014; 5: 570-3.
19. Abbas R, Irfan Waheed KA, Waqar T *et al*. Reasons of self-discharge from nursery of a tertiary care hospital. *J Ayub Med Coll Abbottabad* 2017; 29: 658-61.