

Discharge Against Medical Advice from NICU in a Tertiary Hospital of Central Nepal: A Descriptive Cross-Sectional Study

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Purpose: Discharge against medical advice (DAMA), leave against medical advice (LAMA), and self discharge have been used in similar circumstances to mean abandoning the physician's advice and deciding to leave the hospital abruptly without caring about possible outcomes. It is a sensitive issue common in NICUs across the developing world. To decrease NMR and under-5 mortality further, it is important to explore the factors leading to DAMA. Hence, this study aims to find the prevalence of DAMA, its causes, and related socio-demographic factors.

Patients and Methods: A cross-sectional descriptive study was conducted in the NICU of College of Medical Sciences Teaching Hospital located in central Nepal from June 2019 to May 2020. Out of 110 cases of DAMA during the study period, 105 cases gave consent to participate in the study. Medical data were recorded from patient records followed by filling out of a semi-structured questionnaire by parents of the patients.

Results: Out of 611 cases admitted to the NICU during the study period, 110 neonates (18%) were self-discharged. The leading cause for parents to take such a decision was poor financial condition (58%), followed by lack of improvement (21%).

Conclusion: The study showed that DAMA in the NICU was 18%. Poor financial condition followed by lack of improvement in patient's condition were the main reasons for self-discharge.

Keywords: LAMA, DAMA, self-discharge, NICU

Introduction

Discharge Against Medical Advice (DAMA) means to leave the hospital against the advice of the treating doctor, despite the poor clinical condition of the child. While it is unexpected, complicated, and frustrating for the treating physician to send a sick neonate on DAMA, it also burdens the family and healthcare system by increasing the rate of mortality and readmissions.¹ The decision to abandon the treatment of children is taken by their parents and/or family members, thus violating the child's rights and raising a legal issue. Despite having economical, ethical, medico legal, and clinical implications, factors associated with DAMA have often been overlooked and it remains an under-evaluated area in a resource constrained country, particularly in neonates.² Although DAMA is common in hospitals around the world, reasons for it vary.

Nepal has made a significant achievement in reducing the Neonatal Mortality Rate (NMR) from 50 to 21 over the last two decades³ and aims to further decrease

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it to 10 by 2030.⁴ The frequently observed health system challenges in newborn care are an inadequate number of skilled service providers, or service providers with poor skills, poor coverage and quality of care in available services, and poor and fragile system of logistics procurement and its supply chain management.^{5,6}

Despite the government's effort to upgrade newborn care services through several programmes,⁷ 55% of births still occur at home³ and not all sick neonates are fortunate enough to reach the hospital. Hence there must be compelling factors to take these sick neonates to home, despite being warned by doctors. Understanding the burden of this problem and its medico-socio-cultural aspect is prudent in filling the caveats of newborn care. In Nepal, such studies are lacking. Hence, this article aims to explore the prevalence and reasons leading to DAMA.

Patients and Methods

A descriptive cross-sectional study was conducted in the NICU of College of medical sciences teaching hospital, Chitwan from June 2019 to May 2020. The hospital has level IIIA NICU equipped with 16 cots facilitated with servo controlled radiant warmers, three ventilators, one CPAP machine, and four phototherapy machines. Procedures done include chest tube insertion, exchange transfusion, umbilical vein catheterization, and surfactant therapy. Sample size was calculated based on the prevalence of DAMA in the previous year, which was found to be 102. Data collection was done by purposive sampling technique. During the study period 611 neonates were admitted in the NICU, out of which 110 cases were self-discharged. Parents of five neonates did not give consent to participate in the study, hence were excluded.

The tool consisted of two parts. The first part included medical and demographic information which was filled out by the researcher himself. In the second part, a semi-structured questionnaire prepared in Nepali language was filled out by the parents.

The study was approved by the institutional review committee of the College of Medical Sciences Teaching Hospital (Ref no. 2019–017). The study was conducted in agreement with the International Ethical Guidelines for Research Involving Human Subjects as stated in the latest version of the Helsinki Declaration. Informed written consent was taken from the caretakers of newborns who decided on DAMA. The caste/ethnicity categorization of the families was done as outlined in Nepal demographic and health survey 2016.³ Data was analysed using SPSS

V25. Descriptive statistics which included frequency and percentage were derived and are presented in tables and figures.

Result

A total of 105 cases whose parents gave consent to participate in the study were enrolled. The prevalence of DAMA was 18% of total hospital admission during the study period.

Most of the babies were male (65%) compared to female (35%). The majority of the babies were born at term (72%), with a mean gestational age of 37.7 ± 3.2 weeks and had normal birth weight (66%) with a mean birth weight of 2677.6 ± 784.7 grams. This is shown in Table 1. Newborns taken against medical advice belonged to disadvantaged janajati (44%) and dalit categories (20%), followed by upper caste (19%) and relatively advantaged janajati categories (11%). This is depicted in Figure 1. Babies taken against medical advice were mostly from chitwan (45%) followed by makwanpur (15%), nawalaparasi (12%), and gorkha (11%) districts, respectively.

Common problems with babies taken on DAMA were sepsis (72%), Meconium aspiration syndrome (23%), and prematurity related (21%), respectively. This is shown in Figure 2. There were more than one diagnoses for one baby. Most of the parents cited poor financial condition (58%) to be the main reason for going on DAMA. For others, lack of improvement (21%) or belief of significant improvement in the child (12%) led to DAMA. Thirteen percent of parents did not want to disclose a specific reason, as outlined in Figure 3. More than one reason was reported by parents for the same baby.

Discussion

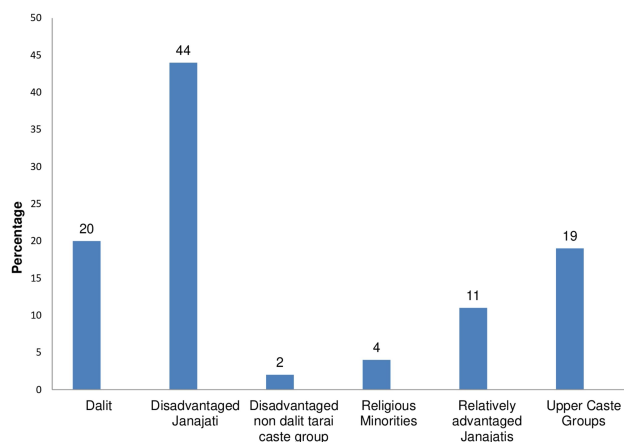
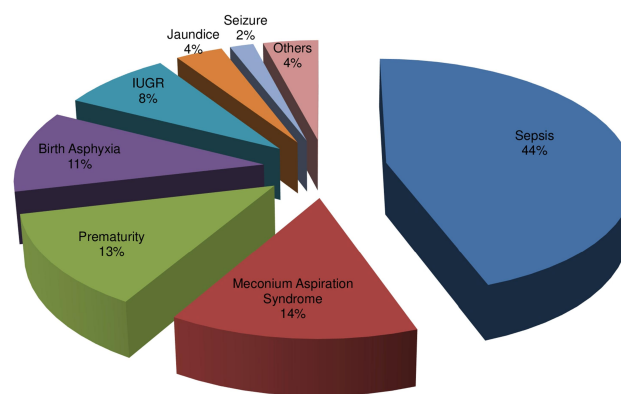
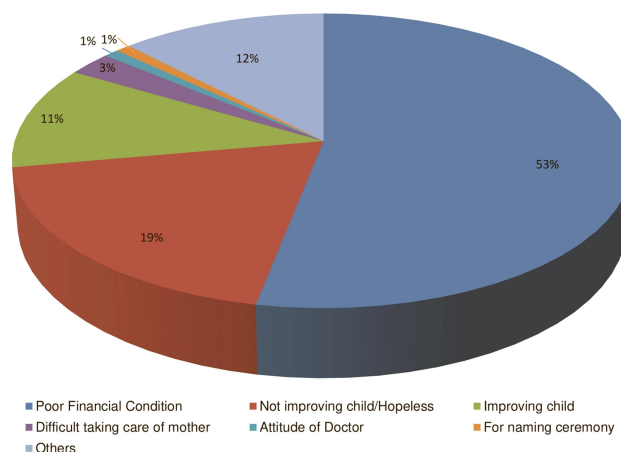
During the study period, 18% of the total NICU admission left against medical advice, which is similar to the study conducted by Shah et al⁸ in the eastern part of Nepal. However, other authors from various tertiary centers of Nepal have reported the incidence of DAMA to be 2–12%.^{9–12} This discrepancy should be taken in the context of variations in local socio-cultural beliefs, services offered by the institutions, and different time scale of studies. In other developing countries like ours, the prevalence of DAMA varies from 11.1–25.4% of total admissions in the NICU.^{13,14} However a study done by Al-Turkistani¹⁵ in Saudi Arabia, which has a better health system with no financial issues to parents, reported an incidence of 1.66%.

Table 1 Medical Records of Neonate (n=105)

Items	Frequency	Percentage
Gender		
Male	68	65
Female	37	35
Gestational age		
Extreme preterm	2	2
Very preterm	4	4
Moderate preterm	12	11
Late preterm	11	11
Term	76	72
R=41.6–26.6, Mean±SD=37.7±3.2		
Birth weight		
ELBW	1	1
VLBW	9	8
LBW	22	21
Normal	69	66
LGA	4	4
R=4200–1000 Mean±SD=2677.6±784.7		

In this study, the majority (66%) of newborns went DAMA within 7 days of admission, which is comparable to the study done by Kumar.² However, a study done by Aliyu and Lawal¹⁶ in the special care baby unit in Nigeria found that the majority stayed for 8–14 days before deciding to leave. Twenty-four percent of neonates were discharged against medical advice on the first day of admission, which is in agreement with the study done by Devpura et al.¹⁴

The current study revealed that sepsis (72%) was the most prevalent diagnosis among the DAMA patients. This finding corroborates with several other studies.^{2,14,17} Sepsis is the leading cause of neonatal mortality in the

**Figure 1** Ethnicity of newborns.**Figure 2** Diagnoses of newborns who were self-discharged.**Figure 3** Reasons for DAMA.

developing world.^{18,19} Hence it is quite likely that those who did not receive treatment or received incomplete treatment die.

The most important factor forcing the caretakers to take the decision was poor financial condition (58%). This result is similar to those found by Devpura et al¹⁴ and Abdullahi¹³. However, perceived poor clinical outcome and family pressure were the most common causes in a tertiary hospital in Pakistan, as reported by Abbas et al.¹⁷ In contrast to this, a perceived feeling that the child was well enough to be discharged was the most common cause (57.1%) in Nigeria, as reported by Joel-Medewase et al.¹⁸ In Saudi Arabia, there did not seem to be any reason of great significance to warrant DAMA. The reasons stated were their domicile in another region, had other children at home, and dissatisfaction towards the treating physician.¹² The other reasons for DAMA in this study were a lack of improvement (21%) and the belief of significant improvement (12%). This is also worrisome as

there is clearly a lapse in perceiving the severity of illness of newborns among family members.

In this study, the reason for leaving hospital early correlates with the socio-economic class of the families, as most of them belonged to disadvantaged janajati and dalit categories. This is comparable to the findings of Abbas et al²⁰ from Pakistan, but contradicts the results of Joel-Medewase VI et al²¹ according to which 48% of the families who took the neonates on DAMA belonged to the upper social class.

Limitations

The study was conducted in the NICU of a single hospital, hence the results cannot be generalized. The reasons for DAMA were concluded relying on the parent's responses.

Conclusion

DAMA of newborns from a tertiary hospital is high and has deep socio-economic roots which warrant urgent attention. Other than poverty, a lack of understanding of the disease severity by parents or an inability of the treating physician to convince the parents about the gravity of illness appears to contribute to such a high number of DAMA. Apart from raising public awareness, hospital and government policies need serious reforms to decrease public health burden associated with neonatal mortality and morbidity due to DAMA.

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Disclosure

The authors report no conflicts of interest in this work.

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