

Pattern of discharge against medical advice amongst paediatric in-patients at Federal Medical Centre, Azare, Nigeria

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Abstract

Background: Discharge against medical advice (DAMA) is a common problem in health care delivery in developing countries, including Nigeria. Children are vulnerable in this situation as they may neither comprehend nor contribute to the decisions and it may be that DAMA is not in their best interest. We therefore sought to determine the prevalence rate of DAMA amongst paediatric in-patients at the Federal Medical Centre, Azare.

Methods: This was a retrospective study carried out over a 3 year period from January 2011 to December 2013. Hospital Numbers of patients who were discharged against medical advice were identified from the ward admission and discharge registers for the Paediatric medical ward (PMW) and Special Care baby Unit (SCBU). Folders were retrieved; relevant clinical and socio-economic data were extracted as well as duration of hospital stay. Data was analyzed to generate rates and percentages.

Results: A prevalence rate of DAMA was 4.3% amongst the

3896 children admitted into the wards. PMW had a prevalence rate of 3.5% and SCBU had a prevalence of 6.8%. Acute infections accounted for the majority of admissions, the mean duration of hospital stay was less than one week and the most common documented reason for DAMA was financial constraints (15.5%) on the part of the caregivers.

Conclusion: DAMA is still frequent amongst paediatric patients and financial constraint is the most common reason given by caregivers for the request. Laws and policies enabling health insurance coverage of all children or provision of free health care should be made.

Keywords: Discharge against medical advice, In-patients, Paediatrics, Azare

Date received: 22 January 2021; accepted: 28 May 2021

Highland Med Res J 2021;21(1):30-34

Introduction

Discharge against medical advice (DAMA) is a problematic issue for physicians worldwide as there is ethical dilemma between professional values (beneficence) of the physician and the autonomy of the patients.¹ DAMA is a term utilized in human services foundations to denote when a patient leaves the hospital before completing treatment, against the advice of the physician.² Children are vulnerable in this situation as they may neither comprehend nor contribute to the decision and it may be that DAMA is not in their best interest.³ Leaving the hospital against medical discharge may expose the children to the risk of inadequate treatment and may result in re-admission and prolonged morbidity or mortality.²

DAMA is a worldwide problem with negative health effects.² Different prevalence rates across the world have been reported with different reasons for DAMA.^{1,2,4,7} Studies from different parts of Nigeria have shown the prevalence of DAMA to range from 0.002% to 7.4% across different age groups.^{3,8-16} A similar study was carried out in this centre 12 years ago by Alhaji *et al*¹⁶ who found a prevalence rate of 4.3%. Eze *et al*⁸ reported a

prevalence rate of 0.002% for DAMA in all admissions in their hospital over a 9 year period in the South-eastern part of Nigeria. The prevalence rate of DAMA amongst the paediatric population in Port-Harcourt, Benin, Lagos and Gwagwalada were found to be 4.3%, 5.7%, 1.2% and 7.4% respectively.⁹⁻¹²

Predictors based primarily on retrospective cohort studies that have consistently correlated with DAMA include lower socioeconomic class, younger age, lack of insurance, male sex and substance abuse.² Other reasons for DAMA include parents perception that child is well, preference for outpatient care, financial constraints, high cost of hospital services, dissatisfaction and disagreement with care, inconvenience of hospitalization, preference for traditional treatment and hopelessness of the clinical situation. Over the years, hospital fees payable by parents has continually been adjusted upwards in all Nigerian health care institutions.¹⁰ Akande *et al*⁷ reported that parents have a lot of difficulties paying for their children's medical treatment out of pocket in Nigeria which may lead to early removal from hospital care.

Knowing the profiles of DAMA amongst the Paediatric age group in the northeastern part of Nigeria is important. This is to allow for evidence based interventions to reduce this problem to a minimum. This study, using the same populations sought to find if there was any difference in prevalence of DAMA from the previous study by Alhaji *et al*¹⁶ who found a DAMA

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prevalence of 4.3% and poor financial support as one of the reasons for DAMA. We also wanted to find out if there were any associations between the clinical profiles and DAMA in these patients which was not investigated for in the previous study.

Materials and Methods

Study Area

Federal Medical Centre Azare is a tertiary health facility in North-eastern Nigeria which serves as a referral hospital for the populations of Bauchi, Yobe and Jigawa states. Azare has a population of approximately 110,452 inhabitants who are mostly subsistence farmers.¹⁸ The hospital offers adult and paediatric care to residents of Azare and its environs. There are 3 paediatric wards in the hospital that tends to all children 14 years and below as children from 15 years are attended to by the adult physicians (this has currently been reviewed to 16 years); a 13 bedded Emergency Paediatric Unit (EPU), a 13 bedded Special Care Baby Unit (SCBU) and a 25 bedded Paediatric Medical Ward (PMW). Patients admitted to the EPU are either discharged home well or transferred to the PMW after 24-72hrs. This study therefore focused on patients in the PMW and SCBU.

Study design / Data collection

This was a cross sectional descriptive study that retrospectively reviewed the medical records of children aged one day to fourteen years who were DAMA in the PMW and SCBU wards of Federal Medical Centre Azare over a three year period from 1st January 2011 to 31st December 2013.

Upon admission into the ward, a deposit fee is paid by the parents to the ward account officer who issues them a receipt of payment and a ledger form. The parents then present these documents to the ward manager who attaches the ledger form to the case notes where all cost of treatment is recorded. In cases where the caregivers are unable to pay at time of admission, an emergency ledger is opened where all treatment costs will be documented. In such situations the parents will offset all bills at discharge. All admissions are recorded into a ward admission and discharge register which also contains other vital biodata of the child.

There is also a column for documentation of outcome of treatment in the register, which may be discharged, DAMA, died, referred or absconded. DAMA is documented as outcome after a parent, despite being counseled on the importance of continued hospital care for their child, still insists on taking their child away before treatment is completed. Prior to leaving the hospital, the parents sign or thumbprint on a nurses report form and pay all outstanding bills.

The admission and discharge registers of the two paediatric wards were reviewed by the investigators for the total number of admissions and DAMA. Other

information retrieved from the register included hospital numbers, age, sex, diagnosis and duration of hospital stay of children DAMA during the study period. The hospital numbers were used to retrieve case notes of children who were DAMA by the record clerk. However the retrieval of case notes was possible in only 116 of the 166 identified as DAMA from the admission and discharge register giving a case note retrieval rate of 69.9%. Information including educational level and occupation of parents, availability of health insurance, reasons for DAMA and signatories of DAMA were retrieved from the case notes by the investigators and recorded on an excel sheet. Information concerning the occupation and educational level of the parents/caregivers was documented in only 75(64.6%) of the 116 case notes retrieved. Social classification of the children's families was done using the socio-economic index scores designed by Oyedeji.¹³ The case notes of children with health insurance had an additional insurance number attached to the hospital number and also had a different color from other case notes.

Statistical Analysis

Data obtained were analyzed using the IBM Statistical Package for Social Sciences (SPSS) software version 20.0 for Windows. Continuous variables were reported as mean while categorical variables were reported as the number or percentage of subjects with a particular characteristic. Pearson's Chi square test and Fischer's exact test was used to test association between general characteristics of patients that DAMA and their duration of hospital stay as appropriate. The level of significance was set at $p < 0.05$ and confidence level at 95%. Results were presented in tables, charts and prose.

Ethical Consideration

Ethical approval was obtained from the Health Research Ethics Committee of the Federal Medical Centre, Azare before the study was commenced. Names of children were not included in data collected to ensure anonymity in line with good clinical practice and Helsinki Declaration.

Results

A total of 3896 children were admitted into two paediatric wards in the 3 years studied. One hundred and sixty-six (166) children were DAMA giving an overall prevalence of 4.3% from both wards. Three thousand and thirty three (3033) children and eight hundred and sixty three (863) neonates were admitted into the PMW and SCBU respectively. The prevalence of DAMA in the PMW was 3.5% while that for the SCBU was 6.8%. There were a total of 104 (62.7%) males and 62(37.3%) females with a M:F of 1.7:1 who were DAMA. DAMA was seen more amongst children aged 1 to 5 years (41.6%) followed by the neonatal age group (35.5%). Table 1 shows the clinical profile of children DAMA from both wards.

Table 1: Characteristics of 166 children who were DAMA

General Characteristics	Frequency	Percentage
Age group		
0-28 days	59	35.5
29 days-12 months	17	10.2
13-60 months	69	41.6
>60 months	21	12.6
Gender		
Male	104	62.7
Female	62	37.3
Ward		
Special Care Baby Unit	59	35.5
Paediatric Medical Ward	107	64.5
Diagnosis		
Perinatal Asphyxia	16	9.6
Prematurity	18	10.8
Neonatal Sepsis	21	12.7
Other acute infections	66	39.8
Malnutrition	25	15.1
Chronic Disorders	18	10.8
Others*	2	1.2

* Snake bite, aspiration pneumonitis

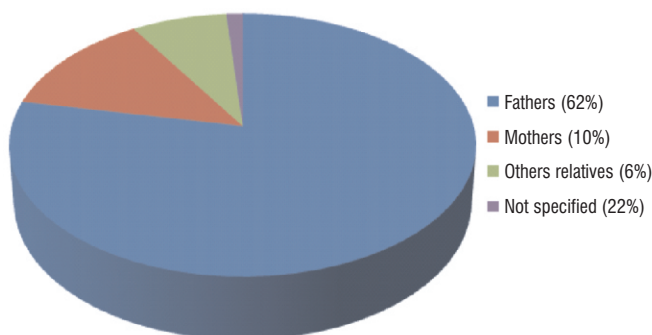


Figure 1: Pie chart showing the distribution of signatories to DAMA

Table 2 shows that most of the children who were discharged against medical advice stayed for less than one week 127 (76.5%) while very few children stayed for more than 2 weeks 2(21.2%). Gender was the only factor seen to be significantly associated with duration of hospital stay ($p < 0.05$, $CI \leq 0.329, 0.975$) as shown in table 2.

There were only 3(4%) parents who belonged to the upper social class, 26(35%) belonged to the middle class while most 46(61.3%) belonged to the lower social class. The commonest reason for DAMA was financial constraint in cases where reason for discharge was stated. For majority of the records retrieved 86(74.1%), no

reason was given for the request. Table 3 shows the other reasons for request for DAMA.

Table 2: Relationship between general characteristics of patients and duration of hospital stay

General characteristics	Range of stay			χ^2	p value	95% CI**
	≤ 7 days n(%)	8-14 days n(%)	> 14 days n(%)			
Age						
≤ 28 days	44(74.6)	15(25.4)	0(0.0)	7.890	0.44	0.720-2.158
29 days-12 months	12(70.6)	5(29.4)	0(0.0)			
13-60 months	54(78.3)	14(20.3)	1(1.4)			
> 60 months	17(81.0)	3(14.3)	1(4.8)			
Gender						
Male	85(81.7)	17(16.3)	2(1.9)	6.598	0.037	0.329-0.975
Female	42(67.7)	20(32.3)	0(0.0)			
Diagnosis						
Acute infections	53(80.3)	12(18.2)	1(1.5)	4.764	0.965	0.714-18.79
Malnutrition	17(68.0)	7(28.0)	1(4.0)			
Chronic disorders	14(77.8)	4(22.2)	0(0.0)			
Perinatal Asphyxia	12(75.0)	4(25.0)	0(0.0)			
Prematurity	13(72.2)	5(27.8)	0(0.0)			
Neonatal sepsis	16(76.2)	5(27.8)	0(0.0)			
Others*	2(100.0)	0(0.0)	0(0.0)			

* Snake bite, aspiration pneumonitis

**CI confidence interval for chi-square

Fathers were the signatories in most of the cases of DAMA encountered while it was not specified on who the signatory was in 25(22%) of the records retrieved [Figure 1]. It was also noted that none of the children had any form of health insurance cover.

Discussion

The prevalence rate of DAMA among Paediatric patients in this study is comparable to other studies in some parts of the country in the past few years.^{9,10} This study prevalence rate is similar to prevalence of 4.3% reported by Alhaji *et al*¹⁶ in the same centre 12 years ago and that reported from Port Harcourt by Opara *et al*¹⁷ using the same population. Finding a similar prevalence as the study done 12 years ago goes to show that the predisposing factors for DAMA have persisted. Lower prevalence rates of DAMA were found in Abakaliki and Enugu with rates as low as 1.5% and 1.8% in studies carried out by Ibekwe *et al*³ and Ikefuna *et al*¹⁴ respectively.

The higher prevalence found in this study is difficult to explain as increasing hospital costs and lack of access to free medical care for children are problems encountered in most parts of the country. This study included all neonates, which may have contributed significantly to the higher DAMA prevalence when compared to the study in Enugu by Ikefuna *et al*¹⁴ which excluded neonates from birth to 72 hours of life. The prevalence of DAMA amongst the neonatal age group was high, compared to DAMA in the older children. A finding similar to that of Ibekwe *et al*³ and Okoromah *et al*¹⁷. Neonates with conditions such as prematurity and neonatal sepsis tend to stay longer in the hospital which in turn leads to accumulation of medical bills. Also, naming ceremonies which usually take place on the seventh day of a neonates life in this area is considered very essential to some parents but to the detriment of the ill child who has to be taken out of hospital for that reason.

Table 3: Reasons given for request for DAMA by parents/caregivers

Reasons for DAMA	Number	Percentage
Refusal of nasogastric tube	2	1.7
Demise of family member	3	2.5
Reasons not stated	86	74.0
Financial constraints	18	15.5
No improvement	4	3.4
Refusal of blood transfusion	1	0.86
Home treatment preference	1	0.86
Child has improved	1	0.86
Folders not retrieved	50	30.1

Neonatal sepsis and acute infections such as malaria and acute diarrheal disease in older children were seen as the major diagnosis with a high number of DAMA amongst children in this study and other studies carried out in some parts of Nigeria.^{8,9,12-14} Majority of the children DAMA stayed for less than one week as observed from both wards and gender was the only factor seen to have a significant relationship with duration of stay. The short duration of stay may go hand in hand with the observation that the caregivers of most of the children DAMA belonged to the lower social class with no form of health insurance cover. Findings were similar to studies on DAMA carried out in other regions which identified low socio-economic class as the main risk factor for DAMA.^{1,3,8,9,10,12,14,19}

The fear of accumulating more financial burden, and having other immediate and extended family members to look after may contribute to the early request for discharge by caregivers. Roodpyema *et al*²⁰ in Iran on

the contrary found financial constraints low among reasons caregivers provided for DAMA. I speculate that this may be due to a better organized and strong health insurance system in the country.

The father was the signatory in majority of cases and a similar pattern has been reported in other studies that identified who the signatory was.^{8,9} This may reflect the patriarchal traditional African community setting where the father is the main custodian of the family resources and makes decision on whether or not to sustain the burden of treatment costs.

Conclusion

DAMA remains high and of major public health importance in our environment. The causes of DAMA are preventable and the priority should always be child's wellbeing. Strengthening of the existing national health insurance scheme or provision of free or highly subsidized medical services for children will assist in no small way in mitigating this ugly trend.

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