Journal of Experimental Research

June 2016, Vol 4 No 1
www.er-journal.com
Email: editor-in-cheif@er-journal.com

Received: February 2016

Accepted for Publication: June 2016

Discharge Against Medical Advice (DAMA) Among the Paediatric Age Group in Enugu State University Teaching Hospital Parklane, Enugu.

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Abstract

Discharge against medical advice (DAMA) can be defined as a situation in which a patient chooses to leave the hospital before the managing physician recommends discharge. It presents a peculiar challenge amongst the pediatric population because children are dependent on their parents or care givers for decisions regarding healthcare. Understanding the risks and reasons for DAMA is important for health system policy and the proactive management of those at risk of DAMA. This was a retrospective study that reviewed the medical records of children aged one day to 17 years discharged against medical advice in the Paediatrics Department of ESUTH, over a three-year period from 1st January, 2013 to 31st December, 2015.A total of 5464 patients were admitted into CHER, Newborn and the Children's wards during the study period. Out of these, 170 patients, representing 3.1%, were DAMA. Among the age groups, DAMA was more common amongst infants (45.6%). Malaria was the most common condition on discharge against medical advice (20.1%) followed by pneumonia (15.7%) and sepsis (12.3%).All the patients had evidence of signed documentation in the form of a signed entry in the case files.There was no alternative treatment plan offered to 111 (97.4%) cases and no option for follow up in 109 (95.6%). We recommend that the current documentation for DAMA as a signed entry in the case notes should be reviewed.

KeywordsDischarge against medical advice, Paediatrics, Enugu

INTRODUCTION

Discharge Against Medical Advice (DAMA) can be defined as a situation in which a patient chooses to leave the hospital before the managing physician recommends discharge (Alfandre, 2009). It poses a peculiar challenge amongst the pediatric population. This is because children are dependent on their parents or caregivers for decisions regarding healthcare and are often not considered to have the emotional and cognitive maturity to take such decisions for themselves (Macrohon, 2012).

Discharge against medical advice is encountered by health personnel all over the world (Fadare et al, 2013). In the United States, an estimated 2% of all hospital discharges are designated as against medical advice, increasing up to 6% in disadvantaged inner-city populations (Fiscella et al, 2007; Magauran, 2009; Levy et al, 2012). In the United Kingdom, Pennycook and colleagues found that 0.73% of emergency department patients left against medical advice (Pennycook et al, 1992). Studies in different regions of Nigeria have reported Paediatric DAMA rates from 1.2% to 5.7% (Ikefuna and Emodi, 2002; Onyiriuka, 2007; Ibekwe et al, 2009; Okoromah and Egri-Qkwaji, 2004).

Understanding the risks and reasons for DAMA is important for health system policy and the proactive management of those at risk of DAMA (Katzenellenbogen et al, 2013). Predictors or risk factors, 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 (Alfandre, 2009; Karimi et al, 2014). These categories still encompass the specific reasons

commonly encountered in DAMA situations. However, they should always be considered in the context of the pediatrician's legal liabilities (Macrohon, 2012).

There are several reasons for DAMA. These include parent's perception that the child is well, preference for outpatient care, financial constraints, high cost of hospital services, dissatisfaction and disagreements with care, inconvenience of hospitalization (lost days at work, inability to care for other children), preference for traditional forms of treatment and hopelessness of the clinical situation (Macrohon, 2012; Okoromah and Egri-Qkwaji, 2004). Jedi et al (2010) suggested a categorization of these reasons into three groups: factors related to the patients, the hospital circumstances and the medical staff. These reasons differ between developed and developing countries and it has been suggested that DAMA rate in developing countries are two times higher than developed countries (Abd El Malek et al, 2014; Stranges et al, 2009). Financial reasons predominate in developing countries because healthcare financing is often communally based, due to a lack of institutionally organized health insurance (Fadare and Jemilohun, 2012). On the other hand, a retrospective review in Canada of discharges against medical advice revealed that the majority of the patients left AMA for personal obligations (Green et al, 2004).

The economic consequences of discharge against medical advice are significant. For instance, the incurred costs for incomplete medical treatment due to DAMA over a five-year period in the Northern Territory public hospitals of Australia were estimated to be nearly 30 million dollars (Henry et al, 2007). This accounted for 4% of the total acute care costs in these public hospitals.

The phenomenon of discharge against medical advice (DAMA) among paediatric patients can also be distressing for Paediatricians and other health professionals because it places them in an ethical dilemma between respect for the parent's decision and the best interest of the vulnerable child-patient (Alfandre, 2009; Macrohon, 2012; Jeffrey and Berger, 2008).Furthermore, the risks to these patients are significant and they are an at-risk group for both morbidity and mortality nts (Alfandre, 2009; Karimi et al, 2014). It has been shown that patients who are discharged against medical advice have longer subsequent hospital stays, worse health outcomes and compared with patients discharged conventionally, readmission are 20% to 40% higher (Hwang et al, 2013; Weingart et al, 1998, Glasgow et al, 2010).Thus every effort should be made to prevent a patient from leaving against medical advice (Ding et al, 2007).Some of these preventive measures include early identification of those at risk for DAMA, improved doctor-patient communication skills, increased availability of skilled health manpower, improvement in hospital facilities and attitudinal change of health workers towards patients (Seaborn and Osmun, 2004; Saitz, 2002; Akiode et al, 2005; Al Ayed, 2009).

However, when DAMA becomes inevitable, observing a standardized DAMA process protects the interest of the patient. It also provides optimal legal protection for paediatricians because they are still at risk of litigation if the patient deteriorates (Paul and Remorino, 2010). It can also reduce the rate of DAMA and improve outcomes. The DAMA process involves assessment of capacity or decision taking ability of the parent, disclosure of all potential risks, provision of alternatives and proper documentation (Levy et al, 2012; Devitt et al, 2000).

Knowing the profiles of DAMA amongst the paediatric age group is very important as it allows for evidence-based interventions to reduce to a minimum this problem (Fadare et al, 2013). For instance, Ti et al. (2015) identified markers of risk and vulnerability associated with people who use illicit drugs and highlighted the need to address substance abuse issues early following hospital admission. It is therefore the paediatrician's responsibility is to anticipate and ensure that the discharge is as safe and appropriate as possible under the circumstances (Calkins et al, 1997).

This study was carried out to analyze the DAMA experience and the quality of the DAMA process in the Paediatrics Department of Enugu State University Teaching Hospital (ESUTH) over a three-year period.

Methodology

This was a retrospective study that reviewed the medical records of children aged one day to 17 years discharged against medical advice in the Paediatrics Department of ESUTH, over a three-year period from 1st January, 2013 to 31st December, 2015.

Enugu State University Teaching Hospital is a tertiary health facility that offers care to residents of Enugu and its environs and has three Paediatrics wards. The Children's ward has a capacity for 50 beds and the Neonatal ward has a capacity for 20 beds while the Children's Emergency Room (CHER) has 12 beds.

Ethical approval was obtained from the Research and Ethics Committee of the ESUTH. The files were reviewed to see if there was any form documentation for DAMA either as a signed document or signed entry in the case notes and also for episodes of re-admission directly related to the disease condition before DAMA.

Demographic characteristics included age, sex and duration of admission. Social classification was done using the socioeconomic index scores designed by Oyedeji (Oyedeji, 1985). Further information obtained included diagnosis, availability of health insurance, reasons for DAMA, assessment of capacity or decision taking ability of the parent, counselling, provision of alternatives and the follow up plan.

All the data obtained was recorded and analyzed using the Statistical Package for Social Sciences (SPSS) version 18.0. Continuous variables were reported as mean, median and standard deviation while categorical variables were reported as the number or percentage of subjects with a particular characteristic. Results were presented in tables and prose.

RESULTS

A total of 5464 patients were admitted into CHER, Newborn and the Children's wards during the study period. Out of these, 170 patients, representing 3.1%, were DAMA. However, the retrieval of complete medical records was possible in only 114 of these patients. The mean age of the DAMA cases was 2.96 ± 3.96 years. Among the age groups, DAMA was more common amongst infants

Table 1: Demographic characteristics

	Frequency	Percentage
Age group		
< 1 month (28 days)	24	21.1
>28 days - 1yr	52	45.6
>1yr - 5 yrs	22	19.3
6 - 10 yrs	8	7.0
>10yrs	8	7.0
Gender		
Male	59	51.8
Female	55	48.2
Area		
Urban	74	64.9
Rural	40	35.1
Socio-economic class		
Lower	54	47.4
Middle	48	42.1
Upper	12	10.5
Health insurance		
Yes	2	1.8
No	112	98.2

Table 2: Profile of diagnosis and frequency

Diagnosis	Frequency	Percent
Malaria	23	20.1
Pneumonia	18	15.7
Sepsis	14	12.3
Neonatal sepsis	13	11.4
Acute gastroenteritis	7	6.1
Skin infections	6	5.3
Meningitis	5	4.4
Urinary tract infection	10	8.8
Birth asphyxia	10	8.8
Childhood malignancy	3	2.6
Surgical emergency	2	1.8
Upper resp. tract infection	2	1.8
Neonatal jaundice	1	0.9
Total	**114**	**100**

Table 3: Reasons for DAMA

	Frequency	Percent
Dissatisfaction	11	9.6
Falsely perceived improvement	31	27.2
Financial constraint	48	42.1
Inconvenience	10	8.8
No reason	14	12.3

Table 4: Duration of stay and distribution of patients in ward of admission

	Duration of admission (days)		
Ward	1 - 3days	4 - 7days	>1week
CHER	41 (89.1)	5 (10.9)	0 (0.0)
Newborn	7 (35.0)	5 (25.0)	8 (40.0)
Paediatric	10 (20.8)	24 (50.0)	14 (29.2)

Table 5: Analysis of the content of the signed entries

Content of signed entry	Frequency	Percent
Any counseling?		
Yes	96	84.2
No	18	15.8
Capacity assessment		
Yes	44	38.6
Nil	70	61.4
Alternative plan		
Yes	3	2.6
Nil	111	97.4
Option for follow up		
Yes	5	4.4
Nil	109	95.6
Risk disclosure		
Yes	55	48.2
Nil	59	51.8
Follow up documented		
Yes	4	3.5
Nil	110	96.5
Witness		
Yes (nurses)	22	19.3
No	92	80.7
Condition after follow up		
Nil	110	96.5
Neurological sequelae	1	0.9
Stable	3	2.6
Signatory to DAMA		
Father	79	69.3
Mother	34	29.8
Guardian	1	0.9

(45.6%) followed by the neonatal age group (21.1%). There were 59 males (51.8%) and 55 females (48.2%) with a male: female ratio of 1.1: 1. Only 2 patients (1.8%) had health insurance, Table 1.

Malaria was the most common condition on discharge against medical advice (20.1%) followed by pneumonia (15.7%) and sepsis (12.3%). Other diagnoses are shown in rank order, Table 2.

The overall mean duration of stay was 4.4±3.6 days. Duration of stay for the different wards revealed median duration of admission in CHER, newborn and the paediatric ward as two, four and six days respectively. The commonest reason for DAMA was financial constraints. (42.1%) while 12.3% gave no reason, Table 3.

The results revealed that duration of admission for 89.1 % of DAMA cases in CHER was between 1-3 days. Duration of admission for 40% of newborn DAMA cases was greater than 7 days while 50% of paediatric ward DAMA cases were between 4 -7days. These proportions were statistically significant (χ^2 = 50.727, P < 0.001), Table 4.

All the patients had evidence of signed documentation in the form of a signed entry in the case files. Analysis of the content of the signed entries revealed that 96 (84.2%) received some form counselling while there was no evidence of capacity assessment in 70 (61.4%). No alternative treatment plan was offered to 111 (97.4%) cases and no option for follow up in 109 (95.6%). There was only one case of readmission (0.8%). Follow up was documented in only four cases (3.5%). Majority of the signatories to the discharge documents were the fathers of the patients (69.3%), Table 5.

DISCUSSION

The prevalence rate of 3.1% among pediatric patients reported in this study falls within the range found in other parts of the country within the past few years (Ikefuna and Emodi, 2002; Onyiriuka, 2007; Ibekwe et al, 2009; Okoromah and Egri-Qkwaji, 2004). Oyedeji reported a much lower prevalence rate of 0.96% in 1986 (Oyedeji, 1986). This low rate was probably because during the economic boom of the eighties, certain illnesses were treated at little or no cost to the parents (Ikefuna and Emodi, 2002).

Among the DAMA cases, majority were infants. Neonates were fewer than infants above one month old and this pattern was different from other studies done in Nigeria on DAMA in children which reported that neonates predominated (Ibekwe et al, 2009; Okoromah and Egri-Qkwaji, 2004; Onyiriuka, 2011).There were fewer neonates in this study probably because of the financial assistance policy instituted in the newborn unit of ESUTH. This policy became necessary after Ekwochi et al. (2014) reported the high cost of care in terms of out of pocket spending.

The ability to recognize predictors of patients who may choose to leave the hospital AMA is important because of the potential to identify those at higher risk and therefore intervene earlier to prevent excess morbidity, mortality, and health care costs (Alfandre, 2009). The risk factors identified in this study include younger age group, male sex, low socioeconomic status, lack of health insurance, urban location and these are consistent with findings from other studies (Weingart et al, 1998; Seaborn and Osmun, 2004; Aliyu, 2002; Saravi et al, 2010).

Majority of against medical advice discharges were from the lower and middle class in almost equal numbers. This is different from the findings of other studies in the same region which identified low socioeconomic class as the main risk factor (Macrohon, 2012; Fadare et al, 2013; Fiscella et al, 2007). This is possibly a reflection of the economic hardship in present day Nigeria and the gradual loss of middle class. Nigerians are mainly rich or poor with no middle class despite economic gains because of unequal wealth distribution (The Economist, 2015).

The commonest diagnoses among neonates were neonatal sepsis and birth asphyxia. A similar pattern was reported in 2009 by Opara and Eke in Port Harcourt (Opara and Eke, 2009). Infectious diseases accounted for most of the diagnoses on admission infants and older children. Okoromah and Egri-Okwaji (2004) also reported the commonest diagnoses in the same age group to be of infectious origin. In the developing world in particular, infectious agents not only take an enormous physical toll on patients, but also cause significant economic losses (Fonkwo, 2008). Thus coordinated strategies to fight the major infectious diseases will indirectly help reduce the incidence and burden of DAMA.

The present study identified financial constraints as the commonest reason for DAMA and this is consistent with findings of other studies (Ikefuna and Emodi, 2002; Onyiriuka, 2007; Ibekwe et al, 2009; Okoromah and Egri-Qkwaji, 2004). Akande and Ogunrinola (1999) reported that parents have difficulty paying for the medical treatment of their children in Nigeria. This is not surprising considering the weak health insurance schemes in most developing countries (Fadare and Jemilohun, 2012). In contrast, Roodpeyma et al. (2010) in Iran revealed that financial constraints ranked low among the reasons provided by parents for DAMA.

There was no reason documented for 12.3% of the DAMA cases and a similar finding was reported by Ikefuna and Emodi, (2002), while Saravi et al. (2010) reported a higher figure of 65.7%. Lack of documentation of a reason for DAMA suggests poor communication between physicians, or healthcare workers in general, and the patient/relatives. Poor communication also has ethical implications and has been reported as a reason for DAMA in some cases (Haywood, 2010).

The father was the signatory in majority of the cases and a similar pattern has been reported in other studies (Onyiriuka, 2011; Opara and Eke, 2009). This is a reflection of most traditional African communities which are highly patriarchal and the father is the sole custodian of his family's resources and decides whether or not the family can bear the cost of the child's treatment (Abasiakong, 1993). Thus, empowering females in keeping with the fifth sustainable development goal may contribute to reducing the incidence of DAMA.

It has been shown that patients who are discharged against medical advice compared with patients discharged conventionally, have higher readmission rates (Alfandre, 2009; Glasgowet al, 2010). However, the present study reported only one case of readmission and a similar finding has been reported by Ikefuna and Emodi (2002). This is a cause for concern because readmission rates are expected to be higher. The low incidence of re-admission may

be a reflection of the lack of the option of a follow up plan for most patients discharged AMA in this study. When given that option, some return for readmission when finances improve (Ikefuna and Emodi, 2002; Sheer and Barton, 1974). In addition, clinicians caring for patients who seek discharge AMA are often faced with emotionally charged and time-pressured treatment situations (Jeffrey and Berger, 2008). This sometimes results in breakdown of cordial relationships between the clinician and the parent/caregiver and may discourage return of the patient to hospital thus contributing to the low re-admission (Opara and Eke, 2009). The case notes analyzed in the present study did not reflect if alternative care was sought at other hospitals or whether there was recourse to prayer houses or native doctors. What happens to these patients when they leave hospital is a subject that has not been explored in our environment (Opara and Eke, 2009).

The relationship between the duration of admission and discharge against medical advice was significant and suggests it may be a possible predictor for DAMA. Thus knowledge of probable length of stay in hospital may serve as a guide for anticipatory counselling before a request for DAMA is voiced out.

Assessment of components of the signed entries revealed poor documentation of factors that ensure proper discharge against medical advice which include assessment of decision taking capacity of the parent or care-giver, alternative treatment options, follow up plan, legal liability. Similarly, other authors have reported poor documentation with respect to counselling, follow up plans and determination of competence (Ikefuna and Emodi, 2002; Seaborn and Osmun, 2004; Saravi et al, 2010). Henson and Vickery in their study demonstrated that when providers used detailed AMA forms, documentation improved (Henson and Vickery, 2005).We recommend that the current documentation for DAMA as a signed entry in the case notes should be reviewed.

Though DAMA remains a problem of major public health importance in our environment, interventions to reduce its discharge rates have not been systematically studied (Alfandre, 2009). Careful and proactive management strategies could mitigate its potential clinical, legal and economic implications (Aliyu, 2002).Attention to the issue of DAMA during hospital accreditation visits as practiced in some hospitals, may draw more attention to this problem and achieve excellent results in this field (Mohseni, 2015).

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