

Umar LW  
Musa S  
Musa A  
Adeoye GO

## Premature discharge of children from hospital admission at Ahmadu Bello University Teaching Hospital Zaria: A 3-year review

DOI:<http://dx.doi.org/10.4314/njp.v42i1.1>

Accepted: 16th March 2014

Umar LW (✉)  
Musa S, Musa A, Adeoye GO  
Department of Paediatrics,  
Ahmadu Bello University Teaching  
Hospital,  
Shika-Zaria, Nigeria.  
Email: umarlw@gmail.com

**Abstract Introduction:** Leaving hospital care prematurely could threaten the healthy survival of and expose children to a risk of harmful alternatives. It is also a concern and a challenge to health-care providers and the health system. A better understanding of its characteristic could help mitigate the impact on children.

**Objective:** To determine the prevalence, types of, and reasons for premature hospital discharge amongst children.

**Methods:** We carried out a three-year retrospective review of case notes of children who were taken away from hospital admission by their parents/caregivers before they were due for discharge. Socio-demographic, clinical and discharge information were collected and data was entered into *Microsoft® Excel® for Mac 2011 (Version 14.1.0)*, cleaned and analysed. Results were presented as percentages, statistical means and standard deviations, tables and charts.

**Results:** There were 56 cases of premature discharge out of 2858

admissions, giving a prevalence of 2.0%. Under-five children constituted 65.4%, with a male: female ratio of 2.3:1. Thirty-one (55.3%) children were absconded with while 25 (44.7%) were taken away by caregivers against medical advice. The commonest diagnoses were protein-energy malnutrition and pneumonia and majority were from poor socio-economic family background. The commonest reasons for discharge AMA were unaffordable costs and perception of improvement of child's medical condition.

**Conclusion:** Socio-economic factors were significant determinants of utilization of in-patient hospital services for the children studied. There is a need for provision of affordable health care as well as efficient discharge policy to protect children from potential risks associated with premature hospital discharge.

**Key words:** Children; admission; premature discharge; discharge against medical advice; absconding; elopement

### Introduction

During the course of hospital admission children are sometimes taken away against medical advice (discharge AMA, DAMA), or without notice of medical staff on duty by their caregivers (absconding, elopement). Such premature termination of care could prolong duration of illness and put children at risk of complications, death or to uncertain and precarious alternative therapies<sup>1,2</sup>. The child right perspectives not only uncover legal responsibility shortcomings of caregivers (for decisions to withdraw consent) but also pose medico-legal challenges for the healthcare provider and the health system<sup>2,3,4,5</sup>. An understanding of the factors associated with premature termination of hospital care of sick children could help improve caregiver compliance

with provisions of care and reduce its occurrence<sup>4,5</sup>.

Discharge AMA in the case of children, occurs where a child caregiver declare their intention to remove their ward from care, has been counselled and duly informed about implications of their decision by an attending healthcare provider, but still opts to leave, and sign relevant documents as evidence of voluntary withdrawal of consent<sup>6</sup>. Factors that could predict the likelihood of leaving hospital AMA could be either facility-related or patient-related<sup>7,8</sup>. The former include site, structure, institutional policy, quality and cost of service as well as staff disposition (number and competence), while the latter include socio-economic status, type of illness, perceptions and attitudes regarding illness and treatment, as well as ability to make independent decisions regarding

choices of treatment<sup>7,8</sup>. Previous studies have consistently shown that socio-economic status play a significant role in premature discharges involving both adults and children.<sup>6,8,9-12</sup> The prevalence from studies in children ranges between 1-2% in most studies in developing countries that reported retrospective analyses of cases of leaving in-patient care AMA alone<sup>13,14,15</sup>, while higher prevalence was obtained in other reports that included a larger proportion of neonates<sup>6,14</sup>. In some other circumstances children could be taken away from hospital by caregivers without notice of medical staff, i.e. absconding (elopement), which is considered by some as a form of discharge AMA<sup>12,17</sup>. The commonly associated factors observed in developing countries include poverty, perception of illness improvement and conditions such as HIV, tuberculosis and protein energy malnutrition<sup>6,13,14,15</sup>.

Although the legal right to give consent for medical care of children lies with parents/ guardians, the unrestricted right to withdrawal of such consent puts a limit to the professional obligation of acting in the best interest of the child by the medical care team.<sup>2,3,4,5,17</sup>

The main objectives of this study were therefore, to determine the prevalence of and identify the factors associated with premature discharge of hospitalised children.

## Materials and Methods

A review of case notes of children whose caregivers signed and left hospital admission with them against medical advice and those whose caregivers took them away unnoticed (absconded) from the *Emergency Paediatric Unit (EPU)* and *Paediatric Medical Ward (PMW)* of our hospital between 1<sup>st</sup> January 2007 and 31<sup>st</sup> December 2009 was conducted. These are busy medical wards with a total capacity of 74 beds and average bed occupancy of 70-80% at anytime. Children presenting with emergency medical conditions and those critically ill are routinely admitted for resuscitation in the EPU. Neonates were not included because the newborn unit is situated in another block closer to the labour ward and data on neonates is being analyzed separately for subsequent publication. An emergency treatment voucher allows admission and commencement of care for the first 72 hours for patients whose caregivers could not afford immediate payment of admission fees (pending when payments could be made within this period). A system of indigent patients' support of costs of treatment and care for HIV infected children by the US Government funded APIN (Aids Prevention Initiative in Nigeria) Programme has been in existence in the hospital from 2007. Patients are either discharged home from EPU if they recovered or more often their care would be transferred to the PMW under the appropriate specialist unit if they stayed up to 72 hours. All other children presenting with non-emergency medical conditions get admitted directly into the PMW during routine work hours. The National Health Insurance Scheme (NHIS) has been implemented in our hospital over the period of

our study but none of the children in this report benefited from it.

We defined cases of premature discharge to include situations where a caregiver opts to leave hospital care with their ill child and declared their intentions to attending medical staff. These were documented in hospital forms that were signed by caregivers accepting all responsibility for withdrawing consent and leaving hospital care with their children (discharged AMA). A second category of children whose caregivers left hospital care with them unnoticed (absconded) were also considered as premature discharge and included in the study<sup>12,17</sup>.

Socio-demographic, clinical data and information about circumstances around the time of leaving were collected from the case notes and entered into a profoma. The socio-economic status of families of children was categorised using the classification scheme of Oyediji, using parental educational level and family income<sup>18</sup>. Those in social classes I-III were considered to belong to high and those in IV-V to low socio-economic status respectively. Data was then entered into *Microsoft® Excel® for Mac 2011 (Version 14.1.0)*, cleaned and analysed. Results were presented as proportions, statistical means and standard deviation ( $\pm$ SD), contingency tables and charts. Chi-square test was used to test for significance and P values of <0.05 were considered significant.

## Results

A total of 2858 children were admitted within the period from 1<sup>st</sup> January 2007 to 31<sup>st</sup> December 2009, out of which in 56 caregivers either signed and left AMA or absconded with them following a variable period of stay on hospital admission. With a mean annual 953 admissions and a mean of 18.7 (SD  $\pm$ 4.0) cases of premature discharges this gave an annual prevalence of 2.0%. The male: female ratio is 2.3:1 and children <5 years old constituted 64.3%, with their age ranging from three months to 15 years. The gender and age distribution of the study children are shown in Table 1.

**Table 1:** Gender and age distribution of 56 children prematurely discharged from admission

Gender	DAMA* (%)	Absconded (%)	Total (%)
Male	17 (30.4)	22 (38.3)	39 (69.6)
Female	8 (14.3)	9 (16.1)	17 (30.4)
Total	25 (44.6)	31 (55.4)	56 (100)
Age years)	DAMA* (%)	Absconded (%)	Total (%)
< 1	5 (8.9)	7 (12.5)	12 (21.4)
1 – 5	11 (19.6)	13 (23.2)	24 (42.6)
6 – 16	9 (16.1)	11 (19.6)	20 (36.0)
Total	25 (44.6)	31 (55.4)	56 (100)

\*DAMA: Discharged against medical advice

Thirty-one (55.4%) sick children were taken away from admission by their caregivers without notice of medical staff on duty (absconded). For the remaining 25 (44.6%)

children, caregivers disclosed their intentions to leave despite further counselling by medical staff on duty, but agreed to sign on the appropriate documents.

The commonest diagnoses amongst all the prematurely discharged children were severe protein energy malnutrition and pneumonia. Grouped together, thirty-seven (66.1%) children had infectious illnesses including typhoid fever, severe malaria, persistent diarrhoea and tuberculosis. Table 2 shows the various diagnoses for all cases of premature discharge.

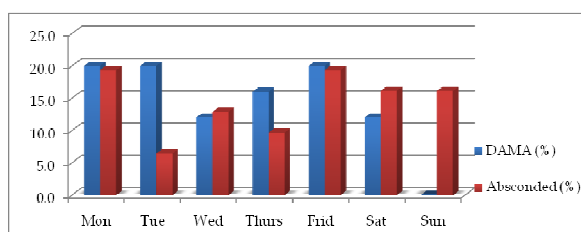
**Table 2:** Diagnoses of 56 children prematurely discharged from admission

Diagnosis	No.	%
<i>Infections</i>		
Pneumonia	11	19.6
Typhoid fever	6	10.7
Urinary tract infection	2	3.6
Acute osteomyelitis	2	3.6
Severe and complicated malaria	4	7.1
Acute bacterial meningitis	3	5.4
Persistent diarrhoea	4	7.1
Disseminated tuberculosis	3	5.4
Overwhelming sepsis	2	3.6
<i>Others</i>		
Protein energy malnutrition	13	23.3
Malignancies (neuroblastoma, rhabdomyosarcoma)	4	7.1
Sickle cell disease vaso-occlusive crisis	2	3.6
Total	56	100

Majority of discharges AMA occurred during routine work hours of weekdays (7.30 am to 4.00 pm, Monday to Friday), while there was no difference between weekdays and weekends for those who absconded, even though they did so most often outside routine working hours on weekdays. There were relatively more discharge AMA on week beginnings (Mondays and Tuesdays) and Fridays. The distribution of premature discharge by days of the week is shown in Figure 1.

The majority of premature discharge tended to occur after the first 4 days of admission. Discharges that took place between the first and fourth days of admission were mostly of children managed in the EPU with the emergency treatment voucher provided pending the payment of hospital bills. These children were taken away before they were declared to have satisfactorily recovered, as shown in Table 3. There was no statistical difference in the mean duration of hospital stay between the discharge AMA and the absconded sub-groups (4 days versus 5 days;  $X^2 = 0.0000$ ,  $P = 0.9911$ ).

**Fig 1:** Distribution of premature discharge of 56 children by days of the week



Corresponding data for Fig 1				
	DAMA*	(%)	Absconded	(%)
Monday	5	20.0	6	19.4
Tuesday	5	20.0	2	6.5
Wednesday	3	12.0	4	12.9
Thursday	4	16.0	3	9.7
Friday	5	20.0	6	19.4
Saturday	3	12.0	5	16.1
Sunday	0	0.0	5	16.1
Total	25	100.0	31	100.0

\*DAMA: Discharged against medical advice

**Table 3:** Duration of hospital stay for 56 children prematurely discharged

Duration of Stay (Days)	DAMA*	(%)	Absconded	(%)
1-4	3	12	3	9.7
5-10	17	68	12	38.7
11-14	3	12	10	32.2
>14	2	8	6	19.4
Total	25	100	31	100.0

\*DAMA: Discharged against medical advice

Mean duration of hospital stay = 4 days (discharged AMA) versus 5 days (Absconded);  $X^2 = 0.0000$ ,  $P = 0.9911$ .

The social classes of families of the children are shown in Table 4. Even though in up to a quarter of the children the family economic status was not disclosed, where such information was available more children (46.4%) came from poorer socio-economic family background amongst all the categories. There was no child amongst those from the high socio-economic class that absconded.

**Table 4:** Socio-economic classes of families of 56 children prematurely discharged

Social Class	DAMA*	Absconded	Total (%)
I	3	0	3 (5.4)
II	-	-	-
III	6	8	14 (25.0)
IV	-	-	-
V	10	16	26 (46.4)
Unspecified	6	7	13 (23.2)
Total	25	31	56 (100.0)

\*DAMA: Discharged against medical advice

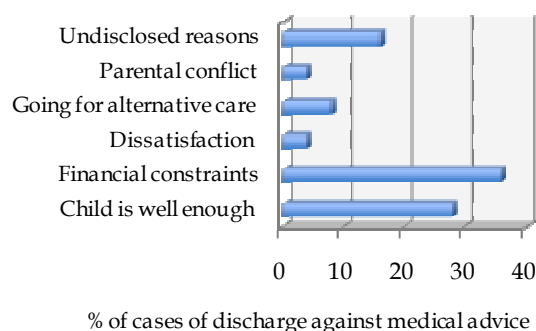
$X^2 = 0.385$ ,  $P = 0.5348$ .

On further analysis of the children whose family socio-economic status was specified (19 in the discharge AMA subgroup and 24 in the absconded), there was no statistical difference between the two sub-groups (higher social classes I-III versus lower classes IV-V;  $X^2 = 0.385$ ,  $P = 0.5348$ ).

Reasons tendered by caregivers who indicated their intention to leave with children AMA are presented in Figure 2. The commonest reasons were financial constraints and perception that child has improved and was well enough to go home. No information could be obtained in the case records on the reasons for absconding from care for the 31 cases that absconded, but

majority of these had various amounts of outstanding bills ranging from the initial admission deposits to other bills that accrued later or a combination of these.

**Fig 2:** Reasons for discharge AMA for 25 children



Corresponding data for Fig 2

Reasons for DAMA	Frequency	%
Child is well enough	7	28
Financial constraints	9	36
Dissatisfaction	1	4
Going for alternative care	2	8
Parental conflict	1	4
Undisclosed reasons	4	16
Total	25	96

## Discussion

This study has revealed a prevalence of 1.96% for premature discharge in children, a figure that falls within a range of 1-2% in similar reports from other tertiary hospitals in Nigeria<sup>13,14,15</sup>, which is also similar to what was found from a General Hospital in Awka (2%)<sup>16</sup>. The prevalence figure is however less than what was observed in Port Harcourt (3.8%)<sup>6</sup>, and in the Islamic Republic of Iran (5.4%)<sup>14</sup>, both of which had significant neonatal sub-population in their subjects. In contrast to these reports however, our data described a category of children that were absconded with from admission without notice to medical personnel on duty, which is considered as elopement, a recognised form of discharge against medical advice in the literature. Two comprehensive reviews, one each from the US and the Kingdom of Saudi Arabia have categorised elopement as a form of discharge against medical advice<sup>12,17</sup>. Each of the two sub-types of premature discharge was shown to have features that could be relevant to planning appropriate prevention strategy<sup>9,12</sup>. Our results however, failed to reveal significant differences in some characteristics of children discharged AMA and those absconded with (mean duration of hospital stay and family socioeconomic status). This could have been due to the obvious limitation in methodology, being a retrospective study with inadequate information and no means of tracking patients to ascertain reasons for absconding. Adequate information was obtained in a prospectively designed study that utilized a tracking method with telephone calls to obtain responses<sup>6</sup>.

Majority of the diagnoses of the 56 children were predominantly emergency infectious illnesses, initially managed in the EPU, with bronchopneumonia being the foremost single diagnosis in this category. Amongst other children directly admitted and managed in the PMW, protein energy malnutrition was in the lead, followed by disseminated TB and malignancies. Various studies in different parts of Nigeria also described similar findings with predominance of infectious illnesses amongst children that were discharged AMA<sup>9,13-16</sup>. While children with HIV infection alone or presenting as co-infection with TB have prominently featured in association with premature discharge in some reports across Nigeria<sup>12,13</sup>, we did not find such cases in this report. This we attributed to the indigent support of costs of treatment for HIV infected children by the US Government funded APIN Programme that probably influenced caregiver decision to stay with children till completion of hospital management.

The main reason for leaving AMA tendered by caregivers was financial constraints in up to 35% of cases in this category. It is noteworthy also that up to 46.4% of children were from families that fell in the lower social classes. These findings are in keeping with what has been observed in reports from Nigeria and other countries.<sup>9,13-16</sup> The findings are however in contrast with observations in developed countries where medical welfare services like the Medicaid for the less privileged exist<sup>16-8,11,17</sup>. Even though the information on family socioeconomic status was not available for 13 (23.2%) of children discharged AMA only three (5.4%) came from the highest socio-economic class. For the 43 children with more complete information there was no difference in the family socioeconomic status between those that were discharged AMA and those who absconded. Although data on reasons for absconding was unavailable for children that were absconded with, we presume that poor family socioeconomic status may have similarly influenced decisions by caregivers to abscond with children. A common reason for discharge AMA was caregiver perception that child has improved enough even though treatment was still on going, a finding that was similarly reported in previous studies<sup>9,13-16</sup>. This may have been due to limited information and counselling on nature of the illness and need for adherence to treatment provisions made available to caregivers at admission, a strategy recommended to control discharge AMA<sup>12</sup>.

The pattern of premature discharge showed that majority of discharges AMA occurred during official work hours (7.30 am to 4.00 pm) on weekdays with no difference between weekdays and weekends for those who absconded even though they did so outside work hours. This might be explained by the fact that especially during visiting periods when relatives come around, caregivers and their children could have conveniently left the wards in company of their relatives without notice of attending staff. Caregivers who absconded with their sick children could have found it convenient to do so after official work hours to evade settling hospital bills. A case for improving the coverage of the National

Health Insurance Scheme (NHIS) to cater for the needs of children from families with poor socio-economic status is evident in this context. The NHIS coverage in Nigeria is still only about 3.5% as at 2010 and has been limited to civil service employees and their families since its inception in 2005.<sup>19</sup>

## Conclusion

In conclusion, premature discharge from hospital goes beyond just leaving AMA to include situations where caregivers abscond with children in our setting. Poor socio-economic status and erroneous caregiver perception about recovery from illness influenced decisions to

keep children under hospital care. Improving the coverage of the NHIS and developing institutional policy to control premature discharge could help to protect children as well as staff and the facility within a medico-legal framework.

### Author contributions

Umar LW: Research coordinator, theoretical concept development, literature review, data analysis and writing.

Musa S: Data collection, data analysis, discussion.

Musa A: Data collection, discussion.

Adeoye GO: Data collection.

**Conflict of interest:** None

**Funding:** None

## References

- Hwang SW, Li J, Gupta R, Chien V, Martin RE. What happens to patients who leave hospital against medical advice? *Canadian Med Assoc J* 2003;168 (4): 417-420.
- Berger JT. Discharge against medical advice: ethical considerations and professional obligations. *J Hosp Med* 2008; 3:403e8.
- Al Siddique AA. Medical liability: the dilemma of litigations. *Saudi Med J* 2004; 25: 901-906.
- Devitt PJ, Aoifinn CD, Mantosh D. An examination of whether discharging patients against medical advice protects physicians from malpractice charges. *Psychiatr Serv* 2000; 51(7):899-902.
- Draper H, Sorell T. Patients' responsibilities in medical ethics. *Bioethics* 2002; 16(4): 335-352.
- Roodpeyma S, Hoseyni SAE. Discharge of children from hospital against medical advice. *World J Pediatr* 2010; 6 (4): 353-356.
- Moyse AS. Discharges against medical advice: a community hospital's experience. *Can J Rural Med* 2004; 9: 148-153.
- Aliyu Z. Discharge against medical advice: socio-demographic, clinical and financial perspectives. *Int J Clin Pract* 2002; 56 (5): 325-327.
- Okoromah CN, Egri-Qkwaji MT. Profile of and control measures for the paediatric discharges against medical advice. *Niger Postgrad Med J* 2004; 11: 21-5.
- Ibrahim SA, Kwoh CK, Krishnan E. Factors associated with patients who leave acute-care hospitals against medical advice. *Am J Public Health* 2007; 97: 2204e8.
- Dershewitz RA, Paichel W. Patients who leave a pediatric emergency department without treatment. *Ann Emerg Med* 1986;15 (6):717-20.
- Al Ayyed I. What makes patients leave against medical advice? *J Taibah University Med Sci* 2009; 4:16-22.
- Ibekwe RC, Muoneke VU, Nnebe-Agumadu UH, Amadife MA. Factors influencing discharge against medical advice among paediatric patients in Abakaliki, Southeastern Nigeria. *J Trop Pediatr* 2009; 55(1): 39-41.
- Ikefuna AN, Emodi II. An assessment of factors influencing hospital discharges against medical advice of paediatric patients in Enugu: A Review of 67 Cases. *Niger J Paediatr* 2002; 29:1-4.
- Eke GK, Opara PI. Discharge against medical advice amongst patients admitted into the Paediatric wards of the University of Port Harcourt Teaching Hospital. *Niger J Paediatr* 2013; 40 (1): 40-44.
- Ejiofor OS, Uzoechina ON. Discharge against medical advice (DAMA) in children's ward; the Awka, South East Nigeria experience. *Trop J Med Res* 2010;14: 50-52. (2). DOI: <http://dx.doi.org/10.4314%2Ftjmr.v14i2.65515>.
- Alfandre JD. "I'm Going Home": Discharges against medical advice. *Mayo Clin Proc* 2009; 84 (3): 255-260.
- Oyedemi GA. Socioeconomic and cultural background of hospitalised children in Ilesa. *Niger J Paediatr* 1985; 12: 111-117.
- Odeyemi IAO, Nixon J. Assessing equity in health care through the national health insurance schemes of Nigeria and Ghana: a review-based comparative analysis. *Int J Equity Health* 2013; 12:9. Available from: <http://www.equityhealthj.com/content/12/January/2013>.