

## DISCHARGE OF HOSPITALIZED UNDER-FIVES AGAINST MEDICAL ADVICE IN BENIN CITY, NIGERIA.

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### ABSTRACT

**Objective:** To determine the incidence of discharge against medical advice (DAMA) among under-fives in Benin City, document reasons for these discharges and suggest ways of reducing its occurrence.

**Methods:** The admissions and discharges registers as well as the case-notes of all children aged between one and fifty-nine months admitted over a two-year period were retrospectively examined. The data obtained included sex, age, main diagnosis, signatories to the discharge documents and reasons/circumstances for DAMA.

**Results:** Of the 1017 under-fives admitted, 58 (5.7%) were DAMA with a higher prevalence in girls (7.4%) than in boys (4.2%)  $p > 0.05$ . The incidence of DAMA (9.7%) was highest among children aged 24-35 months. About half (51.7%) of the parents of children DAMA either did not have formal education or failed to complete primary education. Thirty seven (63.8%) of parents of children DAMA belonged to social classes IV and V. The fathers were the signatories to the discharge documents in 65.5% and the mothers in only 5.2% of cases. Within 24-48 hours after DAMA, 20.7% of cases were re-admitted. Parental fear of accumulation of hospital bills was the commonest reason for DAMA. Mean duration of hospital stay was 3.1 days.

**Conclusion:** Discharge of hospitalised under-fives against medical advice is a common social paediatric problem with gender differentials in its incidence. We believe that with improvement in the socio-economic status of our parents the incidence of DAMA will be greatly reduced.

**Keywords:** Under-fives, discharge against medical advice, Benin City. (Accepted 30 October 2006)

### INTRODUCTION

In any age group, discharge against medical advice (DAMA) is a dramatic as well as an unfortunate event particularly when it is a child who is being signed out by an adult. Such discharges constitute an obstacle to adequate and effective health-care delivery to these children and have the potential of increasing not only child mortality rate, but also, the frequency of occurrence of long-term sequelae. This risk is even more when under-fives are the victims of such signouts against medical advice because of their higher vulnerability to ill-health and its complications compared with other paediatric age groups.<sup>1,2</sup> The reported incidence of DAMA appears lower in adults than in children. For instance, the incidence range from 0.7%<sup>3</sup> to 1.2%<sup>4</sup> in adults compared with 1.8%<sup>5</sup> to 12.0%<sup>6</sup> in children. Reports from Nigeria suggest an increasing incidence over the years. For instance, the reported incidence tripled from 0.96%

(1978 to 1984)<sup>7</sup> to 2.9% (1991-1995)<sup>8</sup> despite the fact that both studies were conducted in the same hospital in Ilesha. Although DAMA was not the focus of the later study,<sup>8</sup> its incidence was contained in the report. The authors of the two Nigerian studies<sup>7,8</sup> failed to define DAMA as it relates to their studies. Obviously, DAMA is a common social paediatric problem but has not received sufficient attention. To the best of my knowledge, no study (both in adults and children) in Benin City has examined this phenomenon. The present study, therefore, sought to determine the incidence of DAMA in Benin City, document the reasons given by parents for such discharges and suggest ways of reducing its occurrence.

### MATERIALS AND METHODS

From the admissions and discharges registers, a list of all children aged between one and fifty-nine months discharged against medical advice (DAMA) from the children's ward of St. Philomena Catholic Hospital (SPCH), Benin City between 1st January, 2000 and

31st December, 2001 was compiled. The case-notes of all under-fives DAMA were retrieved with the help of the Records Staff of SPCH. Information extracted from the case-notes included duration of hospital stay, tribe, place of residence, age, sex, main diagnosis and reasons/circumstances surrounding their discharges. Also the educational attainment, occupation and religion of the parents were extracted from the case-note. The social class of the family was determined using the classification suggested by Olusanya et al<sup>9</sup>, by combining a woman's educational attainment with her husband's occupation. The principal reason for admission of the child was accepted as the main diagnosis as determined by the Consultant Paediatrician. Data obtained were analysed according to age, sex, main diagnosis and reason for discharge against medical advice (DAMA).

In the present study, DAMA is defined as signing a legal release form by the parent or care-giver and leaving the hospital with the child.

Statistical analysis involved calculation of percentages, ratios, means and confidence intervals. Chi square test was used to ascertain the level of significance between two differences, which was set at  $p < 0.05$ .

## RESULTS

During the two-year period covered by this review, a total of 1017 children aged one to fifty nine months were admitted into the children's wards and comprised of 547 (53.8%) males and 470 (46.2%) females, giving a sex ratio of 1.2:1.

### Prevalence of Discharge Against Medical Advice and Signatories.

Of the 1017 under-fives admitted, 58 (5.7%) were discharged against medical advice (DAMA) and comprised of 23 (39.7%) males and 35 (60.3%) females. Male-female ratio was 0.7:1. Incidence of DAMA in boys compared with girls was 4.2% versus 7.4%. The highest incidence of DAMA (9.7%) was in children aged 24-35 months, corresponding to 27.6% of all cases of DAMA and 1.6% of total admissions. Further details concerning age and sex in relation to DAMA are shown in Table I. Table II showed that when both parents were combined, 51.7% had no formal education or did not complete primary education. Further details concerning education, occupation and religion of parents are shown in Table II.

As shown in Table III, 37(63.8%) of the 58 parents of children DAMA belong to social classes IV and V. Majority (65.5%) of the signatories of the documents for DAMA were the child's fathers. Other signatories are shown in rank order in Table IV.

### Main admission diagnosis and duration of

Hospitalisation in 58 cases of DAMA.

Admission diagnosis in 58 under-fives DAMA were as follows: (i) Malaria with severe anaemia 19(32.8%); (ii) Cerebral malaria 6(10.3%); (iii) Gastroenteritis 16(27.6%); (iv) Febrile convulsion 10(17.2%); and measles 7(12.1%). Duration of hospital stay ranged between 1 to 7 days with a mean of 3.1 days (95% confidence interval, CI = 2.9, 3.3).

### Reasons for DAMA

As shown in Table V, the commonest reason given by parents for DAMA was fear of accumulation of hospital bill. Other reasons are shown in rank order (Table V).

Five out of the six (83.3%) children whose parents wished to try the traditional healers had a combination of three features namely fever, anaemia and splenomegaly (referred to as "*Ude*" in the local language). In two out of the five children, fever failed to resolve immediately while the remaining three required a repeat blood transfusion. Haemoglobin genotype (Hb) was SS in three of the five children. The remaining two were HbAS and HbAA respectively. Out of the two parents who refused blood transfusion for their severely anaemic children, one was a Jehovah witness. The second practiced traditional religion and insisted that it was a taboo for blood to be administered to any member of their family.

### Rate of re-admission

Of the 58 children DAMA, 12(20.7%) were re-admitted 24-48 hours later because parents noticed deterioration in clinical condition of the child. Parents of five children (0.5% of the 1017 total under-five admission) threatened to leave and signed a release form but ultimately remained.

**Table I: Incidence of Discharge Against Medical Advice (DAMA) according to Age and Sex**

Age groups of study population (months)	Sex of under-fives DAMA					
	Males		Females		Both sexes	
	No Admitted (%)	DAMA No (%)	No Admitted (%)	DAMA No (%)	No Admitted (%)	DAMA No (%)
1 - 11	194 (53.6)	10 (5.2)	168 (46.4)	12 (7.1)	362 (35.6)	22 (6.1)
12 23	178 (54.9)	5 (2.8)	146 (45.1)	6 (4.7)	324 (31.9)	11 (3.4)
24 35	83 (50.3)	7 (8.4)	82 (49.7)	9 (11.0)	165 (16.2)	16 (9.7)
36 47	55 (50.9)	1 (1.8)	53 (49.1)	6 (11.3)	108 (10.6)	7 (6.5)
48 59	37 (63.8)	0 (0)	21 (36.2)	2 (9.5)	58 (5.7)	2 (3.4)
<b>Total</b>	<b>547 (53.8)</b>	<b>23 (4.2)</b>	<b>470 (46.2)</b>	<b>35 (7.4)</b>	<b>1017 (100)</b>	<b>58 (5.7)</b>

Rate of DAMA: Males versus Females;  $\chi^2 = 4.94$   $p > 0.05$   
 Figures in parentheses represent percentages.

**Table II: Socio-economic characteristics of parents of 58 children DAMA.**

**1. Educational attainment**

	Fathers No(%)	Mothers No(%)	Both No(%)
No formal education	9(15.5)	17(29.3)	27(23.3)
Some primary education	4(24.1)	19(32.8)	33(28.4)
Completed primary education	13(22.4)	9(15.5)	22(19.0)
Some secondary education	11(19.0)	7(12.1)	17(14.7)
Completed secondary education	8(13.8)	5(8.6)	13(11.2)
Post secondary education	3(5.2)	1(1.7)	4(3.4)
<b>Total</b>	<b>58(100)</b>	<b>58(100)</b>	<b>116(100)</b>
<b>2. Occupation</b>			
Unemployed/student	7(12.1)	14(24.1)	21(18.1)
Unskilled eg farmers, petty traders	20(34.5)	28(48.3)	48(41.4)
Semi-skilled e.g typist, clerk, artisan	21(36.2)	10(17.3)	31(26.7)
Professionals	2(3.4)	0(0)	2(1.7)
Others	8(13.8)	6(10.3)	14(12.1)
<b>Total</b>	<b>58(100)</b>	<b>58(100)</b>	<b>116(100)</b>
<b>3. Religion</b>			
Christianity	39(67.2)	35(60.3)	74(63.8)
Islam	12(20.7)	12(20.7)	24(20.7)
Others	7(12.1)	11(19.0)	18(15.5)
<b>Total</b>	<b>58(100)</b>	<b>58(100)</b>	<b>116(100)</b>

**Table III: Social classes of parents of 58 children DAMA**

Social class	Children	DAMA
	No	%
I	4	6.9
II	7	12.1
III	10	17.2
IV	15	25.9
V	22	37.9
<b>Total</b>	<b>58</b>	<b>100</b>

**Table IV: Signatories to the discharge document in 58 children DAMA.**

Signatories	Children	DAMA
	No	%
Child's father	38	65.5
Eldest brother of child's father	10	17.2
Other brothers of child's father	6	10.4
Child's mother	3	5.2
Brothers of child's mother	1	1.7
<b>Total</b>	<b>58</b>	<b>100</b>

**Table V: Reasons for DAMA in 58 cases.**

Reasons given by parents for DAMA	No of DAMA	% of DAMA
Fear of accumulation of hospital bill.	22	37.9
Parents disagree with planned treatment (including duration) or investigation.	16	27.6
Interspousal discord/separation leading to failure to obtain paternal consent before child's hospitalisation.	7	12.1
Desire by parents to transfer patient to a prayer house or a traditional healer.	6	10.4
Slow improvement in clinical condition of patient.	5	8.6
Nobody to care for other children at home	2	3.4
<b>Total</b>	<b>58</b>	<b>100</b>

## DISCUSSION

The 5.7% incidence of discharge against medical advice (DAMA) being reported in the present study is twice higher than that reported previously from Ilesha.<sup>8</sup> This difference may be explained by the time interval (10 years) between the two studies. This view is supported by the data from another study in the same hospital in Ilesha which showed that the incidence tripled over a period of eleven years.<sup>7</sup> On the other hand, the reported incidence in Bouake, Cote d'Ivoire<sup>4</sup> was 12.0% and they attributed it to non-availability of essential drugs and supplies necessary for in-patient treatment in their

hospital during their study period.<sup>6</sup> Investigators in Bissau, Guinea-Bissau<sup>3</sup> reported an incidence of 1.8% and attributed to the fact that no fees were charged at the health facilities in Bissau during the period of their study. Thus, emphasizing the crucial role financial cost to parents play in determining their health-care seeking behaviour. At SPCH, essential drugs and supplies necessary for in-patient treatment are always available but parents have to pay for them. In the present study, the highest incidence of DAMA (9.7%) was found among children aged 24-35 months in contrast to the age groups 0-4 weeks reported by Oyedeji in Ilesha.<sup>7</sup> Further more, in contrast to data from Ilesha<sup>7</sup> which showed a higher incidence of DAMA in boys than girls, the opposite was the case in the present study. The reason for the opposite finding is not clear. However, reports from India<sup>10,11</sup> and Bangladesh<sup>12,13</sup> suggest that parents have a higher tendency to spend less money on their ill daughters than on their ill sons. It is possible that our cultural preference for male off-springs coupled with difficulty experienced by parents in bearing the cost of medical treatment of their children may play a role in the gender differentials in the incidence of DAMA observed in the present study.

In the present study, the commonest reason for DAMA was parental fear of accumulation of hospital bills, suggesting that in our society the ability or inability of parents to pay for their children's medical treatment plays a very important role in determining the health-care seeking behaviour of parents. This is a reflection of the general parental poverty in our society. To reduce the effect of financial constraints as a cause of DAMA equitable financing of health-care services through the National Health Insurance Scheme (NHIS) should be encouraged. One objective of the scheme is protecting families from huge medical bills.<sup>14-16</sup> In contrast to the long duration of hospital stay (mean 12.2 days) reported by Oyedeji in Ilesha,<sup>5</sup> the duration of hospitalisation (mean 3.1 days) was short in the present study. Thus, suggesting that the parents of our patients were generally poor, accounting for the difficulty in bearing the cost of their children's medical treatment even for short duration of hospitalisation. The difference in duration of hospital stay in the two studies is accounted for the high proportion (41.3%) of preterms in the study population in Ilesha.<sup>5</sup> Naturally, duration of hospitalisation is always long in preterm infants. Conversely, the main diagnosis in the present study were acute medical problems, accounting for our short duration of hospital stay. As in a previous study in Ilesha,<sup>7</sup> failure to seek the consent of the child's father before hospitalisation was one of the reasons for DAMA in the present study.

The reason for failure to obtain paternal consent in the present study was interspousal discord/separation. The significant role of fathers in health decision-making is further reflected in the signatories to the discharge documents. Our data showed preponderance of fathers as signatories to the documents for DAMA in contrast to mothers in the study in Ilesha,<sup>7</sup> suggesting that mothers play more health decision-making role in Ilesha than in Benin City. The reason for this difference is not clear. However, our finding is in consonance with what obtains in most African patrilineal setting where the husband who is the head of the household takes the final decision on what action to take as regards a child's illness.<sup>17</sup> Our high re-admission rate (20.7%) suggests that these children left the hospital prior to having received adequate treatment. The potential consequence is relapse of the illness with a resultant increase in the eventual cost and difficulty in treating the child. In addition, it may lead to an increase not only in under-five mortality rate, but also, in the frequency of occurrence of long-term sequelae.

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