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Paediatric discharges against medical advice at a tertiary health centre in Bayelsa State, Nigeria

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Abstract *Introduction:* Paediatric discharges against medical advice (DAMA) are common hospital experiences which limit appropriate and comprehensive treatment as a result of abrupt termination of physician care. The fact remains that the children who are the major culprits of this practice are not legally able to participate in this decision making process which may negatively affect their health.
Objectives: This present study was carried out with the aim of identifying the DAMA prevalence, the socio-cultural characteristics and reason(s) for DAMA among the paediatric patients admitted into the Niger Delta University Teaching Hospital, Bayelsa.
Methods: Case notes of all children who had been discharged against medical advice over a 2 year period(1st of June 2011to 31st of May 2013) were retrospectively reviewed and analysed.
Results: One hundred and forty-one children out of a total of 1872 children admitted into the paediatric wards had been discharged against medical advice, giving a DAMA prevalence rate of 7.5%. Out of 120 children whose case notes were retrieved and analysed, there were69(57.5%) males and 51 (42.5%) females with a male: female ratio of 1.4:1. Neonatal septicaemia (32.6%), birth asphyxia (27.9%) and prematurity (14.0%) were the major diagnosis in neonates while respiratory tract infections (18.2%), severe malaria (15.6%) and septicaemia (14.3%) were the commonest diagnosis in older children who were DAMA. Discharges against medical advice occurred commonly in the first week of admission (69.0%) and among infants (58.0%). Majority of the patients were from low and middle social classes (85.8%) with 30% of the children belonging to families with 4 or more children. The commonest reasons for DAMA were financial constraints (36.7%), lack of clinical improvement (7.5%) and inconvenience of child's admission (7.5%). Only 27% of the children's clinical condition had been noted to have improved before DAMA and fathers were the signatories to the discharge documents in 68% of cases.
Conclusions: Discharges against medical advice remain a serious public health problem with infants being the most vulnerable. Government provision of free child health services, improving access to health facilities through creation of better road network, better patient-physician relationship, child advocacy and female empowerment would help to ameliorate this problem.

Keywords: Discharges against medical advice, child care, advocacy, Nigeria.

Introduction

Paediatric discharges against medical advice (DAMA) is a request to bring a child home when the attending physician has not given the discharge order[1]. DAMA among paediatric patients poses a challenge because the child is not legally able to participate in this decision making process which may be detrimental to his or her health[1].

It is a common experience both in rural and urban hospitals, as patient non-compliance limits appropriate and comprehensive hospital treatment, thereby putting their health at risk[2]. DAMA is a likely contributor to unreported childhood deaths as children who are DAMA are exposed to an increased risk of adverse medical conditions including increased morbidity and mortality[3]. It has also been noted that subsequent treatment after

DAMA may be more difficult and costly[3].
Discharge against medical advice has commonly been reported in many paediatric centres in Nigeria,[4-12] other African countries[14,16] and Asia[13,15] with DAMA prevalence rates ranging from 0.96%[10] to 7.4%[4]. Various reasons for DAMA given have included financial constraints, dissatisfaction with medical care and treatment, parent's impression that child's clinical condition had improved, resort to alternative medicine, lack of trust in orthodox medicine, lack of clinical improvement and inconvenience of child's hospitalisation[4- 17].

Several studies on DAMA have been carried out in other parts of Nigeria[4-12] but till date, none has been done in the Paediatric unit of the Niger Delta University Teaching Hospital (NDUTH), Bayelsa since its inception in September 2007. This present study was therefore carried out to determine the DAMA prevalence and contributing factors among paediatric patients at the NDUTH, with the aim of recommending possible solutions to reduce its prevalence.

Materials and methods

The Niger Delta University Teaching hospital, formerly a general hospital was converted to a teaching hospital in September 2007. The Paediatric Department comprises of three major wards- the Special Care Baby Unit (SCBU) for new-borns from birth to 28 days of life, the Children's Emergency Ward (CHEW) for emergency paediatric medical and surgical cases and the Children's Ward (CHW) for relatively stable cases admitted directly from the outpatient clinics or transferred from the Children's emergency ward after life threatening conditions have been treated.

All the wards are equipped with emergency drugs and materials from the Hospitals Drug Revolving fund to be used for emergency management of the ill children to stabilize them before their parents pay a deposit fee for the rest of the hospital admission. Health care is funded by parents with a 50% discount on drugs, laboratory and radiologic investigations as well as bed fees for all paediatric patients. Clinical and laboratory services are provided on a 24 hour basis for all patients between the ages of 0 and 18 years.

The hospital numbers of patients who had been discharged against medical advice between 1st June 2011 and 31st May 2013 were retrieved from the ward registers. Out of a total of 141 patients who had been DAMA over the study period, the case notes of 120 patients (85.1%) we retrieved from the medical records department of the hospital and analysed. The information extracted from the case notes included the age of the child at admission, sex, working diagnosis, the ward the patient was admitted into, duration of hospital stay before DAMA and the reason (s) for DAMA. Information on the parents' occupation and level of education was also obtained in order to determine their social class using the Oyedeji's social classification system[18]. Those in social class I and II were grouped as High socioeconomic class, III was Middle socioeconomic class and IV and V were grouped as Lower socioeconomic class.
Ethical approval was obtained from the Research and Ethics Committee of the NDUTH. The data was entered into an Excel spread sheet and analysed by calculation of means, percentages and ratios. Test of significance between proportions was assessed using Chi-square and a p value < 0.05 was considered statistically significant at a 95% confidence interval.

Results

A total of 1872 children were admitted into the three paediatric wards of the Niger Delta University Teaching Hospital, Bayelsa over a two year period (1st June 2011 to 31st May 2013). Of these, 1086 (38.0%) were male while 786 (42.0%) were female with a male: female ratio of 1.4:1.

One hundred and forty-one of the admitted children were discharged against medical advice giving a DAMA prevalence of 7.5%.Out of these, case notes of 120 (85.1%) children could be retrieved from the medical records and were analysed. Sixty-nine (57.5%) of the children were male while 51 (42.5%) were female with a male: female ratio of 1.4:1.[Table 1] The proportion of males admitted who were discharged against medical advice was 6.4% which was similar to the proportion of females admitted who were discharged against medical advice (6.5%). Out of the 120children, 43(35.8%) were neonates, 70 (58.0%) were infants, 52 (43.3%) were between the ages of 1 to 59 months and 25 (20.8%) were above the age of five years. Of the 474 neonates who were admitted, forty-three (9.1%)were DAMA, while out of1398 of the older children admitted, 77 (5.5%) were DAMA. This difference was statistically significant $\chi^2 = 7.49$, p value = 0.006.Majority of the children, 95 (79.2%)who were DAMA were under the age of five years.[Table 1]

Table 1: Age and sex of the 120 children who were discharged against medical advice

Age of patient at admission	Sex		Total (%)
	Male (%)	Female (%)	
0-28 days	28(23.3)	15(12.5)	43 (35.8)
1-12 months	19(15.8)	8(6.7)	27 (22.5)
13-36 months	13(10.8)	9(7.5)	22 (18.3)
37-59 months	2(1.7)	1(0.8)	3 (2.5)
5- 10 years	5(4.2)	15(12.5)	20 (16.7)
>10 years	2(1.7)	3(2.5)	5 (4.2)
Total	69(57.5)	51(42.5)	120 (100.0)

Table 2shows the duration of hospital stay of the children admitted before they were discharged against medical advice. Eighty four (70.0%) of the children who were DAMA had been on admission for a week or less;

with 26 of them (31.0%) occurring within the first 24 hours. Of all the children who were DAMA from the CHEW,16(50.0%) did so within the first 24 hours of admission while in the SCBU, 28(65.1%) were DAMA between one and seven days of admission.

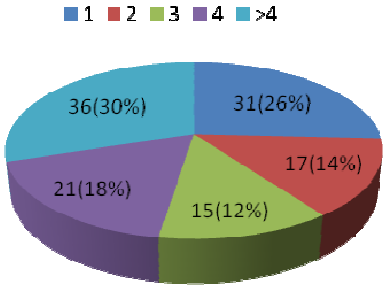
Table 2: Duration of paediatric hospital admission before DAMA in the three paediatric wards

Duration of admission	SCBU	CHW	CHEW	TOTAL
<1 day	4(9.3%)	6(13.3%)	16(50.0%)	26(21.7%)
7 days	28(65.1%)	16(35.6%)	14(43.8%)	58(48.3%)
8-14 days	10(23.3%)	16(35.6%)	2(6.2%)	28(23.3%)
>14 days	1(2.3%)	7(15.5%)	0(0.0%)	8(6.7%)
	43(100.0%)	45(100.0%)	32(100.0%)	120(100.0%)

Note: SCBU- Special Care Baby Unit, CHW- Children's Ward, CHEW- Children's Emergency ward

Thirty-one (26.0%) of the children who were DAMA were the first and only child of the family while 36 (30.0%) were from larger families with four or more children. (Fig 1)

Fig 1: Number of children in the family of patients who were discharged against medical advice



Fathers were responsible for the signing the DAMA form of 82(68.0%) children followed by mothers in 34 (28.0%) and a third party in 4(4.0%) children.

Concerning the parents of the children who were DAMA, 60 (50.0%) were from the Lower Socioeconomic class while 43 (36.0%) and 17 (14.0%) were from Middle and Upper socioeconomic classes respectively.

The commonest reasons given for DAMA were financial constraints; 44 (36.7%), lack of clinical improvement; 9 (7.5%), inconvenience of child's hospitalization;9(7.5%) and dissatisfaction with medical services; 7(5.8%). Factors underlying the inconvenience of the child's hospitalization included presence of other siblings at home, far distance of hospital from home, maternal ill health and the need for the child to go back to school. However, in 40 (33.3%) of the children, no reasons were given by the parents for their choice to discharge their children against medical advice. (Table 3)

As seen in Table 4, of the 43 neonates who were DAMA, the three major medical conditions they presented with were neonatal septicaemia;14 (32.6%), birth asphyxia; 12 (27.9%) and prematurity; 6(13.9%). Of the 77 older children who were DAMA, the three commonest medical conditions they presented with were respiratory tract infections; 14 (18.2%), severe malaria; 12 (15.6%) and septicaemia; 11 (14.3%).From the paediatricians assessment in the case notes, majority of the children's clinical condition; 88 (73.3%) had not improved before they were DAMA by their parents while 32 (26.7%) were improving before their DAMA.

Table 3: Reasons given by parents for paediatric DAMA according to the parental social class

Reason for DAMA	Parental social class			No (%) of DAMA cases
	Lower SEC	Middle SEC	Upper SEC	
Financial constraints	28	11	5	44(36.7%)
Lack of clinical improvement	5	4	-	9 (7.5%)
*Inconvenience of child's hospitalization	3	3	3	9 (7.5%)
Dissatisfaction with medical care	5	2	-	7 (5.8%)
Refusal of blood transfusion	1	4	-	5(4.2%)
Resort to spiritual/ herbal solution	1	2	-	3(2.5%)
Perceived improvement in child's health	2	-	1	3(2.5%)
No reasons given	15	17	8	40(33.3%)
Total (%)	60 (50.0%)	43 (35.8%)	17 (14.2%)	120 (100.0%)

*Inconvenience of child hospitalization includes far distance of hospital from home, no one to care for other siblings at home, maternal ill-health and need for child to go back to school

Table 4: Major diagnosis in the patients who were discharged against medical advice

Diagnosis in admitted neonates	No(%) of neonates that were DAMA (n=43)	% of the total DAMA cases (n=120)
Neonatal septicaemia	14 (32.6%)	11.7%
Birth asphyxia	12 (27.9%)	10.0%
Prematurity	6 (13.9%)	5.0%
Congenital anomalies	4(9.3%)	3.3%
Macrosomic babies & hypoglycaemia	3(7.0%)	2.5%
Breast abscess	2(4.7%)	1.7%
Neonatal jaundice	1(2.3%)	0.8%
Neonatal tetanus	1(2.3%)	0.8%
Diagnosis in older children	**No (%) of older children that were DAMA (n=77)**	**% of the total DAMA cases (n=120)**
Respiratory tract infections	14(18.2%)	11.7%
Severe malaria	12(15.6%)	10.0%
Septicaemia	11(14.3%)	9.2%
Retroviral disease	6(7.8%)	5.0%
Acute diarrhoeal disease	6(7.8%)	5.0%
Febrile seizures	5 (6.5%)	4.2%
Protein energy malnutrition	4(5.2%)	3.3%
Burns	4(5.2%)	3.3%
Trauma	4(5.2%)	3.3%
Others (poisoning, neuropsychiatric disorder, chronic ulcer, CHD, PUD, SCD, surgery , helminthiasis)	11(14.3%)	9.2%

Note: CHD- congenital heart disease, PUD- peptic ulcer disease, SCD- sickle cell disease

Discussion

This study shows a DAMA prevalence rate of 7.5%, which is similar to reports by Okechukwu in Abuja (7.4%)[4] and Onyiriuka in Benin (6.3%). [5] It is much higher than that reported by Ikefuna and Emodi in Enugu[8] of 1.8%however the authors excluded neonates in their study.Oyedeji[10] in his study of DAMA among 179 hospitalised children in Ilesha over a seven year period reported a low prevalence rate of 0.96%. The marked difference in the DAMA prevalence rate in Oyedeji's study compared to this present one could be due to the lower cost of health care in the 1970s and 1980s[10] which encouraged longer hospital stays of their patients. This is especially possible as 29% of the children in their study who were DAMA did so after 14 days on admission as compared to 6.7% in this present study. Eke and Opara[6] in Port-Harcourt in a recent study reported a DAMA prevalence of 3.8%. Possible reasons for this disparity may be the relatively lower percentage of patients in the lower socioeconomic class (35%) in their study as compared to the present study (50%). It has been demonstrated by the present study that DAMA prevalence is higher among the lower socio-economic class. Most of the parents in the Port Harcourt study[6]may be better able to afford hospital fees and therefore be less likely to discharge their children against medical advice.

More than half of all the patients who were DAMA were infants with over 60% of them being neonates. These findings are similar to that of other Nigerian studies.[5, 9, 10,13]Abdullateef *et al*[15] in a study of DAMA in the paediatric emergency centre in Al Sadd, Qatar reported that over 90% of the children who were DAMA were aged less than two years. Both Onyiruika[5]in Benin and Fetuga *et al*[12] in Sagamu in their studies attributed the increased DAMA in neonates to be due to socio-cultural reasons as parents desired to take their children for the traditional naming ceremony which usually took place on the 8th day of life. Though this was not stated as a reason for DAMA in our study, majority of the neonates who were DAMA did so within the first week of admission.

Though there was an overall male preponderance among all the age groups of the patients who were DAMA, the proportion of DAMA in male children was similar to that in female children which is similar to the findings of Roodpegma*et al*[13] in Iran. This is however, in contrast to the reports by Onyiruika[5] in Benin who reported a 2.8 fold increase risk of DAMA in male neonates as compared to female neonates. The reason for this disparity is not clear however some authors have emphasized the socio-cultural preference of the male child as potential custodians of both identity and lineage especially in the South Eastern parts of Nigeria.[20]

Neonatal septicaemia, birth asphyxia and prematurity were the commonest diagnosis among the admitted neonates who were DAMA in our study. These findings are similar to findings from other Nigerian studies though in different orders of frequency.[5, 6, 10,19] Neonates are a high risk group [19] and these conditions are also the major reasons for neonatal admissions in our environment.[21]In the older children beyond the neonatal age group, infections such as bronchopneumonia, severe malaria and septicaemia were the commonest reasons for admission in these children who were DAMA. This is not surprising as malaria, diarrhoeal diseases and respiratory tract infections have recently been reported to be the commonest causes of paediatric emergency admissions in the same institution where this present study was carried out.[22]These findings are similar to reports from Benin,[5]Lagos,[11]Sagamu[12] and Qatar.[13] Ikefuna and Emodi [8] in Enugu similarly reported that infectious diseases accounted for more than 50% of cases of DAMA in their study.

Financial constraints were the major reason given for paediatric DAMA in our study. This was not unexpected as majority of the patients were from Lower and Middle social classes with more than 30% of the children being from families with four or more children. Also about 50% of the DAMA from the CHEW occurred within the first 24 hours of the child's admission despite the fact that these children had life threatening conditions possibly due to financial and emotional unpreparedness for the admission; a reason that was also emphasized by Ikefuna and Emodi. [8] Financial constraints and Low socio-economic class also featured prominently as reasons for DAMA in other studies inNigeria.[4-9] Gloyd*et al*[14]in their study on DAMA in the paediatric ward of a central hospital in Bouake, Cote D'Ivoire noted a 5 fold increase in DAMA rates occurring simultaneously with an increase in hospital fees. Roodpegma *et al*[13] in Iran gave financial reasons as the fourth reason for DAMA in their study however most of the patients had health insurance unlike the present study where health care is funded by the parents/guardians. Fetuga *et al*[12] in Sagamu stated that if hospital fees are subsidized and families are economically empowered, DAMA rate would most likely fall. Implementation of a National Health Insurance Scheme [23] and providing free child health care may help to improve parental health seeking behaviour and reduce the trend of DAMA.

Inconvenience of the child's hospitalization was another important reason for DAMA in our study. Various reasons such as far distance of the hospital from the home, unattended siblings at home, maternal ill health and the need for the child to go back to school were stated. Oyedeji [10]in Ilesha similarly reported the need for the mothers to go home and attend to other siblings at home as a major cause of DAMA in his study. Fetuga *et al*[12] in Sagamu noted that paediatric admissions may temporarily disrupt the routine care of the family, thereby reducing the productivity of the caregivers and causing a reduction in the family finances. Our hospital is located in Okolobri, a semi-urban community located about 30km from Yenagoa the state capital. Apart from the far distance of the hospital from the main town, accessibility from most of the neighbouring communities is also a challenge as the only source of transport from most of these communities is by sea due to lack of roads.

Government participation in improving accessibility by building more roads may help to mitigate this trend.
Lack of clinical improvement and dissatisfaction with medical services and treatment were also important reasons given for paediatric DAMA, which had also been reported in other studies.[11, 13, 15,16] Moyse and Osmun [2] and Nasir and Babalola [17] both noted that professional liability is a concern for physicians caring for patients who DAMA. Other authors [11,13,15] suggested that more effective communication is required between physicians and patients. Al Ayed [3] stated that skilful communication, flexible routines, policies and procedures, negotiable management options, good clinical care and documentation could help to deal with this problem.

A third of the cases in our study had no reasons for DAMA which may be due to ignorance and misinformation of the caregivers. Advocacy should be made for the constitution of a panel comprising the paediatrician, the clinical psychologist, the social worker, the welfare worker and a legal officer in every hospital as is practised in other countries.[3] Every care giver intending to DAMA must meet this panel for appropriate counselling. This may further reduce the prevalence of DAMA.
As reported in many other studies[5,6,10] fathers signed the discharge documents in majority of the cases of DAMA. This emphasizes the role of fathers as the principal and often sole decision makers in the family. Fetuga *et al*[12] in Sagamu however reported mothers as signatories to the discharge documents in 80% of cases as compared to 18% of the fathers. Despite this disparity, the authors noted that the mothers often stayed in the hospital with the ill child but it was unlikely that the decision to DAMA was made without the knowledge or consent of the fathers. Abdullateef *et al*[15] in Qatar also reported mothers as signatories in 87% of the cases of DAMA, however domestic obligations was a leading cause of DAMA in their study.

A major limitation of our study was the fact that we were unable to retrieve all the case notes from the medical records department primarily due to poor record keeping in the admissions and discharges registers.

Conclusions

Paediatric Discharges against medical advice remain a serious public health problem in low resource countries with infants being the most vulnerable. Government provision of free child health services, improving access to health facilities through the creation of better road network, better patient-physician relationship, child advocacy and female empowerment may help to mitigate this problem.

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