

ORIGINAL ARTICLE

Discharge against medical advice amongst orthopaedic patients in Nnewi, South-East Nigeria, and its public health implications

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ABSTRACT

Background: Discharge Against Medical Advice (DAMA) is a term used when patients opt to leave a hospital against the advice of the doctor. Trauma patients account for a significant percentage of these. This study was aimed at determining the prevalence of and reasons for DAMA amongst Orthopaedic and trauma patients in Nnamdi Azikiwe University Teaching Hospital, Nnewi.

Methodology: A two-year prospective study was carried out between March 2010 and February 2012 using an interviewer administered proforma. All orthopaedic patients admitted through the Accident and Emergency (A&E) Unit as well as from the clinics who signed the DAMA form were eligible and recruited for the study.

Results: Out of 1256 orthopaedic admissions, 74 signed the DAMA form giving a prevalence rate of 5.89% with a male to female ratio of 2.5 to 1. Their age range was 4–92years with a mean age of 35.5years. Trauma accounted for 97.3% of all the cases with 32.4% of the patients presenting to hospital within 1–8hrs of injury. The common reasons for DAMA were non-acceptance of treatment options and lack of confidence in the doctor (42%), followed by family/parental pressure (30%).

Conclusion: The prevalence of DAMA in orthopaedic patients was high when compared to DAMA in other medical specialties in Nigeria. Public enlightenment on appropriate health-seeking attitude for the proper management of fractures and bone pathologies to avoid disabling complications should be the advocacy.

Keywords: Lack of confidence, long bone fracture, Nigeria, public health

INTRODUCTION

The practice of Discharge Against Medical Advice (DAMA) in which admitted patients

opt to go home or to seek alternative care without the doctor's consent ultimately portends great danger and often an unpleasant outcome to the individual and the

society at large.¹This is because such patients have higher rates of re-admission with longer hospital stay and worse health outcome.^{2,3} The resultant complications and handicap arising from this decision present a public health challenge.^{4,5}

Some studies in Nigeria and the world as a whole have pin-pointed trauma as the most common cause of DAMA.^{1,6} In a teaching hospital in South-West Nigeria, trauma accounted for 97.2% of patients who were discharged against medical advice, out of whom 51% had long bone fractures.¹ Despite this, there is a paucity of studies focused on DAMA in orthopaedic and trauma cases.

The ability to identify the reasons for DAMA and those who are actually responsible for this decision are necessary to be able to design focused interventions to lower or completely eliminate the occurrence. Some studies have documented reasons why orthopaedic patients opt for DAMA and seek alternative care, especially from traditional bonesetters (TBS).^{1,4,5}

These include: financial constraints, superstitious beliefs, ignorance, family pressure and third party advice. Many of those who seek alternative care eventually are forced back to orthodox services because of the attendant complications of mismanagement.⁶ There is, however, no published study on DAMA in orthopaedic patients in the centre of interest.

This study is essential as a baseline reference that will help in understanding the mindset of patients that get DAMA as a guide in formulating policies and implementing changes that will reduce its incidence and halt the increasing prevalence of mismanaged orthopaedic and trauma cases.

METHODOLOGY

This was a two-year prospective study carried out at Nnamdi Azikiwe University Teaching Hospital (NAUTH) Nnewi, a tertiary health institution in Anambra State, South-East Nigeria, from June 2010 to May 2012. The

hospital serves as a referral centre for orthopaedic and trauma cases in Anambra State and States of Imo and Delta. It has a functional Accident and Emergency Unit which is the first port of call for trauma patients. There is also a Trauma Centre in an out-station at the boundary town of Oba.

Trauma cases are initially reviewed by the registrar-on-call and subsequently, reviewed within the first 6 to 12 hours of presentation in the centre by the senior registrar in orthopaedics. The consultant usually reviews these patients within 24 hours or earlier depending on the severity of the injury sustained. Decision on the definitive care is usually taken by the consultant and together with his team, communicates to those concerned. The patients are usually transferred to the wards when haemodynamically stable within the first 24 to 48 hours of admission.

Ethical approval for this study was obtained from the institution's (NAUTH) Ethical Committee.

An interviewer-administered and validated questionnaire was used to collect data and the information obtained included: patients' biodata, occupation, level of education, type of injury, time of presentation to hospital from injury site, duration of hospital stay, reasons for DAMA, the signatory to the DAMA form and intended alternative place of treatment. Those who refused consent were excluded from the study.

The Statistical Package for Social Sciences (SPSS) version 15 was used in data entry and analysis. Frequency distribution of variables was represented in tables and charts. *Chi-square* test was used to compare differences between proportions. A *p-value* < 0.05 was considered statistically significant.

RESULTS

Within the period under review, there was a total of 1256 orthopaedic admissions into the Accident and Emergency Unit and wards of NAUTH Nnewi. Seventy-four (74) of them

opted for DAMA giving a prevalence rate of 5.89%. Their age range was 4-92 years with a mean age of 35.5 years. There were 53 (71.6%) males and 21 (28.4%) females giving a male to female ratio of 2.5 to 1. Of these, 64 (86.5%) presented with long bone fractures, 6 (8.1%) had other orthopaedic conditions such as lacerations, septic arthritis, traumatic amputations, while 4 (5.4%) had associated injuries, more frequently, head injury. Trauma accounted for 97.3% of all the cases with 32.4% of the patients presenting to the hospital within 1-8 hrs of injury (Table 1).

Table 1. Time between accident and presentation at the hospital

Time between accident and presentation in hours	Frequency	%
<1	16	23.5
1-8	22	32.4
9-24	18	26.5
>24	12	17.6
Total	68	100

The most common reasons for DAMA were lack of confidence in the doctor and non-acceptance of available treatment options (42%) which included both conservative and operative treatment of fractures and dislocations, followed by family/parental pressure to DAMA and seek alternate care (30%) despite commencement of intervention within an average of 10 minutes from the time of arrival, depending on the patient's condition (Table 2).

Table 2. Reasons for DAMA according to age

REASONS FOR DAMA	AGE (IN YEARS) IN THREE CATEGORIES				X ²	p-value
	TOTAL %	≤29 (%)	30-49 (%)	>50%		
Lack of confidence in doctor/Non acceptance of treatment options	20(20.2%)	12(12.1%)	10(10.1%)	42(42.4%)	2.252	0.690
Family/Parental pressure	18(18.2%)	7(7.1%)	5(5%)	30(30.3%)		
Financial constraint/delay in treatment/lack of caregiver	14(14.1%)	5(5%)	8(8.1%)	27(27.3%)		
TOTAL (%)	52(52.5%)	24(24.2%)	23(23.2%)	99(100%)		

This study revealed that delay in initiation of treatment, which is a function of the immediate availability of doctors and, to some extent, cooperation from hospital staff, was the least reason for seeking DAMA. An analysis of the relationship between signatory

to DAMA and marital status of patient showed that in the singles' category, the decision on DAMA was mainly taken by the immediate family members, while most of the married ones (55.6%) took the decisions by themselves (Table 3).

Table 3. Relationship between signatory to DAMA and marital status of patients

			Marital status of patients			Total
			Single	Married	Widow	Single
Signatory to DAMA	Self	Count	4	20	1	25
		(%)	(5.6%)	(27.8%)	(1.4%)	(34.7%)
	Immediate family member	Count	26	15	3	44
		(%)	(36.0%)	(20.8%)	(4.2%)	(61.1%)
	Others	Count	2	1	0	3
		(%)	(2.8%)	(1.4%)	(0%)	(4.2%)
Total		Count	32	36	4	72
		(%)	(44.4%)	(50%)	(5.6%)	(100%)

Significantly, in this study, most of those in the age group 30-49 years signed DAMA themselves, whereas most of those <29 years had their immediate family taking the decision and signing the DAMA on their behalf (Table 4) (*p-value 0.000*). A greater percentage of the patients aged below 70 years preferred treatment by traditional bonesetters (TBS), while most of those greater than 70 (40%) preferred to be taken home for any further treatment (Table 5).

Figure 1. Intended alternative places of treatment of DAMA patients

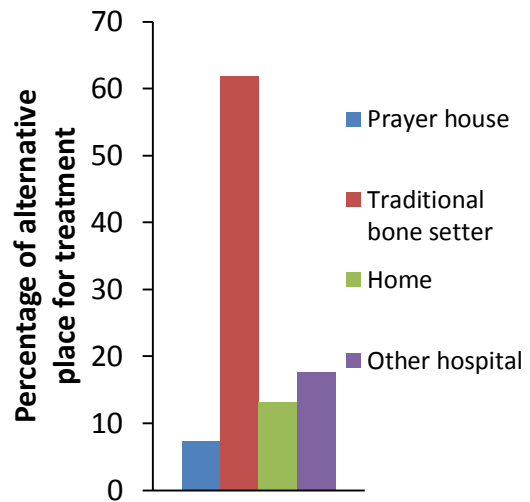


Table 4. Relationship between signatory to DAMA and age in four categories

SIGNATORY TO DAMA	AGE IN YEARS			TOTAL(%)	X ²	p-value
	≤ 29 (%)	30-49(%)	≥ 50(%)			
SELF	6 (8.5)	13 (18.3)	6 (8.5)	25 (35.2)	16.235	0.000
IMMEDIATE FAMILY MEMBERS/ OTHERS- (insignificant)	30 (42.3)	5 (7)	11(15.5)	46(64.8)	Df = 2	
TOTAL (%)	36 (50.7)	18 (25.4)	17 (23.9)	71(100)		

Table 5. Relationship between age of patients and where treatment is to be continued

		Age in four categories				Total	
		<29	30-49	50-69	>70		
Where treatment is to be continued	Prayer house	Count	1	0	4	0	5
		% within Age in four categories	3.0%	.0%	36.4%	.0%	7.5%
	Traditional bone setter	Count	23	12	5	1	41
		% within Age in four categories	69.7%	66.7%	45.5%	20.0%	61.2%
	Home	Count	4	2	1	2	9
		% within Age in four categories	12.1%	11.1%	9.1%	40.0%	13.4%
	Other hospital	Count	5	4	1	2	12
		% within Age in four categories	15.2%	22.2%	9.1%	40.0%	17.9%
Total		Count	33	18	11	5	67
		% within Age in four categories	100.0%	100.0%	100.0%	100.0%	100.0%

DISCUSSION

In this study, the prevalence of DAMA among orthopaedic patients from the centre was found to be 5.9%. This was comparable to a similar finding by Ngim, *et al*, at Calabar (5.9%) and Nasir A, *et al*, in South-West Nigeria with a prevalence rate of 4.2% in a study in which 97.2% DAMA cases were from trauma.^{1,7}

The prevalence of DAMA in other specialties is relatively lower. A study on paediatric patients in a South-East Nigerian Teaching Hospital in Ebonyi State documented a prevalence of 1.5%, while a study in University of Nigeria Teaching Hospital Enugu over a ten-year period revealed that DAMA was highest in Surgery (0.4%), and lowest in Obstetrics and Gynaecology (0.1%) and paediatrics (0.1%).^{8,9} However, a comparable prevalence was observed among adult medical patients at Federal Medical Centre (FMC) Asaba, South-South Nigeria (4.52%), in the work done by Odenigbo, *et al*.¹⁰

A study in the Emergency Department of a Hospital in USA reported the rate of DAMA at about 0.1 to 2.7%.¹¹ Other foreign studies reported the prevalence of 0.07% to 0.7%.^{12,13} This shows that DAMA is more prevalent in our sub-region than in the western world and even, more so, amongst orthopaedic patients as evident in this study.

The reason for the relatively high DAMA rate in orthopaedics, especially in the developing countries, may be related to ignorance and certain cultural and religious beliefs. Majority of DAMA cases may be poorly informed of the consequences of refusing orthodox orthopaedic care.

Though not statistically significant, this index study revealed that lack of confidence in the doctors and non-acceptance of available treatment options were the frequent reasons for DAMA across all the age groups studied. The treatment options offered included open reduction and internal fixation or plaster-of-Paris cast for closed long bone fractures, traction (skeletal or skin), open reduction and external fixation, open reduction and

percutaneous wire fixation for open fractures, and closed reduction of major joint dislocations and immobilization. None of the patients was offered amputation as a treatment option.

These reasons could be related to the current propaganda by unorthodox practitioners and their agents claiming that bone anomalies are not treated at the hospitals but at the local bone-setters' with the assurance of quicker and cheaper services. Studies have actually shown that many orthopaedic patients eventually seek unorthodox care by traditional bonesetters (TBS) because of their cultural beliefs.^{4,5,14}

In this index study, 61.2% of patients opted for treatment by local bone-setters. This result is comparable to the reports by Olorun, *et al*, Solagberu and Dada, *et al*, where the incidence of cases that initially received orthodox orthopaedic services before being withdrawn to the TBS' home were 50%, 43%, 40%, respectively.^{14,15,16} The background of poverty may be a push factor, even though the patronage of TBS is not restricted to a particular group of people but involve people from all social strata and academic classes.¹⁷

The myth of the prowess of these TBS continues to pose challenges to orthopaedic practice in Africa. This is despite the fact that the bone-setters lack the basic knowledge of human anatomy, physiology and radiography. They are also unaware of the basic principles of bone management in order to avoid certain limb and life-threatening complications.^{4,16} Unfortunately, many of these patients that DAMA end up with these complications of mismanagement for which they seek re-admission.⁴

Some of these complications are quite gruesome with the attendant public health implications.¹⁸ They include: psychological trauma, loss of man-hour, emotional and physical disturbances, financial losses and in very bad cases, death from tetanus infection and septicaemia.⁴

Family pressure was observed to be the second most common reason for DAMA in the youngest age group studied. The veracity of this finding is enhanced by the significant relationship in this study between the age of patients and the signatory to DAMA form. Most of these patients had their immediate family members signing for their discharge. However, this study did not ascertain if the opinion of these patients were put into consideration before their family members opted for discharge on their behalf.

The importance of family pressure could be explained by the fact that these patients under 29 years may be essentially dependent on parents and relatives to offset hospital bills, and as such, take the decision on their health. In Africa strong social and family ties still exist, friends and family are, therefore, an important group in the choice of the type of treatment an injured patient receives.^{4,16} This is further buttressed by the analysis of the relationship between signatory to DAMA and marital status of patient. The decision, for those that were unmarried, was taken by the immediate family members in 81.3% of cases.

The erroneous belief in traditional Africa that the only available option of treatment of fractures in hospitals is an inevitable amputation calls for an intensification of public health enlightenment campaign on orthodox management of fractures.^{4,16,18,19} This will help to greatly reduce the incidence of DAMA as a result of misinformation.

CONCLUSION

Discharge against medical advice is common among orthopaedic patients presenting with traumatic fractures. Most of these are young adults who either take decision to DAMA or are under pressure from parents and relatives to do so. Non-acceptance of available treatment options and lack of confidence in the doctors was the most common reason for DAMA, followed by family/parental pressure.

There is need for a focused intervention, especially proper public enlightenment on the

benefits of orthodox management of bone related pathologies.

The scope of the National Health Insurance Scheme should be expanded to take care of the cost implications of care for trauma patients as this will go a long way in encouraging patients with fractures to accept orthodox medicare.

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