



Research Paper

# Discharge Against Medical Advice Amongst Adult Patients with Haematological Malignancies and Associated Mortality at a University Teaching Hospital in Southern Nigeria.

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## Abstract

**Background:** Discharge against medical advice (DAMA) is a worldwide phenomenon whereby patients voluntarily terminate their consent to medical care before the managing medical team certifies them fit to be discharged. It is associated with increased rate of morbidity and mortality. The objective of the study was to determine the prevalence, predictors and outcome of DAMA among patients with haematological malignancies.

**Methodology:** The study was a cross sectional study carried out at the Department of Haematology and Blood Transfusion of the Delta State University Teaching Hospital, Oghara. Participants were recruited consecutively immediately they discharged themselves against medical advice and as the patient passed on. Data obtained were analyzed using Statistical Package for the Social Sciences (SPSS) version 23.

**Results:** A total of 123 cases of haematological malignancies were diagnosed during the duration of the study with 48 patients discharged against medical advice. The prevalence rate was 39% with males and the young populations accounting for a significant prevalence rate. Financial constraints was the major reason patients requested to be discharged against medical advice. Mortality among patients with haemopoietic cancers who discharged themselves against medical advice was 81%.

**Conclusion:** DAMA amongst patients with haemopoietic cancers was common in the center of study with attendant increased mortality among patients who discharged themselves against medical advice.

**Key words:** Discharge against medical advice, haematological malignancies, mortality, Nigeria

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## I. Introduction

Leaving or discharging against medical advice (LAMA/DAMA) technically refers to when a patient decides to discontinue medical therapy when he or she has not been certified fit to be discharged by the managing medical team. According to the human rights and the 'Patient' charter (right to self-determination or autonomy), patients have the right to DAMA.<sup>1</sup> The rate of LAMA/DAMA differs amongst patient populations.

It ranges from 1.9 to 5.89% for orthopaedic admissions,<sup>2,3</sup> 32.3% for patients with musculoskeletal admissions<sup>4</sup> and 0.7% to 7.4% for general ward admissions.<sup>5,6,7</sup> This study seems to be the pioneer study on DAMA/LAMA amongst patients with haematological malignancies as no prior study was found during literature review. However, a study done in Germany on discharge against medical advice in cancer patients revealed a prevalence rate of 0.9%.<sup>8</sup>

Haematological malignancies (HM), are clonal haemopoietic disorders characterized by the amassing of malignant haemopoietic cells in various tissues of the body.<sup>9</sup> They are among the commonest occurring cancers worldwide. Prevalence of HM at this study center has been reported to be around 17%<sup>10</sup> with mortality rate of 53.7%.<sup>11</sup>

Diagnosis of HM is dependent on combining several investigative tools, such as morphology, histology, immunophenotyping, cytogenetics and molecular studies, correlated clinical characteristics and classification in line with the current WHO guidelines.<sup>12</sup> Treating patients with HM usually entails intensive therapies such as chemotherapy, targeted therapies and haemopoietic stem cell transplantation (HSCT). Furthermore, they most often demand intense and extensive supportive care, with red cell and platelet transfusions, antimicrobial therapy, growth factor regimens and immunosuppressive therapy.<sup>13,14</sup>

The financial implications of management on patients with HM is often enormous and a major burden on the afflicted patient and their families. Patients usually pay for evaluation and management through out of pocket expenses due to lack of insurance. It is therefore, not surprising that they may be unable to commence, continue or complete treatment.<sup>15</sup>

This work was aimed at highlighting the burden of DAMA amongst patients suffering from HM at the Delta State University Teaching Hospital, Oghara Delta State.

The objectives of the study was to determine the prevalence, predictors and outcome of DAMA amongst patients with HM and suggest recommendations on how this critical problem can be addressed so as to reduce loss of lives.

## **II. Methodology**

### **Study area**

A cross sectional study of the rate and reasons patients with HM left or discharged themselves against medical advice at the Delta State University Teaching Hospital, Oghara, a tertiary health institution located in Ethiopia-West local government area of Delta State, South – South Nigeria.

### **Study population**

All patients with haematological malignancies who were either discharged after treatment or who discharged themselves against medical advice during the duration of their management and who gave voluntary consent to take part in the study. These patients presented via the consultant outpatient haematology clinics and accident and emergency ward and were recruited consecutively between October 2021 and August 2024.

### **Data collection**

Information was gathered from the patients who gave voluntary consent with the aid of an interviewer administered questionnaire both at the point of hospital admission and discharge by the doctor, or LAMA/DAMA by the patients. Regular communication via phone calls was established between managing consultants and patients discharged by the consultant or those who discharged themselves against medical advice.

The prevalence of DAMA was calculated as a proportion of patients discharged against medical advice relative to the total number of patients seen with haematological malignancies within the duration of the study. Mortality was calculated as the proportion of patients who died relative to the total number of patients with haematological malignancies.

**Exclusion Criteria:** Patients who died while on admission or after proper discharge.

**Inclusion criteria:** All patients who sought DAMA and DAMA patients who passed on thereafter.

### **Data analysis**

Data obtained were analysed using Statistical Package for the social sciences (SPSS) version 23. The results were summarised using descriptive statistics (frequencies and percentages) and presented as figures and tables.

## **III. Results**

A hundred and twenty three (123) patients, comprising 63 (51.2%) males and 60 (48.8%) females with HM were diagnosed during the time of the study. Table 1 shows the ages, age groups, age range, sexes and marital statuses of the individuals who DAMA against those who did not DAMA. There were no statistical significance in these parameters. DAMA is highest in the 50 – 59 years age bracket, with those in the 60 – 69 years age group following closely (25% vs 20.8%).

Also in table 1 is the DAMA prevalence amongst patients with HM. Forty-eight patients, representing 39.0% of patients LAMA/DAMA. This comprised 22 (45.8%) males and 26 (54.2%) females.

**Table 1. DAMA prevalence, age group, sex and marital status distributions of study population**

	DAMA		Stats	p-value
	YES	NO		
Age				
Mean $\pm$ SD	48.4 $\pm$ 16.8	53.9 $\pm$ 17.6	t-test = -1.722	0.088
Range	18.0 – 84.0	18.0 – 78.0		
Age group				
<20	4 (8.3)	4 (5.3)		
20 – 29	6 (12.5)	5 (6.7)		
30 – 39	3 (6.3)	9 (12.0)		
40 – 49	9 (18.8)	11 (14.7)	$\chi^2 = 3.907$	0.689
50 – 59	12 (25.0)	11 (14.7)		
60 – 69	10 (20.8)	23 (30.7)		
$\geq 70$	4 (8.3)	12 (16.0)		
Sex				
Female	22 (45.8)	38 (50.7)	$\chi^2 = 0.274$	0.601
Male	26 (54.2)	37 (49.3)		
Marital status				
Single	10 (20.8)	13 (17.3)		
Married	35 (72.9)	47 (62.7)	$\chi^2 = 3.271$	0.195
Widow	3 (6.3)	15 (20.0)		
Prevalence				
	48 (39%)	75 (61%)		
Female	22 (45.8%)	38 (50.7%)	$\chi^2 = 0.274$	0.601
Male	26 (54.2%)	37 (49.3%)		

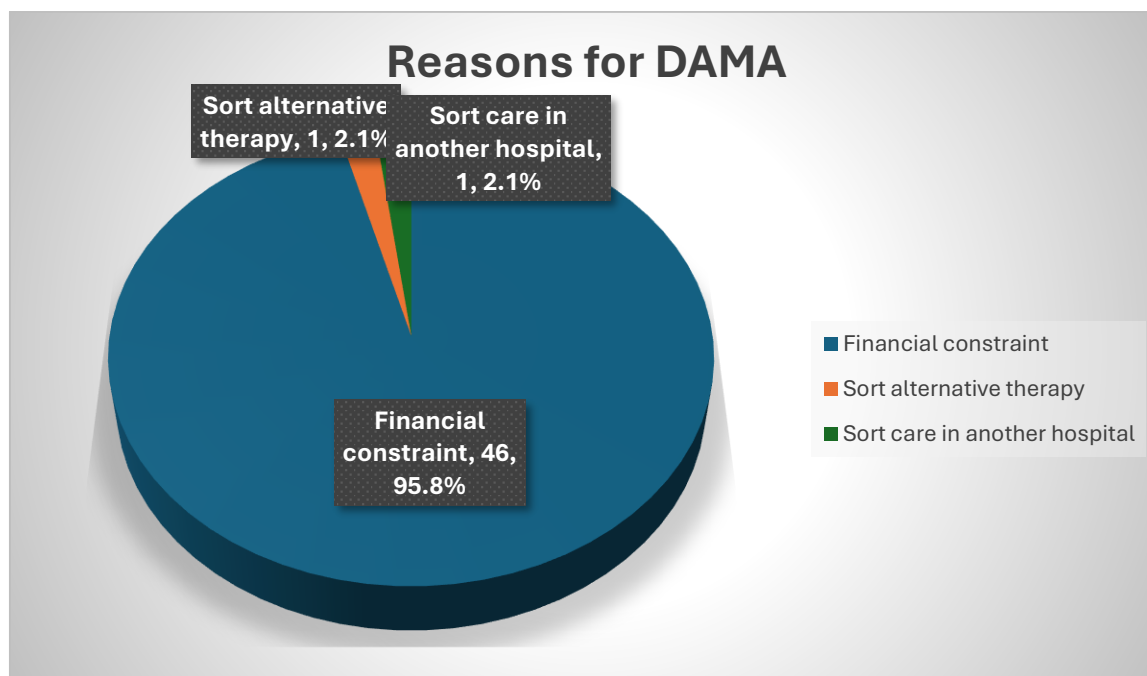
The pattern of DAMA amongst the different types of HM is portrayed in table 2. These were compared with those who did not DAMA. It was found to be of no statistical significance. (p-value 0.080)

Forty-eight patients (39%) left or discharged themselves against medical advice. Of the 48 patients who DAMA, thirty-nine, representing 81.3%, died, while nine (18.8%) were still alive. Amongst patients who did not DAMA, twenty-seven, representing 36% passed on while the study was ongoing, while forty-eight, representing 64% were still alive. The difference in mortality between those who DAMA and patients who did not was found to be statistically significant. (p-value 0.001). (Table 2)

**Table 2. Pattern of DAMA among individual haematological malignancy and outcome.**

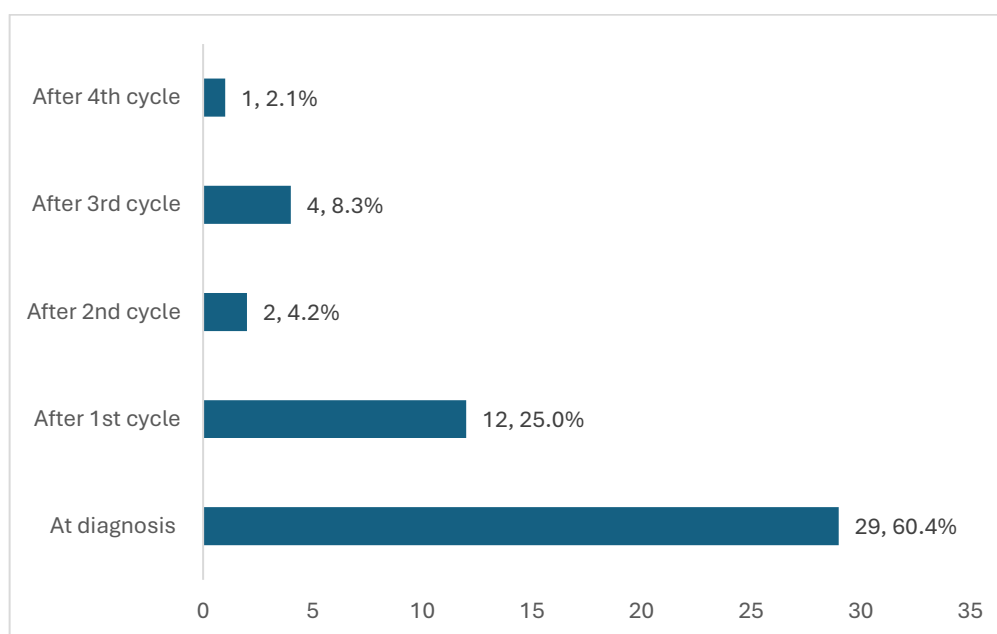
Pattern	DAMA Yes	DAMA No	Stats	p-value
ALL	7 (14.6)	3 (4.0)		
AML	3 (6.3)	7 (9.3)		
CML	5 (10.4)	10 (13.3)		
CLL	7 (14.6)	17 (22.7)		
IMF	2 (4.2)	0 (0.0)	$\chi^2 = 21.912$	0.080
PRV	0 (0.0)	1 (1.3)		
ET	1 (2.1)	6 (8.0)		
MPN/MDS	1 (2.1)	0 (0.0)		
MDS	1 (2.1)	9 (12.0)		
NHL	8 (16.7)	7 (9.3)		
HL	2 (4.2)	5 (6.7)		
Myeloma	10 (20.8)	10 (13.3)		
Outcome				
Died	39 (81.3)	27 (36.0)	$\chi^2 = 24.100$	0.001
Alive	9 (18.8)	48 (64.0)		

Financial constraint accounted for the major reason for DAMA in patients with HM at 95.8%. Other reasons such as the patients seeking alternative therapies or seeking care in another hospital all together accounted for 4.2%. (Figure 1)



**Figure 1. Reasons for DAMA**

Figure 2 shows the exact time patients decided to discontinue treatment (chemotherapy) before they were certified fit to do so. However, a significant number of patients (60.4%) left immediately after the diagnosis of HM was made following counseling without commencing therapy. This was followed by those who left after first cycle of chemotherapy (25.0%).



**Figure 2. Time of DAMA**

#### **IV. Discussion**

The results of this study revealed that DAMA cases were quite common amongst patients with haematological malignancies at the center of study. Unfortunately, no similar contextual studies involving patients with haematological malignancies, with which this outcome can be compared in other centers in Nigeria was found. However, the high prevalence found in our study is in contrast to aDAMA prevalence of 0.9% found in cancer patients in Germany.<sup>8</sup> This difference can be explained by the economic, technological and socio-demographic developmental differences between our environment and Germany. The overall LAMA/DAMA rate of 39% in the study was only comparable to the 34% reported by Madubueze and colleagues in DAMA among

patients with musculoskeletal trauma in Nigeria.<sup>4</sup> Other studies<sup>16,17,18</sup> across different study populations reported less DAMA rates

The reason(s) for the high DAMA rate found in our study could be hazarded as to some patients and their relatives erroneously thinking haematological malignancies, being cancers, often have poor outcomes irrespective of whether they undergo treatment or not. Therefore, they felt no need to commit their hard-earned resources to a seemingly poor outcome venture.

Furthermore, increasing hospital costs, cost of medications and limited or no access to health insurance also significantly impacted the patients resources thus leading to some patients abandoning treatment.

This study revealed that among patients who obtained DAMA, the number of males was marginally higher than females. This correlates to findings from previous studies across cancer patients and other population of patients.<sup>3,8,19,20</sup> This contrasts with a Pakistani study by Hasan *et al* who reported that females were more likely to request for DAMA than males in non cancer patients.<sup>21</sup> The preponderance of DAMA among males in our study could be associated to the societal responsibilities on men who according to societal expectations should care for their families, their high-risk taking attitude in making decisions and less likelihood of compliance with therapy when compared with women.<sup>8,22,23</sup>

Also, our findings indicate that younger patients exhibited higher DAMA rates, reflecting compelling responsibilities, such as work and family obligations. These may conflict with the extended hospital stay oftentimes required for treatment of haematological malignancies. In contrast, older patients in our study had lower DAMA rates, which may be due to reduced external obligations, increased awareness of health risks, and physical or cognitive limitations that require greater reliance on healthcare providers.

Observed in the study was that 39 (81%) of patients who DAMA died during the course of the study. None of the patients who sought DAMA ever came back for readmission even with deteriorating clinical conditions. This, apparently, is a novel finding as no other study on DAMA delved into this negative consequences of DAMA associated mortality in Nigeria. However, several international studies reported that DAMA resulted in a higher mortality than planned discharge across different patient populations.<sup>24,25,26</sup>

Various reasons abound why patients and their families decided to DAMA. In this study the singular, most compelling reason was financial challenges. Financial constraints have been cited as a significant reason for DAMA, across all population studies, although of varying degrees<sup>20,27,28</sup> with rare exceptions. Odigie in his study revealed that the primary reason patients sought DAMA was poor satisfaction to treatment offered.<sup>29</sup> This financial burden is saddled by patients who have to pay out of their pocket for virtually all medical services rendered at the hospital. This is especially so in a country where 63% of its citizens are multi-dimensionally poor (Multi-dimensional Poverty Index of 0.257). The poor financial risk protection remains a major barrier to universal health coverage and the provision of quality healthcare in Nigeria as well as a significant factor predisposing our patients to DAMA/LAMA.

## V. Conclusion

DAMA amongst patients with haematological malignancies is quite common in this study center. Males opted for DAMA more than females. Mortality recorded for patients who DAMA is significant and disturbing. Several factors were observed to compel patients to seek DAMA of which the overriding factor in this study center was financial constraints. Cost of diagnosis, treatment, supportive care, hospital protocols and the absence of health insurances are factors that contributed to the high level of DAMA in this center.

## VI. Recommendations

The implications of the findings of our study includes the need for hospital administrators to set up a system for early recognition of the individual patients with tendencies to DAMA, institute an effective support and supervisory system with the aim of alleviating the burden.

Government's role in the reduction of DAMA and subsequent associated mortality cannot be overemphasized. The access to health insurance by private individuals needs to be urgently addressed especially through the National Health Insurance Scheme.

Finally, this is a single center study. We recommend other centers across Nigeria carry out similar contextual study in order to have a national baseline on DAMA amongst patients with HM and its outcome.

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