

Discharge against medical advice at a tertiary center in southeastern Nigeria: sociodemographic and clinical dimensions

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Objective: To assess the sociodemographic and clinical characteristics of patients discharged against medical advice (DAMA) at the University of Nigeria Teaching Hospital (UNTH), Enugu, Nigeria.

Methods: The UNTH's admission and discharge records between 1997 and 2006 were examined. Patients DAMA were identified; relevant sociodemographic and clinical data were extracted from their recalled clinical charts. Data were analyzed to generate rates, percentages, and proportions, and a level of $P < 0.05$ (one degree of freedom) was considered statistically significant.

Results: Of the 64,856 admissions (45.2% male, 54.8% female), 113 (0.002%; males: 54%, females: 46%) were discharged against medical advice. DAMA rate was highest in Surgery (0.4%), and lowest in Obstetrics and Gynecology (0.1%) and Pediatrics (0.1%). Infections (32.7%), trauma (29.2%), and cancer (16.8%) were the leading diagnoses in patients DAMA. Financial constraints (37.2%), unsatisfactory response to treatment (17.7%), and dissatisfaction with hospital environment (15.0%) were the main reasons for patients choosing to discharge themselves. DAMA was associated with a short admission period ($P < 0.05$), patients having high levels of formal education ($P < 0.05$), and those who had not been previously hospitalized ($P < 0.05$); but not with age ($P = 0.398$), gender ($P = 0.489$), or employment ($P = 0.091$).

Conclusion: Comparatively, the rate of DAMA at UNTH is low. The causes of DAMA are preventable; for example, strengthening of the national health insurance scheme, enhancement of doctor-patient communication, and improvement of hospital environment would further reduce DAMA rate.

Keywords: discharge against medical advice, tertiary center, sociodemographic characteristics, clinical characteristics, Nigeria

Discharge against medical advice (DAMA; synonyms: Leaving against medical advice – LAMA; Discharge at own risk – DAOR) of hospitalized patients is an adverse clinical event often resulting from a fundamental disagreement between the patient or an interested third party and the attending physician and/or the hospital environment. This culminates in the patient's withdrawal of their initial voluntary consent for hospitalisation, and abrupt termination of in-patient medical care.^{1,2} DAMA negatively impacts treatment outcomes, healthcare resource utilization, and exposes the clinician and health care administrators to the hazards of litigations.³⁻⁵ Furthermore, DAMA is associated with higher readmission rates for the same or related morbidity and higher long-term financial cost of medical care.³

Worldwide, the reported DAMA prevalence rate for general medical admissions ranges from 0.7% to 2.8%, being higher in developing than developed countries.^{2,3,6} Results of various studies on DAMA have established a positive correlation between

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DAMA and the following: younger age, male gender, black race, presence of psychiatric disorders, substance abuse disorders, emergent admission, previous hospitalization, and lack of health insurance.^{1,3,7,8} Hospital characteristics associated with DAMA include urban location, private ownership, and high or low Herfindahl index scores.¹ The patient's request for DAMA engenders a conflict between the patient's rights, the clinician's duties, and potentially the interests of a third party. This necessitates an individualized assessment of every DAMA request, to uphold the legality of continued in-patient health assistance, the patient's autonomy, and decisional auto determination.^{4,5,9} Thorough clinical examination, detailed documentation in a standard DAMA release form, psychiatric evaluation, and assessment of the severity and/or nature of the illness against the potential risks of DAMA to the patient and society have been advocated to ameliorate the adverse effects of DAMA.^{4,10} Furthermore, it has been emphasized that the DAMA release form should be comprehensive enough to include subsections on diagnosis, treatment, alternative therapies, reasons for DAMA, and consequences of DAMA.^{4,6,10,11}

Despite the enormous clinical, economic, ethical and medicolegal implications of DAMA, it has largely remained an underresearched area in this part of the world. In this study we therefore examined the sociodemographic and clinical characteristics of patients DAMA at a tertiary health facility in southeastern Nigeria. The findings will be of use to clinicians, health administrators, and health policy formulators.

Setting, data sources, and method

Background

Established in 1971, and located in southeastern Nigeria, the University of Nigeria Teaching Hospital (UNTH) is a first generation tertiary health care facility in Enugu, Nigeria, with a current in-patient bed capacity of 661. UNTH is an accredited center for undergraduate and postgraduate medical and paramedical training.

At UNTH, patients are admitted into wards affiliated with one of four main specialties: Surgery, Internal Medicine, Obstetrics and Gynecology, or Pediatrics. For the purpose of this study, admissions and discharge data from the Department of Ophthalmology and ENT, the New Born Special Care Unit, and the Chest (tuberculosis) Unit were added to that of their parent departments, ie, Surgery, Pediatrics, and Internal Medicine respectively. There is no in-patient psychiatric care at UNTH. Patients needing such care are referred to the Enugu Federal Neuropsychiatric Hospital.

The accident and emergency (A&E) department acts as a rapid transit point dedicated to resuscitation of emergency cases and their subsequent referral to appropriate specialty for definitive care. Maximal duration of stay at the emergency department is 48 hours. DAMA from A&E unit is extremely rare. UNTH has neither a DAMA release form nor any clinical guideline for clinicians faced with requests for DAMA. Signatories to DAMA are merely required to sign in a space provided in the clinical case notes.

Between September 2007 and April 2008, the researchers conducted a retrospective chart audit of all hospitalized DAMA patients (excluding Accident and Emergency admissions) from the Surgery, Medicine, Obstetrics and Gynecology, and Pediatrics wards of UNTH, over a 10-year period from January 1997 to December 2006.

Of relevance to the study were data on the age, gender, educational status, occupation, and employment status of patients. Data concerning type of admission (emergent versus elective), duration of admission, and main admission diagnosis were also extracted from the clinical case notes of DAMA patients. The reason for DAMA and the person taking the decision to DAMA were also noted.

For the calculation of rates, the total number of admissions was obtained from the hospital's medical records unit.

Exclusions

For reasons stated above, patients admitted into the A&E unit and patients with psychiatric disorders were excluded from this study.

Data management

Data were captured with a pretested study protocol, and subsequently entered into the Statistical Package for Social Sciences Software (SPSS) version 2.1 and analyzed to generate percentages and proportions. The test of significance involved the Chi-square of the Graph Pad Prism statistical Software with a significance level set at $P < 0.05$, $df = 1$.

Ethics

Prior to commencing the study, we sought and obtained ethical clearance from the UNTH Ethical Committee.

Results

Between January 1997 and December 2006, 64,856 patients, of which 29,287 (45.2%) were males and 35,569 (54.8%) were females (male: female ratio = 1:1.2), aged 12 days – 84 years (mean = 25.6 years, SD = 3.5) were admitted into Surgery (n,%; 18,240, 28.1%), Obstetrics and Gynecology

(17,429, 26.9%), Medicine (15,753, 24.3%), and Pediatrics (13,434, 20.7%) wards of UNTH. The range of duration of admission was 2–56 days (mean = 5.6 days, SD = 0.5).

Of these, 113 patients were discharged against medical advice giving an overall DAMA rate of 0.002% (113/64,856). The distribution of patients DAMA, and DAMA rate by clinical department showed: Surgery (43, 0.4%), Medicine (40, 0.3%), Pediatrics (14, 0.1%), and Obstetrics and Gynecology (16, 0.1%).

The sociodemographic characteristics of DAMA patients are shown in Table 1 and their clinical profiles are shown in Table 2.

At UNTH, DAMA was significantly associated with shorter duration of admission (≤ 10 days) (75.2% versus 24.8%, $P < 0.05$), acquisition of formal education (76.1% versus 7.1%, $P < 0.05$), and no previous hospitalization (93.8% versus 6.2%, $P < 0.05$). There was no correlation between DAMA and age ≤ 30 years (54.9% versus 45.1%, $P = 0.3979$), male gender (54% versus 46%, $P = 0.4892$), and employment status (54.4% versus 49.6%, $P = 0.0913$).

The main admission diagnoses in DAMA patients, their reasons for leaving despite medical advice to the contrary,

Table 1 Sociodemographic characteristics of patients discharged against medical advice

Characteristic	No. (and %) of DAMA n = 113
Age, years	
0–10	19 (16.8)
11–20	10 (8.8)
21–30	33 (29.2)
31–40	15 (13.3)
41–50	9 (7.9)
51–60	11 (9.7)
61–70	12 (10.6)
71–80	4 (3.5)
Sex	
Male	61 (54.0)
Female	52 (46.0)
Educational status	
Tertiary	22 (19.5)
Secondary	44 (38.9)
Primary	20 (17.7)
No formal education	8 (7.1)
Minor	19 (16.8)
Occupation	
Trading	18 (15.9)
Civil servant	14 (12.4)
Artisan	7 (6.2)
Self employed	18 (15.9)
Unemployed	37 (32.7)
Minor	19 (16.8)

Table 2 Clinical profile of patients discharged against medical advice

Characteristic	No. (and %) of DAMA n = 113
Clinical department	
Surgery	43 (38.1)
Internal Medicine	40 (35.4)
Obstetrics and Gynecology	16 (14.2)
Pediatrics	14 (12.4)
Category of admission	
Emergency	40 (35.4)
Elective	73 (64.6)
Duration of hospital admission (in days)	
0–10	85 (75.2)
11–20	13 (11.5)
21–30	6 (5.3)
31–40	6 (5.3)
>40	3 (2.7)
Previous hospitalization	
Yes	7 (6.2)
No	106 (93.8)
Main admission diagnosis	
Infection (including HIV AIDS)	37 (32.7)
Trauma ^a	33 (29.2)
Malignancy	19 (16.8)
Cerebrovascular accident	10 (8.8)
Congenital malformation	8 (7.0)
Diabetes mellitus	4 (3.5)
Anemia	2 (1.8)
Others	0 (0.0)

^aTrauma: Fracture of long bones constituted 75%.

and persons making the decision to DAMA are shown in Table 3.

Discussion

The overall DAMA rate of 0.002% at UNTH, although lower, is comparable to the 0.34% reported by Duno et al, but differs markedly from the range reported elsewhere in Africa (1.2%–12%),^{2,4,8,12,13} America (0.8%–1.5%),^{5,7,15} Europe (0.4%–1.4%),¹⁰ Asia (2%),¹⁶ and Australia (1.5%).¹⁷ This may be explained by the similarity of the study population of this survey to that in the study by Duno et al since both comprised general medical admissions excluding psychiatric and Accident and Emergency patients, who are known to have higher prevalence of DAMA.^{1,4,6,18} By contrast, Alebiosu and Raimi,² in a 2-year study of DAMA in a teaching hospital in southwestern Nigeria, reported a DAMA rate of 2.8%, apparently due to their inclusion of accident and emergency patients, who accounted for 45.2% of all DAMA, in their study.

Shorter duration of admission, elective (scheduled) admission, and acquisition of formal education were

Table 3 DAMA PROFILE: Reasons for and decision to DAMA

Characteristic	No. (and %) of DAMA n = 113
Reason for DAMA	
Financial constraint	42 (37.2)
Unsatisfactory response to treatment	20 (17.7)
Dissatisfaction with hospital environment	17 (15.0)
Feeling of wellbeing (complete recovery)	13 (11.5)
Refusal of treatment	5 (4.4)
Does not want to be used for teaching	3 (2.7)
No stated reason	13 (11.5)
Decision to DAMA made by	
Patient	46 (40.7)
Parent/guardian	32 (28.3)
Spouse	13 (11.5)
Other relations	15 (13.3)
Patient's children	6 (5.3)
Patient's employer	1 (0.9)

observed to be positively predictive of DAMA in the present study. This is consistent with results of reports elsewhere in the literature.^{2,3,6,8,12,23} By contrast, emergent rather than scheduled admissions have been reported to be predictive of DAMA.^{1,8} The exclusion of A & E unit admissions from data used in the present study may explain this paradoxical finding.

In the present study, DAMA was not associated with age, gender, previous hospitalization, or employment status. Although these findings differ from the results gained in previous surveys,^{1,3,5,6,8,15} Anis et al³ while reporting on a study cohort of HIV-positive patients, found a similar influence of age and gender. However, the findings in the present study cannot be directly compared with those gained by Anis et al because of differences in the study populations. The reasons for the unusual correlation observed in the present study, are not immediately clear. However, the sociocultural setting of the Ibo ethnic group, the main feeder population of UNTH, which is characterized by unusually strong extended family ties may explain this. Among the Ibos, family members exert overwhelming influence on an individual's health-seeking behavior and crucial decision making regarding health-related issues. This racial influence might partially explain the observed masking of the universally established roles of gender, age, employment status, and previous hospitalization in influencing the decision to DAMA. Furthermore, similar observations on racial predilection contributing to DAMA have been independently reported by Franks et al¹ and Hong and Ling.¹⁶

Interestingly, it should be noted that this trend is reversed in the Western world, where the individual's input rather than

that of family members takes precedent in health-related issues affecting an individual.^{3,26}

The leading admission diagnoses, consisting of infections, trauma, and malignancy, documented in this study are similar to those found by O'Hara et al,¹⁷ Ohanaka,¹⁹ and Udosen et al.²⁰ These leading diagnoses are usually associated with poor prognosis and high treatment cost, with resultant accumulation of high hospital bills; these set the stage for DAMA request by the patient or an interested third party.

Financial constraints, poor response to treatment, and dissatisfaction with the hospital environment accounted for majority of DAMA patients. The prevailing harsh economic environment in Nigeria, and the infantile age of the National Health Insurance Scheme, with its expected impact on individuals' healthcare financing largely being awaited, partly explains this.^{21,22} Consequently, individuals' limited financial resources still remains a major barrier to delivery of quality healthcare in Nigeria. This is in accordance with the established roles of limited financial resources and lack of health insurance in precluding the requests for DAMA.^{1-3,5,14,15,23,24}

Poor response to treatment, as judged by the patient or their relations, often leads to DAMA. This is often due to ineffective communication between the attending physician and the patient with regards to the natural history of disease, its prognosis, potential complications, and outcomes of available treatment options.^{4,9} Dissatisfaction with the hospital environment has been variously attributed to patients' emotional dispositions, psychosocial factors like anger and fear,¹ psychiatric disease,^{3,18} and substance abuse disorder.²³⁻²⁵ Unfortunately, in the present study we could not evaluate the contributions of these factors to patients' levels of dissatisfaction with the hospital environment.

The decision to DAMA was made mainly by patients (40.7%), and patients' relations (58.4%). As mentioned earlier, this probably reflects the dominant role of the opinion of family members influencing individual's healthcare choices among Nigerian Ibos.

Noninclusion of patients with psychiatric and substance abuse disorders in the present survey constituted the major limitation of the study. Future researchers could include these categories of DAMA-prone patients.

Conclusion

Comparatively, DAMA rate at UNTH is low. The causes of DAMA are preventable, and to further reduce the rate of DAMA, we recommend enhanced doctor-patient communication, improved hospital infrastructural environment, formulation of explicit DAMA guidelines, and

strengthening of the existing national health insurance scheme.

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Authorship

BE: conception and design of study; acquisition, analysis, and interpretation of data; drafting of manuscript. KA and JN: acquisition, analysis, and interpretation of data; revision of the manuscript for improvement of intellectual content; approval of final version of manuscript prior to submission.

Disclosure

The authors report no conflicts of interest in this work.

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