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Discharges against medical advice: a community hospital's experience

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Objectives: To understand the characteristics of patients who leave hospital against medical advice (known as "discharges against medical advice" [DAMA]) in a small community hospital and to study how these patients compare to current literature on the topic. To evaluate chart documentation pertaining to such discharges.

Methods: A retrospective chart audit was performed, covering a 2-year period, on patients who had discharged themselves against medical advice. The data were compared to the general patient population of the same period. Evaluation of DAMA documentation was also conducted by chart survey.

Results: The rate of DAMA in the study hospital was found to be 0.57%, and the average length of stay was 2.8 days. Patients who leave hospital against medical advice differ from the general patient population: they include a higher proportion of males ($p = 0.007$), demonstrate a different age distribution ($p < 0.001$), have shorter stays in hospital ($p < 0.001$), and have a considerably greater frequency of substance abuse ($p < 0.001$) and psychiatric conditions ($p < 0.001$) associated with their admissions. DAMA documentation was included in the charts of 81.6% of patients involved, but only 22.9% of these charts included documentation with respect to patient competency.

Conclusion: Patients who leave hospital against medical advice represent a high-risk population: they suffer a greater incidence of mental illness and substance abuse. Potential interventions are limited, but influence strategies may have a role. Early identification of patients at risk may facilitate this process, thereby decreasing the occurrence of DAMA and improving health outcomes. More consistent and comprehensive documentation is needed for these patients.

Objectifs : Comprendre les caractéristiques des patients qui quittent l'hôpital à l'encontre de l'avis de leur médecin (en anglais, discharges against medical advice, ou DAMA) dans un petit hôpital communautaire et comparer ces patients aux publications courantes sur la question. Évaluer la documentation contenue dans les dossiers des départs en cause.

Méthodes : On a procédé à une vérification rétrospective, portant sur deux ans, des dossiers de patients qui étaient partis de leur propre chef, à l'encontre de l'avis de leur médecin. On a comparé ces données à celles de la population générale des patients au cours de la même période. On a aussi évalué la documentation des départs en question en analysant les dossiers.

Résultats : On a constaté que le taux de ces départs dans l'hôpital à l'étude s'établissait à 0,57 % et que le séjour durait en moyenne 2,8 jours. Les patients qui quittent l'hôpital en dépit de l'avis de leur médecin diffèrent de la population générale des patients : ils comportent un pourcentage plus élevé d'hommes ($p = 0,007$), leur distribution selon l'âge diffère ($p < 0,001$), leur séjour à l'hôpital est plus court ($p < 0,001$) et ils ont beaucoup plus souvent des problèmes de toxicomanie ($p < 0,001$) et psychiatriques ($p < 0,001$) liés à leur admission. La documentation du départ était incluse dans le dossier de 81,6 % des patients en cause, mais seulement 22,9 % des dossiers en question comportaient de la documentation sur l'aptitude du patient.

Conclusion : Les patients qui quittent l'hôpital à l'encontre de l'avis de leur médecin représentent une population à risque élevé. Ils présentent une incidence plus élevée de problèmes de maladie mentale et de toxicomanie. Les interventions possibles sont li-

mitées, mais les stratégies d'influence peuvent avoir leur place. L'identification rapide des patients à risque peut faciliter le processus, réduire ainsi l'occurrence de DAMA et améliorer les résultats. Il faut documenter le cas de ces patients de façon plus uniforme et complète.

Dr. Seaborn Moyses's article won the Society of Rural Physicians of Canada's Rural Resident Research Award 2003 for the best research by a rural resident.

INTRODUCTION

Patients who leave the hospital against medical advice, referred to as "discharges against medical advice" (DAMA), are both a concern and a challenge for individuals in the health care field. Patient non-compliance has the potential to result in harm to the individual's health. Professional liability is also a concern for physicians caring for these patients.

Despite the widespread nature of this problem, there has been little study devoted to it. Interest in this area has generally focused on large urban hospitals and on specific patient groups, such as the general medicine service or psychiatric patients.

Previous studies have demonstrated a variety of results. A recent Canadian study by Hwang and colleagues¹ investigated rates and predictors of readmission among patients from a general medicine service who left hospital against medical advice (AMA). They found it difficult to predict those at risk for readmission, but did note a significantly higher risk of readmission within 2 weeks of the discharge. This study noted a significantly higher occurrence of a history of alcohol or drug abuse in those patients who left hospital AMA, with a prevalence of 70% in this group. Additionally, being male and having a history of alcohol abuse were determined to be significantly associated with readmission to hospital within 15 days.

In a study done in Baltimore, 1.0% of all discharges were found to be AMA, with an average length of stay of 2.3 days. Substance abuse and male gender were found to be strongly associated with DAMA, and readmissions within 30 days were found to be much more common.²

The prevalence of DAMA in a study involving Delaware hospitals was found to range from 0.8% to 1.2% of all discharges.³ From the general medical service of Rhode Island Hospital, this rate was 2.2%

during a 6-month period studied, and the average length of stay for these patients was 3.9 days.⁴ Data published from a study in Australia indicated a DAMA frequency of 1.5% of separations from hospital.⁵

A large study done in a general medical service of an urban teaching hospital in Boston identified patients who left hospital AMA as being younger, more often male and more often having no personal attending physician, when compared to a control group. In this group, 54% of patients were readmitted during the 12-year study period.⁶

The objective of this study is to identify characteristics of hospital patients who discharge themselves AMA. This study will also examine the chart documentation related to DAMA, as well as the rate of return to the hospital and that of previous DAMA in this population. Interventions will be proposed to limit legal liability and the incidence of DAMA.

METHODS

Study site

Strathroy Middlesex General Hospital (SMGH) is a community hospital in rural southwestern Ontario. It serves a catchment area of approximately 35 000 people, who live in the northwestern region of Middlesex County, the eastern region of Lambton County and in the municipality of Strathroy, which has a population of approximately 12 000. SMGH has a capacity of 87 beds, of which 55 are acute care and 32 are chronic care, and provides medical, surgical, psychiatric, obstetric, gynecologic and pediatric inpatient care, as well as emergency services.

Study sample

A retrospective chart review was performed on consecutive discharges from SMGH between Apr. 1, 2000, and Mar. 31, 2002. During this time, there were a total of 6186 discharges; of these discharges, 35 were identified as DAMA. These 35 were compared to the remaining 6151 discharges for analysis.

The discharge was chosen as the unit of analysis

and, therefore, patients who were involved in 2 DAMA or, similarly, in 2 or more formal discharges during the study period were counted as 2 or more outcomes accordingly. Also, deaths were not excluded from the formal discharge data due to difficulty extracting this data from the summary reports and statistics.

Data collection

Charts of patients who left hospital AMA were audited manually, and data were collected on age, gender, diagnosis, length of stay in hospital, discharge date, whether the attending physician was the patient's family physician, and the diagnosis of substance abuse and/or of a psychiatric condition related to the admission. Data on age and length of stay were then grouped using the Canadian Institute for Health Information categories for analysis purposes.

The same data were collected for the group of patients who had been formally discharged. This was done using a variety of methods. Most information was gathered either from discharge analysis summary reports or from the hospital's computerized medical record system. The prevalence of substance abuse and of psychiatric diagnoses was determined from extensive manual review of hospital admission data, arranged by ICD-9 (*International Classification of Diseases, 9th rev*) classification. Unfortunately, the proportion of patients who were admitted with their family physician as their attending physician and who were formally discharged was unavailable from the system for comparison purposes. Therefore, 6 months of printed discharge data were manually reviewed to arrive at an estimate of this proportion for all admissions.

In addition to the information already identified for comparison, further observations were noted for the DAMA group by manual chart review. The presence of DAMA documentation (i.e., an AMA form, signed by the patient), documentation with respect to competency of the involved patients and any prior indication of DAMA noted during the admission in the progress notes, were recorded during the data acquisition. The charts were also reviewed for previous DAMA from the study hospital and for return visits to the hospital, either for readmission or to the emergency department, within 3 months of discharge.

Statistical analysis

Characteristics of the 2 patient groups, those with a record of DAMA and those with formal discharges, were compared using the chi-squared test. Significance of these characteristics was established by the determination of p values < 0.05 . Descriptive data and frequencies were also tabulated for the DAMA group.

This study was approved by the Office of Research Ethics of the University of Western Ontario, London, Ont.

RESULTS

There were a total of 6186 discharges from SMGH during the 2-year period studied. Of these, 35 (0.57%) were DAMA. Thirty-two patients accounted for these 35 discharges, with 3 patients each being involved in 2 DAMA during this time.

The average length of stay of DAMA patients was 2.8 days, compared to 5.2 days for the rest of the hospital admissions during the study period ($p < 0.001$).

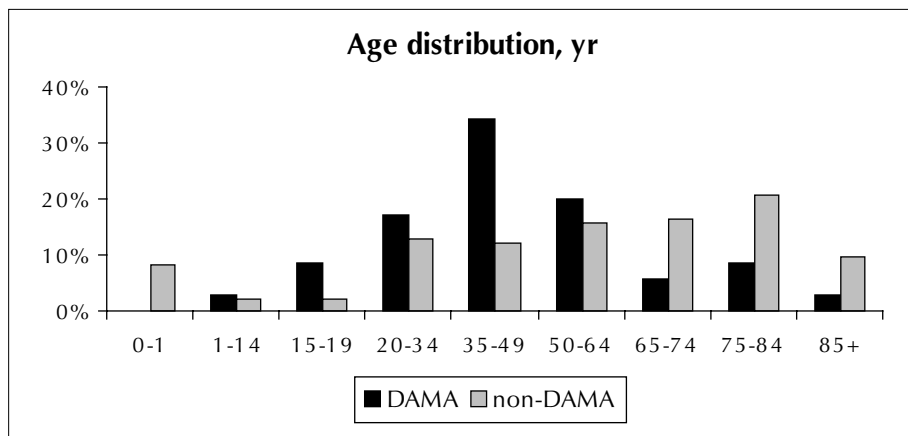


Fig. 1. Age distribution, using the Canadian Institute for Health Information age categories, of patients with formal discharges versus those with discharges against medical advice (DAMA).

Patients who left hospital AMA were more likely to be male ($p = 0.007$) and within the 35- to 49-year-old age group ($p < 0.001$) (Fig. 1). The length-of-stay distribution of patients leaving hospital AMA was significantly lower than for other admissions ($p < 0.001$) (Fig. 2). DAMA patients were also noted to have a high incidence of substance abuse and of psychiatric conditions associated with their admission, which was statistically significant when compared to the formal discharge group ($p < 0.001$). There was no significant difference found between patient groups with respect to discharge month or day of the week (Fig. 3).

Of the patients who were DAMA, a standard AMA form was completed by the patient in 81.6% of the cases, but only 22.9% of their charts included any comment with respect to evaluation of patient competency. Over one-third (34.3%) of this patient population had some prior indication of the DAMA, such as threatening to leave or significant conflict with staff.

Chart review of this patient group also revealed that 28.6% of these patients had had a previous

DAMA from our hospital. Almost half (48.6%) of these patients returned to this hospital, either for readmission or to the emergency department, within 3 months of their discharge.

Data revealed that 42.9% of DAMA patients had their family physician as the attending physician during their hospital stay. It is important to note, however, that some of these patients left prior to the physician's first visit. In a 6-month period, of the 1629 patients admitted to SMGH, 80.6% were attended by their family physician, a statistically significant difference from the DAMA patient group ($p < 0.001$).

Results specific to the DAMA group of patients are included in Table 1.

DISCUSSION

Patients who leave the hospital AMA create a challenge for individuals in the health care field. This type of patient non-compliance limits appropriate and comprehensive hospital treatment, thereby putting patients' health at risk. This is a universal

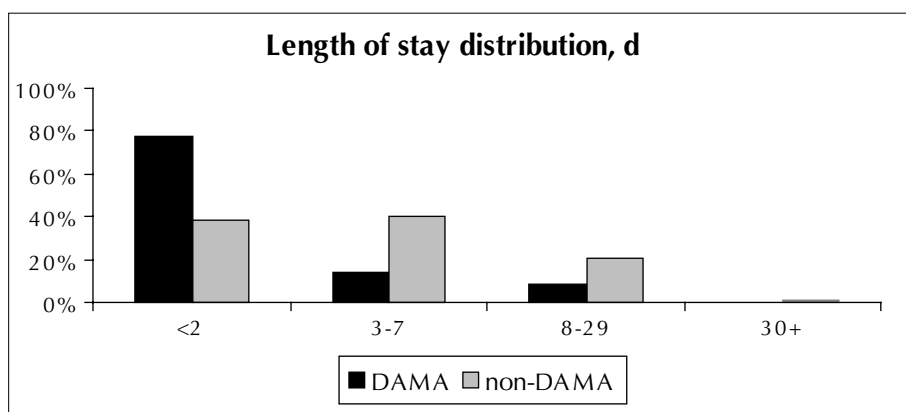


Fig. 2. Length-of-stay distribution, using the Canadian Institute for Health Information categories, of patients with formal discharges versus those with discharges against medical advice (DAMA).

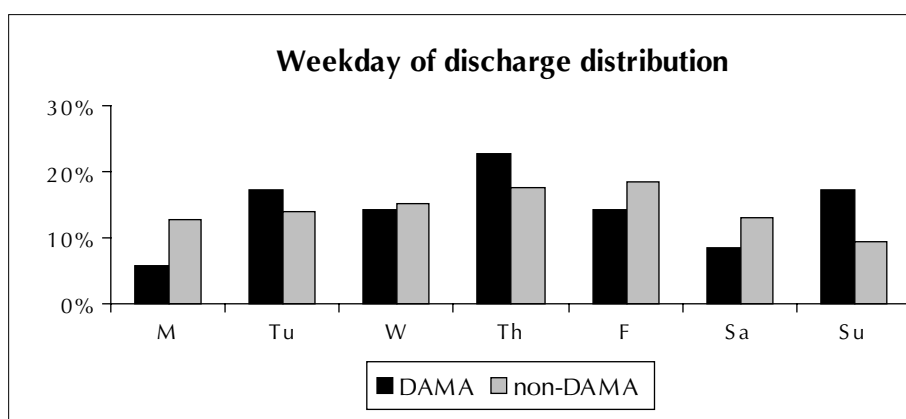


Fig. 3. Weekday of discharge distribution of patients with formal discharges versus those with discharges against medical advice (DAMA).

problem, plaguing both rural and urban hospitals. This study found a DAMA rate of 0.57%. Previous studies of urban hospitals²⁻⁵ have also demonstrated higher rates of DAMA than was found in this community hospital. Whether or not this rate compares to other rural or community hospitals is unknown at this time due to the scarcity of data available.

This research cannot draw any conclusion regarding reasons for the lower rate of DAMA in our hospital when compared with the literature. However, contributing factors may include familiarity in a small community, limited options for hospital or doctor shopping, or family physicians who care for their patients in-hospital as the attending physicians.

In accordance with previous studies, those patients who left hospital AMA were more often male and had a significantly different age distribution, with a mean age of 46.2 years. The length-of-stay distribution for DAMA patients is consistently skewed toward the shorter stay, with the average length of stay of the non-DAMA group almost double that of the DAMA patients in this study, at 5.2 days and 2.8 days, respectively. The admissions of these individuals frequently were related to substance abuse and psychiatric conditions, characteristics previously determined to be associated with an increased rate of DAMA. This indicates a particularly vulnerable patient population that is placing additional non-compliance barriers in the way of their health.

There does not seem to be a seasonal influence on DAMA or a significant relationship to a particular day of the week. However, these findings are based on the small sample size available and these factors might prove to be contributory in a larger study.

Although the identified characteristics more common with DAMA patients are limited, they never-

theless may help in identifying those patients at risk. If patients are identifiable, the opportunity for intervention exists. "Changing the behaviour of a competent adult in a free society requires exercising influence but not control."⁷ A recent article by Redelmeier and Cialdini⁸ discussed 7 principles of influence (reciprocation, concession, consistency, endorsement, liking, authority and scarcity), which are accepted and used in psychology and in the business world, and applied them to medical practice. They reviewed fundamental human ingrained responses that are the foundation of most influence strategies. These have a strong effect on behaviour without the need for conscious deliberation, and forces in society are already employing such influence on individuals, with both positive and negative effects. Just as advertisers use deadlines to create a sense of urgency in consumers, and contract negotiators structure their demands to allow room for concessions, physicians who identify patients at risk of DAMA can make use of similar psychological techniques to encourage patients to remain in hospital until deemed ready for formal discharge. Knowledge and understanding of these principles provides the tools for physicians in their effort to help patients alter their behaviour toward making beneficial choices. As the authors discuss, this skill may be necessary in the medical field so that staff can provide effective care.⁷

Unfortunately, the short length of stay of patients who leave hospital AMA offers a limited time for influential strategies to be effective. Also, given the abbreviated length of stay of this patient population, other strategies of intervention may prove very difficult to design. It is, therefore, important to target those individuals with any indication of DAMA during their hospital stay in an attempt to decrease their risk of such non-compliance by communicating extensively with respect to all facets of care, while avoiding conflict, and providing a caring and accepting environment for the patient.

Comprehensive documentation has become increasingly important, including that pertaining to DAMA. As with any form of patient non-compliance, the record-keeper must be especially conscientious with respect to documentation. This will assist in defending against liability implications.

Many hospitals have a release form for patients to read and sign prior to leaving hospital AMA, relieving the hospital and medical staff of any responsibility related to the patient's decision or its consequences. However, as with any medical document, the patient must be determined to be compe-

Table 1. Summary statistics of discharges against medical advice (DAMA) documentation and of chart survey

Information from chart survey	Absolute value	Proportion of patients who left hospital against medical advice, %
DAMA documentation present	31	81.6
Prior indication of DAMA	12	34.3
Previous DAMA	10	28.6
Patient's level of competency recorded	8	22.9
Attending physician was patient's family physician	15	42.9
Patient returned to hospital within 3 months	17	48.6

tent at the time of its completion to validate the form and signature. In this study, despite the presence of completed release forms in the charts of most DAMA patients, less than 25% of the charts included any record of a physician assessment of patient competency. One challenge that arises is that patients may not always decide to leave hospital when a physician is available to assess competency, thereby making this assessment difficult to fulfill at times. Nevertheless, comprehensive documentation should be encouraged and reinforced.

Limitations

This study has a number of limitations. The conclusions drawn may not be generalizable to other hospitals because the study was conducted at a small community hospital. As a retrospective study, it is unable to provide insight as to reasons for patients leaving hospital AMA. Data with respect to return to hospital within the 3-month period are exclusive of other hospitals in the region, as is the data pertaining to previous DAMA. The small sample size, despite using all DAMA within a 2-year time period, is also a limitation. However, the results are still clinically relevant, considering the small overall incidence of DAMA.

With respect to intervention strategies, this study in no way identified those patients who may have been threatening to leave and were successfully persuaded in some way to not leave AMA. Methods used by staff members in these situations would be interesting to investigate.

At this point, further study is needed to investigate these discharges and the involved patients, in both urban and rural settings. Also, a prospective study with patient follow-up would certainly provide an added dimension to this research.

CONCLUSION

Patients who leave hospital AMA are a concern both in small community and large city hospitals. They share common characteristics in both settings. These patients tend to be male, with substance abuse or psychiatric problems. Based on this small study, community and urban hospitals differ with respect to the rate of patients leaving hospital AMA, with a lower rate of occurrence in the community hospital. Attempts by physicians to identify these

patients on admission and modify their treatment approach may decrease these discharges and improve health outcomes. Comprehensive documentation, including competency assessment, is essential in these situations and requires further attention.

Competing interests: None declared.

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Circuitry of Laughter

The element of surprise
Sets off a circuitry of mirth.
A punch line or a pun
Stimulates guffaws, chuckles, giggles...
Contagious acts from the belly

Emotion, logical sensations flow,
A tickle sparks
Brain's prefrontal cortex.
Currents of jubilation light the route
To a network of smiling facial muscles
That leave no choice
But to laugh along the way

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