Review

Discharge Against Medical Advice: The causes, consequences and possible corrective measures.

Abstract

Patients who discharge themselves against medical advice (DAMA) comprise 1-2% of hospital admissions. DAMA is defined as when a hospitalised patient chooses to leave the hospital before the treating medical team recommends discharge. The act of DAMA impacts on both the patient, the staff and their ongoing care. Specifically, this means that the patient's medical problems maybe inadequately assessed or treated. Patients who decide to DAMA tend to be young males, from a lower socioeconomic background and with a history of mental health or substance misuse disorder. DAMA has an associated increased risk of morbidity and mortality. In this review of studies across Western healthcare settings, specifically adult medical inpatients, we will review the evidence and seek to address the causes, consequences and possible corrective measures in this common scenario.

Keywords:

Self-Discharge

Discharge against medical advice

Hospital discharge

Absconding

Leave against medical advice

Introduction

Patients who discharge against medical advice (DAMA) comprise between 1-2% of all hospital admissions (Warriner, 2011), affecting between 1.6-3.2 million admissions in the UK alone. The act of DAMA is broadly defined as when a hospitalised patient chooses to leave the hospital before the medical care team recommends discharge (Alfandre, 2013). This extends from patient leaving before they are first assessed e.g. in the emergency department, absconding from an inpatient setting during investigation, or a carer or relative deciding to remove the patient prematurely prior to completion of treatment. DAMA impacts on both the patient and staff, not only within the acute hospital setting but also continuation of care in the community. Specifically, this means that the patient's medical problems may be inadequately assessed, treated or followed-up, depending on when and where DAMA occurs in the healthcare journey. The process of DAMA itself is often considered an adversarial interaction by patients and potentially litigious by healthcare professionals. Furthermore, there is evidence that DAMA results in increased dissatisfaction, healthcare costs, readmission rates, morbidity and mortality. Despite the frequency of the problem there is a paucity of literature on "DAMA"; which accounts for under 100 research papers per annum on PubMed. This is in stark contrast to a subject like "falls" which in the UK similarly affects between 1-2% of all hospital admissions but accounts for over 8000 research papers per annum on PubMed. For the purposes of this review, we will focus on DAMA from studies in Western healthcare settings initiated by hospitalised adult medical inpatients only.

Definition

DAMA must fulfil these 4 criteria "1) is patient-initiated, 2) occurs prior to work-up, treatment or discharge planning having been completed, 3) the work-up, treatment, or discharge planning cannot safely be performed on an outpatient basis, and 4) the patient has decision-making capacity" (Holmes et al., 2021). In the UK, this is supported by advice from medicolegal bodies, such as the Medical Protection Society (MPS), who inform us that only the adult patient with capacity to make the decision to DAMA is free to leave, where as other patient groups are not (Redmond, 2019). In the UK, the process by which patients discharge themselves against medical advice is often termed "self-discharge".

Epidemiology

Whilst the prevalence is widely quoted as 1-2%, there is some variation depending on specialty, healthcare system and hospital setting (Alfandre et al., 2017; Spooner et al., 2017) see table 1. It is self-evident that some conditions, which impact on mobility such as a lower limb fracture, will mean the patient is less physically able to DAMA compared to those which do not (Kraut et al., 2013; Menendez et al., 2015). However, what is less clear is why rates of DAMA are higher in larger hospitals in urban settings(Ibrahim et al., 2007). DAMA is increasing, with data from 2016 - 2021 in the United States (US) and United Kingdom (UK) demonstrating a year-on-year increase from 0.8 to 1.2% (Jaydev et al., 2022; NHS Digital, 2022; Onukwugha and Alfandre, 2019). However, in the UK such data is not routinely captured by the National Health Service (NHS) as whilst Hospital Episode Statistics collected by the NHS includes a field to record the method by which an inpatient was discharged but code description does not explicitly state that this is DAMA, but rather this is implied (NHS Digital, 2022).

Table 1 Demonstrating variation in DAMA rate between country and speciality

Specialty	Country	DAMA rate %	Study
Obstetrics	USA	4	(Guo et al., 2023)

Acute Medical Unit	UK	3	(Alagappan et al., 2023)
Cardiology	UK	1.5	(Kwok et al., 2019)
Stroke	USA	0.8	(Raja et al., 2020)
Orthopaedics	USA	0.3	(Menendez et al., 2015)

DAMA = discharge against medical advice, UK = United Kingdom & USA = United States of America.

Risk Factors

Those factors consistently associated with increased likelihood of DAMA are legion and broadly can be divided into demographic, clinical and systemic (Saia et al., 2023; Sealy et al., 2019; Spooner et al., 2017)00/00/0000 00:00:0000/00/0000 00:00:00.

Demographic

These include male gender, foreign national, ethnic minority and young age (<40 years).

Clinical

These include being less unwell, fewer comorbidities and a history of mental health issues or substance misuse disorder.

Systemic

These include a low household income, lacking medical insurance and unplanned or weekend admission.

Aetiology

The reasons that lead to DAMA can broadly be divided into personal, professional and organisational (Albayati et al., 2021). **Figure 1** demonstrates some of the more common themes surrounding this.

Personal

Personal reasons include domestic or practical issues such as the need to take care of dependent children, a spouse or pet (Hwang, 2017). It may also be that simply the patient begins to feel better or self-reports less subjective pain, irrespective of whether there has been a clinical or objective improvement from baseline (Babaei et al., 2023; Könneker et al., 2022). Fear of infection from COVID has also been cited as a recent reason for DAMA (Werner and Lee, 2023).

Professional

Professional reasons include disagreement with the clinician, poor communication, dissatisfaction in general with the healthcare provided and lack of a primary care provider in the community (Albayati et al., 2021). Health literacy is often poor in these patient groups, for example, in the UK 61% of working-age adults cannot understand health information containing numbers and text. Therefore, if the risks of DAMA are not communicated in a meaningful manner, this may have an impact on a patient's ability to fully understand the possible consequences (Chakravarty et al., 2020; Rowlands et al., 2015).

Organisational

Organisational reasons include long waits to be seen by a clinician, overcrowding, poor communication and the perception of a stigmatising and hostile environment.

Sequalae

The impact of DAMA is not to be underestimated, in terms of worse outcomes for the patient and also for the healthcare system. This is unsurprising given as it directly conflicts with the "6 characteristics of health care quality: safe, effective, patient-centred, timely, efficient, and equitable" (Holmes et al., 2021). This is inevitably due to a combination of missing diagnostic tests and treatment, but may also reflect underlying sociological, economic and psychological vulnerability contribute to ill-considered decision making around discharge (Alagappan et al., 2023).

Morbidity

The unplanned readmission rate is between 20-40% higher, the subsequent length of stay doubled from 2 to 4 days and the consequences and complications of inadequately treated disease increase significantly (Alfandre and Schumann, 2013; Aliyu, 2002; Choi et al., 2011; Kwok et al., 2019; Mishra et al., 2022)

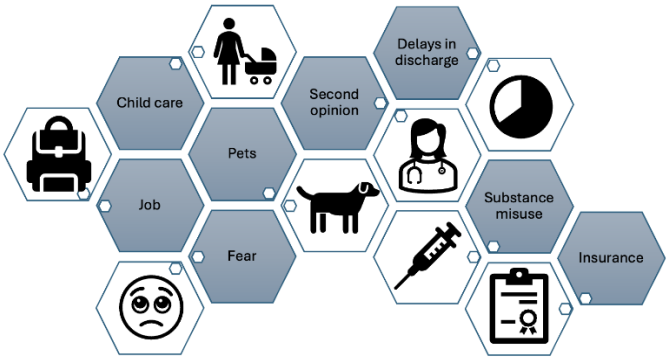

Figure 1: Common themes surrounding DAMA

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Mortality

Alagappan (2023) recently demonstrated in the UK, what has been known for many years in other healthcare systems, namely that patient outcomes following DAMA are worse. This was a study of nearly 37,000 patients with a 3% DAMA rate in an acute hospital setting. DAMA was associated with increased risk of death in patients (adjusted hazard ratio 2.6) and increased incidence of readmission (standardised incidence ratio 1.9). Typically, such increases persist at 12 months, despite readmission (Mitchell et al., 2021).

Cost

Much of the research in this field originates from North America and therefore rightly concerns the role of healthcare costs in DAMA.

Healthcare system

There is a 50% higher cost and 100% longer stay at readmission to the healthcare system, albeit largely for the same diagnosis made at the index admission (Aliyu, 2002). The overall costs are hard to

estimate in the UK, but in the US may be up to $800 million which is driven primarily by readmissions, accounting for more than additional 400,000 inpatient hospital bed days (Tan et al., 2020).

Patient

In the US, most residents (68.6%) and nearly half of attendings (43.9%) believed health insurance companies would deny payment when a patient decides to DAMA and yet, despite this widely held belief, no cases of payment refusal were due to DAMA (Schaefer et al., 2012). Furthermore, such doctors are more likely to report informing patients wishing to DAMA that they may be held financially responsible. Despite the treating doctor thinking they are acting in the patient's best interests by trying to convince them to stay, this is grounded in paternalism. Moreover, even in healthcare systems which are free at the point of care such as the UK, paternalism and indirect non-healthcare costs may also play a role. For example, if the patient is self-employed one needs to consider the potential impact on the patient, their family and their employees, if they remain hospitalised.

Healthcare professionals

There is also a hidden cost, as a source of moral distress for physicians, burdened with a sense of guilt that they could not convince the patient to stay and of futility and inevitability about the outcome (Windish and Ratanawongsa, 2008).

Interventions

What can be done to reduce the incidence and the impact of DAMA, in terms of earlier identification, renaming and reframing, prevention and harm reduction following DAMA (Foster et al., 2023)?

Identifying

Early identification of vulnerable patients and preventive measures such as improved patient-provider communication may reduce DAMA (Spooner et al., 2017).

Admission

Approximately 75% of patients will give an indication about their intention to DAMA and so speaking directly with patients from admission about their intentions may be helpful in proactively addressing concerns and initiating disposition planning (Holmes et al., 2021).

Substance misuse

All patients with an active history of substance misuse are at highest risk of DAMA and could be pro-actively targeted from admission, along with those with caring roles, particularly on a weekend or out of hours (Ti and Ti, 2015).

Prior DAMA

Prior behaviour can predict future behaviour and therefore it is unsurprising that a history of DAMA, if known, increases the risk of future DAMA (Alfandre et al., 2017) up to 170-fold (Kraut et al., 2013).

Other non-adherent behaviour

Patients who are known to be non-adherent with medical therapy are at four-fold increased risk of DAMA (Ogunbayo et al., 2019) and non-adherence is not benign, either for the patient, the professional or the healthcare service (Cleemput and Kesteloot, 2002).

Low Patient Satisfaction

Departments or organisations with a low patient satisfaction score are at higher risk of DAMA and as such should receive additional high-level support (Grillo Ruggieri et al., 2018).

Renaming and reframing

The term “DAMA” is often considered to have loaded connotations and therefore replacements have been proposed such as “alternative discharge” or “patient-initiated discharge” (Kleinman et al., 2022). Indeed, the entire DAMA process could be viewed more positively, in that it represents an opportunity for those in positions of power, to empower patients and show empathy and care (Machin et al., 2018). Rather than being viewed as a failure of the individual patient, or clinician, it could also considered as a product of “ineffective and non–patient-centred care that disproportionately impacts vulnerable groups and itself leads to inefficient, untimely, inequitable and unsafe care” (Ambasta et al., 2020).

Preventing

Following early identification of patients at high risk of DAMA, preventing DAMA itself, is the next step. This is best summarised by the “DAMA universal precautions” firstly, treat substance withdrawal and pain, secondly communicate compassionately and non-judgmentally, thirdly proactively manage bothersome physical and emotional symptoms, and finally utilize psychiatric consultation early (Tummalapalli et al., 2020a).

Managing Expectations

Patients frequently identified an unmet expectation to be involved in setting the treatment plan as a reason to DAMA (Onukwugha et al., 2012). Such expectations are important to ascertain and address, therefore counselling should be directed toward their needs (Albayati et al., 2021). Or if necessary, allowing the patient to leave, even if just temporarily e.g. caring for pets or relatives, may also encourage patients to remain in hospital long term. Even if this is in breach of the unwritten contract patients sign up to on admission.

Shared Decision Making

Increasingly it is felt that reframing DAMA by focusing on patient empowerment and autonomy may help to guide hospital policies to focus on a patient-centred approach, encouraging shared decision making (SDM) and safe follow-up planning.

Support Services

Boredom and confinement during lengthy hospitalizations and isolation from family and other social support structures is commonly cited as reason for DAMA. Therefore, involvement of family and friends, especially if the patient is either abroad or in a remote centre is likely to be of benefit (Pollini et al., 2021). Furthermore, utilisation of inpatient addiction medicine services as part of early intervention for substance withdrawal could also be helpful (Lail and Fairbairn, 2018).

Destigmatising

In certain groups, DAMA maybe driven by real or perceived negative attitudes to certain patient groups (Askew et al., 2021; Simon et al., 2020). Decreasing DAMA requires a shift of thinking away from perceiving this as the behaviour of a deviant individual, but rather being considered as opportunity for quality improvement to ensure that all patients are cared for in a respectful and person-centred manner (Askew et al., 2021).

Follow-up

Finally, if DAMA is not identified or prevented, the harms should be minimised. Traditionally follow-up appointments and even medications to take home have not been provided for such patient groups, one presumes as a punitive measure. Sadly, in an overstretched, underfunded healthcare service, a patient wishing to DAMA is often seen as one less problem to sort.

Transition clinics

Another option, especially for those patients that DAMA without a primary care provider, would be the provision of specific post-discharge transition clinics. This is considered best practice, although promoting and measuring engagement with this is key (Mayer et al., 2023; Prakash and Naguib, 2019; Tummalapalli et al., 2020b). Figure 2 demonstrates a step wise approach for clinicians to adhere to when considering DAMA.

Figure 2: Checklist for clinicians when patients wish to DAMA

Hospital at home

It is also worth thinking beyond the hospital setting, for example, can therapy be safely provided in the community with appropriate fail safes in place. (Alagappan et al., 2023).

Discussion

It is clear that in Western adult inpatient hospital settings DAMA is common, costly and comes with significant implications for both the individual patient and the wider healthcare system. Whilst the aetiological factors identified by both patient and health professionals are similar across studies, most of the published data are from retrospective, case-control or qualitative studies from single institutions, limiting the ability to define a clear causal relationship (Albayati et al., 2021; Onukwugha and Alfandre, 2019).

To date there are no prospective, randomised trials investigating the extent to which any of the proposed interventions may reduce DAMA. Which given the limited number of papers on PubMed is unsurprising. The only study is from a neonatal intensive care unit where a focused intervention including “family counselling, supplemental funds and involving family members” in decision making reduced DAMA by 1.6% to 0.5% (Bosco et al., 2021). Whilst these findings are interesting in adult inpatient settings, we appear to lack robust evidence to support adoption of any of the proposed solutions. However, it is worth considering how the interventions may be useful in clinical practice.

Inclusion of a DAMA checklist looking for those “red flags”, in the nursing or medical clerking pro-forma might be a practical way of identifying those at higher risk. For example, if a patient identified during admission is a substance misuser, this could automatically trigger a referral to inpatient addiction services. Identification is the first step and much of this information is already captured during the admission process. This could readily be performed as a quality improvement project.

Following identifying those at risk, an SDM approach may incorporate many of the proposed interventions to reduce DAMA, which predominantly focus on communication. An SDM approach has been proven to improve therapeutic concordance and patient satisfaction along with reduced healthcare consultations and decisional conflict (De Nunzio et al., 2018; Kew et al., 2017).

Regarding follow-up appointments and transition clinics, physical attendance is likely to be poor, with a cumulative effect of worse patient outcomes (Ellis et al., 2017; McQueenie et al., 2019). DAMA and non-adherence, or even non-attendance, elsewhere in healthcare are fundamentally similar. Differences, where they exist, are often rooted in the quantity or immediacy of health risk and in the ability of physicians to monitor the patient (Berger, 2008). However, the recent emergence of video consultations, hospital at home and virtual wards may enable follow-up and monitoring in a more remote fashion, which may reduce barriers in accessing healthcare and consequently reduce non-attendance, non-adherence and DAMA.

Whilst we lack the evidence, in terms of the observed sequalae of DAMA one can hypothesise that a meaningful reduction may be achieved by the potential healthcare interventions discussed above. Possible mechanisms for reducing readmission rates or length of stay for example will be primarily driven by reducing DAMA at the index admission and so the patient is promptly assessed, investigated and treatment completed. Therefore, patients will not need to readmitted for partially treated pathology nor develop complications leading to increased length of stay.

Healthcare professionals in this scenario face an ethical dilemma, managing their desire to respect the patient's wish to DAMA and therefore the patient's self-determination versus what they consider clinically is best for the patient and therefore acting with beneficence (Alfandre, 2009). It is important that healthcare professionals avoid blaming and shaming the patient in this setting and there is emerging evidence that they would welcome additional training in managing ethical situations like DAMA(Machin et al., 2020; Machin and Proctor, 2021). Training packages have been developed and unpublished data suggests that this is well received and increases confidence in dealing with such situations (D'Costa et al., 2024; Machin and Baker, 2023). Whilst, it is unclear whether this will translate in to a real-world impact, engagement and education of the medical profession will be key to changing perceptions and managing expectations around the DAMA process.

Conclusions

DAMA is common and increasingly so, with an emerging body of research documenting its negative impact on patient morbidity and mortality. DAMA also increases costs and stress to a frequently overstretched healthcare service. However, despite all of this, it remains somewhat of a marginal issue certainly from a research perspective. Following this review, we now know of the factors which lead to DAMA, how to identify those at risk and of ways that may reduce its occurrence. It seems that SDM has a large role to play in all of the above along with novel ways of working and education and engagement of healthcare professionals. However, it remains to be seen if healthcare systems will start playing closer attention to this growing significant issue and what robust evidence we will have to guide us in reducing DAMA.

Key Points

1) Patients who DAMA comprise between 1-2% of all hospital admissions.

2) More common in young males, lower socioeconomic status, substance or mental health disorder.

3) DAMA increases the risks of readmission, length of stay, healthcare costs and mortality.

4) DAMA means the presenting complaint may be inadequately assessed, treated or followed-up

5) The reasons for DAMA are broad, from simply feeling better to the need to care for others.

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