

## Original Article

# Discharge against Medical Advice among Children Admitted into Pediatric Wards at Al-Jahra Hospital, Kuwait

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## ABSTRACT

**Objective:** To determine the prevalence of pediatric discharge against medical advice (DAMA) in our society, reasons if present, common diagnosis and severity of illness of patients availing DAMA

**Design:** Retrospective study

**Setting:** Department of Pediatrics, Al-Jahra Hospital, Kuwait

**Subjects:** Children aged one day to 12 years who were subjected to DAMA from the pediatric wards during the period, January to June 2012

**Intervention:** The relevant required data from these children's files were collected and analyzed

**Main Outcome Measure:** The frequency of DAMA in our community and the factors responsible

**Results:** The prevalence of DAMA was 8.49%. 56% out of them left the hospital within 24 hours of admission. There was no seasonal variation and no significant difference between general and subspecialty wards.

Infants constituted the largest group of DAMA cases (55.5%). Male Kuwaiti children represent the biggest group among DAMA cases. The reasons for DAMA, as reported in the patient's files were: dissatisfaction with the treatment (38%), domestic obligations and inconvenience of hospitalization (31%), perception that the child was well enough to leave hospital (21%), inadequate facilities in the hospital for their children (8%), extended length of stay(2%). The most common diagnosis among our DAMA cases was respiratory and gastro-intestinal illnesses (31% and 25% respectively).

**Conclusions:** We had a high prevalence of DAMA. There was increased prevalence of DAMA cases among Kuwaiti nationality, infants and male patients. Improvement of parent-pediatrician relationship, health awareness and provision of day care services may decrease the overall incidence of DAMA.

KEY WORDS: day care services, discharge against medical advice (DAMA), Kuwait, parent-pediatrician relationship

## INTRODUCTION

The phenomenon of discharge of hospitalized children against medical advice (DAMA) is a serious public health issue. It prevents the patients from maximally utilizing the benefits of the services rendered by the health facility<sup>[1-2]</sup>. This decision made by the parents may have an important influence on the outcome of the illness of their children<sup>[3]</sup>. It has the potential of increasing not only the child's morbidity and mortality, but also, in many cases, the long term sequelae<sup>[4-5]</sup>. Such discharges are also known to be distressing to the attending pediatrician and other health care professionals involved in the care of these children<sup>[6]</sup>.

The prevalence of DAMA which has been reported among hospitalized children varies from 1.2% to 31%

depending on the population studied<sup>[7-8]</sup>. Although DAMA occurs both in developed and developing countries, the reasons may be different<sup>[9-10]</sup>. Various studies have shown that financial constraint is the major determinant of DAMA<sup>[8,11]</sup>. The majority of published studies on DAMA have focused on adult patients<sup>[4,12]</sup>. Few studies have been published regarding DAMA among the pediatric population<sup>[13-14]</sup>.

The present study sought to determine the prevalence of pediatric DAMA in our society, reasons if present, common diagnosis of the patients discharged DAMA and the seriousness of these discharged patients. The knowledge obtained could help health care administrators in formulating policies aimed at minimizing its frequency and thereby improve health care delivery to these children.

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## SUBJECTS AND METHOD

This retrospective study was conducted in the Pediatric Department of Al-Jahra Hospital, Kuwait. Al Jahra hospital is a government hospital under the Ministry of Health, located at the centre of Jahra city. The hospital has a total capacity of 753 beds including 148 in the pediatric department. This hospital provides medical services to a population of more than 463,000 people. Most of the medical services offered are free for all patients.

The pediatric department consists of an inpatient section, an outpatient section and an emergency unit. The inpatient section of the pediatric department consists of two general wards (ward 7 and 28), three sub-specialty wards (ward 6 - metabolic diseases, ward 8 - nephrology and ward 31 - neurology) and a pediatric intensive care unit (PICU). Patients between the age of newborn and 12 years are accepted for admission.

The admission registers of the five pediatric wards were reviewed and DAMA cases from 1<sup>st</sup> January, 2012 to 30<sup>th</sup> June, 2012, were reviewed and the relevant information collected from their files and recorded. The recorded information includes the personal data of the patient (age, sex and nationality), and the date and time of discharge. For purpose of analysis, the morning shift was considered between 8 am – 2 pm and the duty shift between 2 pm – 8 am next day. The main diagnosis, as well as the reason for DAMA was noted. The subset of DAMA patients who stayed for less than one day was analyzed in detail. The data obtained was tabled, analyzed and illustrated.

## RESULTS

During the six months' period of the study, a total of 5,391 children were admitted to the five pediatric wards. The total number of DAMA cases during the same period was 458. The prevalence of DAMA was 8.49 % out of the total admissions. The majority of them (66%) were discharged during the duty shift. 65% of our DAMA patients were discharged during the week day compared to 35% during the weekend. The average number of patients going DAMA on a working day was 65% divided by five working days giving a value of 13%. This is less in comparison to the average DAMA on a weekend with 35% divided by two weekend days giving a value of 17.5%). Thus, there was an increase in the percentage of DAMA cases over the weekends as compared to weekdays.

It was observed that there was a seasonal decrease in the total number of admissions to the pediatric wards from January to June. Despite this, the absolute number of patients taking DAMA remained relatively constant throughout the study period. The percentage of DAMA patients when compared to the total admissions was lowest in the month of March (7.2%) and highest in the month of June (12%), (Fig. 1).

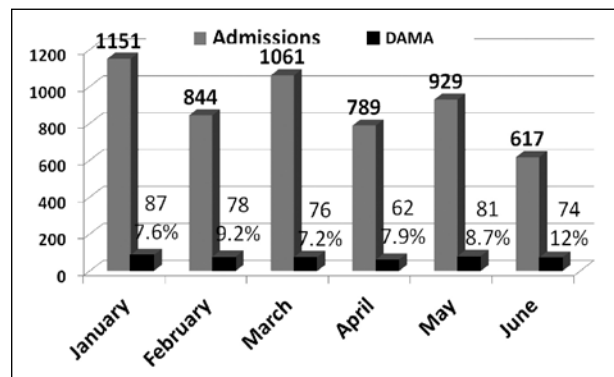


Fig.1: Total admission and DAMA cases (absolute number and percentage) at the pediatric department in Al-Jahra hospital, Kuwait from January 2012 –June 2012

The distribution of admission and DAMA cases among the five pediatric wards, revealed that the highest rate of DAMA cases were in ward 28 (general ward), then ward 31 (neurology subspecialty) followed by ward 7 (another general ward), then ward 8 (nephrology) and ward 6 (metabolic diseases ward) respectively.

The gender ratio among the DAMA cases was 58.3% male to 41.7% female. Kuwaiti nationals constituted 59% of patients taking DAMA.

Among different age groups, infants were the largest group with 55.5% of DAMA cases. Children beyond infancy and less than six years old constituted 32% of cases. Neonates as a group represented 17.5% of the total cases (Fig. 2).

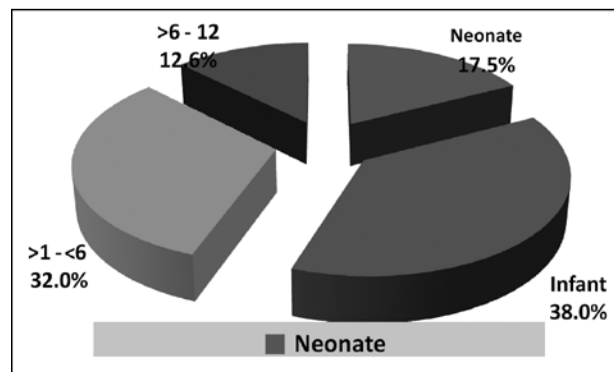


Fig. 2: Distribution of DAMA cases of the pediatric department at Al-Jahra hospital according to age groups from January –June 2012.

The reasons for DAMA were documented in 41% of all the files reviewed and the reasons were reported as follows; parental dissatisfaction with the treatment (38%), domestic obligations and inconvenience of hospitalization (31%), perception that the child was well enough to leave hospital (21%), inadequate facilities in the hospital for their children, including lack of sufficient resting areas (8%), extended length of stay (2%).

It was found that 56% of the DAMA patients left the hospital within 24 hours of admission. 71% of these were discharged during the duty shift (2 pm to 8 am).

The commonly reported diagnosis among the DAMA patients was respiratory cases (31%) followed by gastro-intestinal cases (25%). Other reported diagnosis in decreasing order of frequency were fever without focus for investigation, CNS diseases, accidental drug or toxin ingestion, miscellaneous, blood transfusions in chronic hemolytic anemias, genitourinary cases, sedation for procedure cases and cardiac patients. The morbidity pattern of admitted patients to our pediatric department during the same period was found as the following: respiratory cases (30.7%), gastro-intestinal cases (27%), febrile convulsion and CNS cases (9%) followed by urinary tract diseases, heart diseases, then miscellaneous diagnosis in decreasing order of frequency .

## DISCUSSION

The phenomenon of discharge against medical advice among pediatric patients has a serious hidden health problem. The health care provider is caught in between respect for the parent's decision and their desire to provide complete care for the patient.

The DAMA rates vary between countries and even within a country. The rate of DAMA is always less in advanced countries<sup>[9-10]</sup>. Lower rates of DAMA indicate better health services. The rate of DAMA in our community is relatively high (8.49%) compared to other similar communities like Qatar which has less than 1%<sup>[14]</sup>. The consequences of DAMA on morbidity and mortality are well-documented<sup>[4]</sup>. The observed re-admission rates are high from 20.7% to 24.5% with children often coming with complications due to delayed / missed medical care<sup>[15]</sup>. There is a variation in the rate of DAMA between different months. However, this does not reflect any particular season. Relatively higher rate of DAMA during the weekends is a general phenomenon. This can be attributed to overcrowding and shortage of staff during these periods. However, the apparent higher rate of DAMA during the duty time (2 pm to 8 am) is false. When we calculated the percentage of patients who availed of DAMA per hour, we realized that 34 % of patients who availed it during the morning shift of 6 hours accounted to a much higher rate (5.8%) compared to the apparent higher rate of 66 % in the duty shift, which actually gives a much lower rate (3.6%). Thus, the number of DAMA cases are not related to the duty shifts (duration of the duty shift is 18 hrs). There was no difference in the incidence of DAMA between a general ward and a specialty ward. The pediatricians in the department are rotated between different wards on a monthly basis to save any bias of having certain staff being fixed for some wards.

Infants constituted the largest group of DAMA cases (55.5 %), which put them as a group at higher risk of morbidity and mortality. Similar conclusion was found by Abdulateef *et al* in Qatar (90%) and Roland *et al* in Nigeria (52.5%)<sup>[13,15]</sup>. Male Kuwaiti children represent the biggest group among DAMA cases. This could be explained by the tradition of giving more importance to males in the community.

A lack of proper understanding by the parents of their child's condition and dissatisfaction of the medical services rendered to them was a major reason for DAMA in our study. This can be solved partially by more effective doctor-parental interaction.

Financial constraint was the most reported reason for DAMA all over the world<sup>[7,16,17]</sup>. This does not apply to our community as most of the medical services in this hospital are free. However, this has led to some unforeseen drawbacks such as continuous overcrowding which leads to relative inadequacy of the available facilities for the children and their families. Subsequently, many parents would prefer to opt for paid private medical services as they would be getting better facilities. Providing greater facilities at the hospital would help in addressing this problem.

21 % of our DAMA discharges were due to the parental perception that their child was well and fit for discharge. This can be attributed to a lack of understanding of the patients' parents about their diseases process and treatment. It can be managed by improved doctor-parent interaction and health awareness.

The reasons for DAMA reported in our study were- dissatisfaction with the treatment, domestic obligations and inconvenience of hospitalization, perception that the child was well enough to leave hospital, inadequate facilities in the hospital for the children and families including lack of sufficient resting areas, and extended length of stay. These were similar to the studies from other parts of the world with the exception of financial constraints, although the order of importance may have been different<sup>[11, 14,15]</sup>.

The most common diagnosis among our DAMA cases was respiratory and gastro-intestinal diseases. This is similar in order of frequency to the general causes of admission in our population. This was different from the data collected from other countries. Ikefuna *et al* found that septicemia was the commonest cause of DAMA in Nigeria (25.4%)<sup>[10]</sup>. Roodpeyma *et al* reported neonatal jaundice as the most frequent cause in Iran (37.1%)<sup>[18]</sup>. This reflects the common causes of hospital admission in our community. The high prevalence of respiratory diseases among our community can be due to the high percentage of children having bronchial asthma, extensive use of air conditioners, presence of frequent dust storms in this

desert community, extensive smoking among people including indoor smoking and environmental pollution by the oil refineries. The incidence of gastro-intestinal cases in the community can be substantially decreased by improving health awareness and through active management by parents along with the pediatricians on an outpatient basis.

56% of the DAMA patients had left the hospital within 24 hours of admission. This could be explained by the fact that the parents were not adequately counseled by the pediatricians before admitting patients. These can be handled by more effective interaction by the staff with the parents. This would support the suggestion that opening of day care service units with special consideration for gastro-intestinal and respiratory problems may be beneficial to the patient in terms of providing appropriate medical services which may be of duration of less than 24 hours.

This study has the following limitations: Firstly, the low percentage of documentation of the reason for DAMA by the discharging pediatrician in the medical record and secondly, the parents may not have communicated the genuine reason for DAMA to the pediatrician on direct questioning, as compared to an anonymous questionnaire otherwise.

## CONCLUSION

The discharge against medical advice among pediatric patients is a serious hidden health problem affecting both the children and health services. We had a high prevalence of DAMA in our community. This mandates further studies. In this study, it was found that DAMA cases were more prevalent among Kuwaiti nationality, infants and male patients. The majority of them left before completing 24 hours in the hospital. The cardinal reasons for DAMA were parental dissatisfaction with the treatment, domestic obligations, perception that the child was well enough to leave hospital, inadequate facilities in the hospital and lack of sufficient resting areas and prolonged length of stay. Also, it was found that the most common diagnosis reported among our DAMA cases were respiratory and gastro-intestinal illnesses. Improvement in parent-pediatrician relationship, health awareness and, providing day care services may improve the overall percentage.

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