Discharge of children from hospital against medical advice

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Background: **Discharge against medical advice (DAMA) from hospital may have negative effects on the well-being of the patients. In pediatric patients the decision for DAMA is made by the parent(s). The present study aimed to evaluate the prevalence of DAMA and examine the reasons for DAMA provided by the parents.**

Methods: **A cross-sectional descriptive study on DAMA was conducted from March 2005 to February 2007 in the pediatric ward of Taleghani hospital in Tehran, Iran.**

Results: **The prevalence of DAMA was 5.3%, comprising 97 of 1842 children discharged. The age of the 97 children ranged from 1 day to 8 years, with a mean hospitalization duration of 4±3.3 days. Seventy-seven (79.4%) of the 97 children were <12 months. Thirty-four (35.1%) children were discharged within 48 hours of admission. The most commonly diagnosed diseases in these children were neonatal jaundice (37.1%), sepsis (21.6%), and gastroenteritis (16.4%). The reasons for DAMA were as follows: parent's assumption of improvement (32.9%), dissatisfactory treatment and care (29.9%), inconvenience for child hospitalization (18.5%), and financial constraints (15.5%).**

Conclusions: **The prevalence of DAMA in the present study was within the range of other DAMA studies in children. The majority of DAMA cases could have been prevented by more satisfactory facilities and effective communication between medical staff and the parents.**

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Introduction

Discharge against medical advice (DAMA) is a serious concern because the patients involved leave the medical facilities too soon and are suspected to suffer from probable adverse consequences. The patients are likely to return and demand readmission for the same or related diagnosis that leads to a longer period of hospitalization.[1] DAMA data in general hospitals show a prevalence of 0.7% to 7% with 11%-42% of the population being psychiatric patients.[2] The majority of published studies on DAMA focus on adult patients, which indicated that the patients were disadvantaged individuals, lacked family support, had financial and social problems, and did not have health insurance coverage.[3-6]

The decisions made by the parents bear important health consequences on their children. Few studies have been published on DAMA in the pediatric population. A study performed in southeast Nigeria from 1987 to 2004 revealed that 13 (31.7%) of 41 parents of children suffering from Burkitt's lymphoma withdrew their children from a tertiary care institution because of financial constraint.[7] Financial pressure on parents is not their sole motivation for DAMA. A number of other factors have been investigated in recent years, including lack of sufficient facility in hospitals, outpatient treatment being preferred, and general dissatisfaction with medical care provided by hospitals.[8,9] Understanding the factors leading to DAMA could help health care administrators set up more effective policies to prevent DAMA and reduce its adverse effects on the health of the pediatric population.

DAMA in children has been rarely reported in Iran. The present study was undertaken to investigate the DAMA prevalence in the pediatric ward of a teaching hospital in Tehran, Iran. In addition, we try to find out the clinical diagnosis of the patients, the main reasons for parents to choose DAMA, and the socioeconomic characteristics of the parents.

Methods

This cross-sectional descriptive study was conducted from March 2005 to February 2007 in the pediatric ward of Taleghani Medical Center, a teaching hospital in north Tehran. The ward has 10 beds in the neonatal

intensive care units (NICUs) for premature neonates, 10 beds for newborns, and 10 beds for infants and children. There is a 4-bed resting room for mothers who have recently delivered their babies.

The patient was considered to be discharged against medical advice if the parent signed a standard hospital form acknowledging that they were discharging their children and accepting all the responsibilities for withdrawing their children against the pediatrician's advice. Newborns discharged from the NICU were excluded from the study. All patients, when their parents signed the DAMA form, were included in the study. Clinical data were obtained by chart review performed by one investigator. Before leaving the hospital, the parents were interviewed to complete a structured questionnaire by a staff nurse. The questionnaire contained 10 items: patient's name, age, gender, number of children in the family, admitted from Taleghani outpatient department or referred from another hospital, possession of health insurance, parents' education, parents' jobs, duration in the ward, and the primary reason for DAMA. The items regarding the parents' jobs and the reason for DAMA were open questions. All parents taking away their children during the study period accepted to take part in the interview including three who did not give a reason for taking their child away. Subsequent examination of the completed questionnaires revealed that the reasons for DAMA could be classified into 4 categories: 1) perceived improvement of the child illness, 2) unsatisfactory treatment and care, 3) inconvenience for child hospitalization, and 4) financial problems. The data were analyzed by the SPSS software and the frequency and percentage of variables were calculated. No specific effort was made to correlate and/or explore probable associations between nominal factors.

Results

From March 2005 to February 2007, 1842 patients were discharged from the pediatric ward of Taleghani Medical Center, in whom 97 (5.3%) were discharged against medical advice. The primary data were derived from medical records of all 97 patients and the questionnaires completed by the parents. The data focused on three aspects: children's characteristics, parents' socioeconomic properties, and the reasons of the parents for discharging their children against medical advice. In the 97 patients, 55 were male and 42 were female aged from 1 day to 8 years, including 57 (58.7%) newborns. Forty-seven (48.5%) of the patients were referred from another hospital, and the others were admitted directly from our outpatient clinic. Among the newborns, jaundice and sepsis were the most common diseases whereas in older children gastroenteritis was predominant. Most of the patients had health insurance coverage (Table 1). Their hospitalization ranged from 1 to 21 days with a mean of 4±3.3 days. Thirty-four (35.1%) of the patients ended in DAMA within 48 hours after admission. Eight newborns suffering from jaundice were discharged by their parents against medical advice, but were readmitted within 2 to 3 days due to persistent jaundice and all of them completed their course of treatment. The rest 89 (91.7%) patients were lost to follow-up.

The data on the socioeconomic status of the parents are shown in Table 2. Parents' education and job were considered as major factors. Nearly 50% of the parents received high school or university education. The majority of the parents belonged to the middle class in Iran. The reasons for DAMA by the parents (Table 3) were divided into the following 4 categories. First, the parents assessed that their babies were well enough to be released, and most of the babies were newborns who had undergone sepsis treatment. Second, the parents were dissatisfied with the treatment and care for their babies in the hospital regarding inadequate communication with the physician of their child, objecting to their child being examined by several doctors in a teaching hospital, inadequate nursing care, and inappropriate behavior shown by the general staff. Third, inconvenient hospitalization of their child, including lack of sufficient resting areas for mothers in

Table 1. Characteristics of the children

Characteristics	*n* (%)
Sex	
Male	55 (56.7)
Female	42 (43.3)
Age	
<12 month	77 (79.4)
≥12 month	20 (20.6)
Number of children in the family	
1	52 (53.6)
2	30 (30.9)
3	9 (9.3)
4	6 (6.2)
Health insurance	
Yes	81 (83.5)
No	16 (16.5)
Diagnosis	
Neonatal jaundice	36 (37.1)
Neonatal sepsis	21 (21.6)
Gastroenteritis	16 (16.5)
Acute respiratory infection	9 (9.3)
Febrile convulsion	7 (7.2)
Urinary tract infection	3 (3.1)
Miscellaneous	5 (5.2)

Table 2. Characteristics of the parents

Characteristics	*n* (%)
Fathers' education	
Illiterate	2 (2.1)
Primary school	21 (21.6)
Middle school	26 (26.8)
Diploma of high school	27 (27.9)
University degree	21 (21.6)
Fathers' job	
Self-employed	49 (50.5)
Office worker	24 (24.8)
Industrial worker	20 (20.6)
Teacher	4 (4.1)
Mothers' education	
Illiterate	1 (1.0)
Primary school	16 (16.5)
Middle school	24 (24.8)
High school	42 (43.3)
University degree	14 (14.4)
Mothers' job	
House wife	90 (92.7)
Teacher	5 (5.2)
Office worker	2 (2.1)

Table 3. Reasons for discharge against medical advice provided by the parents

Reasons	*n* (%)
Perceived improvement of child illness	32 (32.9)
Unsatisfactory treatment and care	29 (29.9)
Inconvenience for child hospitalization	18 (18.6)
Financial problems	15 (15.5)
Reason not declared	3 (3.1)

the ward, presence of an unattended sibling at home, long distance between hospital and home, family problems, and dislike of the hospital. The last and fourth categories of reasons were financial constraints: 15 of 16 parents lacking insurance coverage for their children declared financial problems as the reason for releasing their children from the hospital.

Discussion

The rate of DAMA in pediatric wards reported in recent years[7-9] ranged from 1.2%[9] to 31.7%[7]. In the present study, the DAMA rate was 5.3%. Most of the DAMA patients were aged less than 12 months, similar to the reports elsewhere,[8,9] comprising the majority of children admitted in pediatric wards around the world.[10] In the present study, there was no significant difference in DAMA between male and female infants. It is consistent with the literature except the report by Onyiriuka in Nigeria, which reported a higher rate in girls.[11] The mean time of hospitalization in our study was 4±3.3 days, and 34 children (35.1%) were discharged by their parents within 48 hours after admission, similar to another study.[12] Thus the negative impression of the hospitals conceived by parents leads to early DAMA of their children within the first couple of days. In our study nearly half of the parents received high school education or university degree, and most of them belonged to the middle class, but Onyiriuka[11] reported that nearly half of the parents of children lacked formal education or had not finished primary schooling and 63.8% of them belonged to the lower social class, and the most common reason for DAMA was financial problems. So it appears that different social classes may have different reasons for DAMA.

In our study, the most common reason cited by the parents for DAMA was perceived improvement of the child's illness. The majority of the children in this category were newborns undergoing treatment for sepsis. After several days of treatment with parenteral antibiotics, the clinical conditions of the child might be improved so the parents believed that the child must be discharged, whereas the physician was awaiting the final culture results, and in case of a positive result, the antibiotic treatment must be continued for another two to three weeks.

Unsatisfactory treatment and care was the second common reason cited by the parents of children in our study. Frequently, communication between physicians and parents was inadequate, so the parents often complained of insufficient care and treatment given to their children. Inconvenience for child hospitalization was the third most common reason. Mothers, after delivering a newborn, need comfort facilities in the ward, but our pediatric ward is short of such facilities.

Financial problems were the last reason for DAMA in our study. Nearly all parents lacking health insurance coverage cited financial problems as a reason for DAMA. A large number of cases (84.5%) in our series was the first or second child of their parents. Gloyd et al[12] reported that financial restriction increased the rate of DAMA. In their study a five-fold increase in DAMA was observed during the period of 1980-1992 in the pediatric ward of Central Hospital in Bouake Cote d'Ivoire. The study revealed that the significant increase of DAMA was associated with significant budgetary shortfalls in the hospital and that most of the discharges were due to unaffordable hospitalization costs. There are a variety of reasons for DAMA in children, such as inconvenience for hospitalization of child, preference of treatment by general practitioners, parents' assumption of child well-being, preference of treatment by private specialists or other hospitals.[8] Okoromah et al[9] reported the most common reasons for DAMA were perceived improvement of illness, preference of outpatient care, financial constraints,

high cost of hospital services, and dissatisfaction and disagreement with care. The reasons presented by the parents of our patients were similar to those reported in the aforementioned studies but the orders of frequency were different.

The limitations of our study are a lack of patient follow-up data, merely focusing on descriptive data, correlation study between relevant factors, and lack of case control study. Further studies on DAMA in children are needed especially multicentral studies including comparison between DAMA and non-DAMA groups and between teaching and non-teaching hospitals.

In conclusion this study helps us to better understand the reasons for discharging children against medical advice. We realize the importance of tackling the problems facing the parents of children. More effective communication is required between physicians and the parents, so that we might avoid part of early discharges and prevent the potential damages to the health of the children.

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