

Discharge Against Medical Advice in the Pediatric Wards in Boo-ali Sina Hospital, Sari, Iran 2010

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Original paper

ABSTRACT

Introduction: Since children neither comprehended nor contribute to the decision, discharge against medical advice is a challenge of health care systems in the world. Therefore, the current study was designed to determine the rate and causes of discharge against medical advice. **Methods:** This descriptive cross-sectional study was done by reviewing the medical records by census method. Data was analyzed using SPSS software and χ^2 statistics was used to determine the relationship between variables. The

value of $P < 0.05$ was considered significant.

Results: Rate of discharged against medical advice was 108 (2.2%). Mean of age and length of stay were 2.8 ± 4 (SD). 3 years old and 3.7 ± 5.4 (SD) days, respectively. Totally, 95 patients (88.7%) had health insurance and 65 (60.2%) patients lived in urban areas. History of psychiatric disease and addiction in 22 (20.6%) of the parents were negative. In addition, 100 (92.3%) patients admitted for medical treatment and the others for surgery. The relationship of the signatory with patients (72.3%) was father. Of 108 patients discharged against medical advice,

20 (12%) were readmitted. The relationship between the day of discharge and discharge against medical advice was significant ($p = 0/03$). **Conclusion:** Rate of discharge against medical advice in Boo-ali hospital is the same as the other studies in the same range. The form which is used for this purpose did not have suitable data elements about description of consequence of such discharge, and it has not shown the real causes of discharge against medical advice.

Key words: Discharges against medical advice, Hospital, parents discharge, pediatric patients.

1. INTRODUCTION

Patients who leave the hospital against medical advice, which are referred to as “discharges against medical advice” (DAMA), are both a concern and a challenge for individuals in the health care field (1). Discharge against medical advice refers to the rejection of being treated despite of previous admission. Discharge against medical advice results in the discontinuation of treatment which leads to readmission of the patient or the death of patients. Sometimes despite the medical staff explanations of the consequences of discharge against medical advice to the patients, still there is persistence for discharge. However, the patients have the right to get admission for treatment and discharge with their own willing. Report by Berger found that in Discharges against medical advice (DAMA) account for approximately 1% of discharges for general

medical patients (2). Duno found that DAMA prevalence was 0.34%, the total discharge number in the 2-year period was 41,648 (3). Seaborn Moyse & Osmun has done a retrospective chart covering a 2-year period on patients who discharged themselves against medical advice, they found that the rate of DAMA in the study hospital was found to be 0.57%, and the average length of stay was 2.8 days (1). Hwang and colleagues 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 (4). There are various reasons explaining the discharges against medical advice such as: dissatisfaction with hospital services, addiction of patient or parents

of patients, hospital expenses, belief in traditional medicine, hospital long stay, feeling of recovery, urban/rural living place, etc (5-11). In this situation, when the patient has not fully recovered, the condition will worsen, readmission becomes crucial, and it might be followed by severe complications and death. The medical care staff can explain the consequences of discharge against medical advice, but cannot prevent the patient from their decision. Readmission is followed by more complications, leading to longer hospitalization than the first admission.

Since children are unable to decide properly and may be the victim of their parent's decisions, discharge against medical advice in children is the responsibility of their parents. Based on our knowledge, there has not been a study determining the rate and the reasons of discharge against medical advice in the children so far,

and knowing the reasons of such discharges is important for the hospital administrators. Despite the widespread nature of this problem, there has been little study devoted to it in Iranian Hospitals. Therefore, we aimed at finding out the problems in order to prevent probable consequences. Anyway, discharge against medical advice must be considered a significant issue by the physicians, nurses, the hospital managers and all health care programmers, due to the care expenses and dissatisfaction with the hospital care services.

2. METHODS

In this descriptive cross-sectional study the medical record of the children discharged against medical advice during one year (first day of 2009 till the end of that year) from Boo-ali hospital was studied using census method in 2009. Boo-ali is a general hospital with 4 pediatric wards. In this study a check list based on the aims of the study was designed and by studying patients' medical record, the variables of age, sex, living area (urban/rural), having insurance, the relation of the patient with the person giving the consent, the disease, the medical intervention (excluding medication) the day of discharge, lengths of stay, history of patient's parents from the view of addiction or having psychiatric problems and the reason of discharge were recorded. The obtained data were analyzed by SPSS software using the descriptive inferential analysis.

The relation between variables was studied by X^2 test at the significant level of $P < 0.05$. Patients less than 18 years old who were discharged against medical advice were considered the case in this study. In Iran the individuals less than 18 years old are not considered matured by the law. Otherwise, the parents (priority by father) can sign for admission or discharge. The disease of the patients for admission was classified using the book of the International Classification of Diseases (ICD-10) 10th edition (12).

The limitation of the present study was unawareness of readmission of these patients at the other

medical centers. For the ethic issue, the name of patients, the physicians and the ward of the hospital was not recorded for information. The medical documentation of the patients at pediatric ward of Boo-ali hospital who were discharged in 2009 was reviewed and the data was recorded in a check list.

3. RESULTS

We found that, of 4835 children admitted at Boo-ali hospital pediatric ward in 2009, 108 (2.2%), 57 (42.7%) boy and 51 (9%) girl, discharged against medical advice.

The age ranged from 1 day neonate to 18 years old; mean age 4.3 ± 2.8 (SD), duration of hospital stay 1-42 days; mean 5.4 ± 3.7 (SD). Twenty (12%) patients were readmitted at the same ward of hospital for the same disease. Sixty five (60.2%) were from urban areas and 43 (39.8%) from rural areas. 22 (20.6%) of the parents were not addicted and 76 (79.4%) were unknown. The psychiatric problem of the parents in 22 (20.6%) was negative and in 76 (79.4%) unknown. In addition, 95 (88.7%) had insurance and 13 (11.7%) did not have insurance. The disease, reason of discharge, and the relation of the person who agreed for the discharge are given in the table 1 to 3 respectively.

Disease for admission based on the ICD	Frequency (%)
Infections disease	25 (23.4)
Neoplasm	5 (4.7)
The endocrine disease	1 (0.8)
Nervous system disease	2 (1.8)
The cardiac vascular disease	1 (0.8)
Respiratory system disease	12 (11.1)
Skin disease	1 (0.8)
Urinary tract disease	4 (3.7)
Prenatal problem	20 (18.7)
Congenital disease	2 (1.8)
Signs and abnormal findings	21 (19.4)
Poisoning and injuries	12 (11.1)
The hygienic reasons	2 (1.8)
Total	108 (100)

Table 1. Frequency of disease in the children being admitted at Boo-ali hospital and the discharge against medical advice in 2009

Discharge against medical advice	Frequency (%)
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Feeling of recovery	13 (12)
Personal reason	15 (13.9)
Transportation	8 (7.5)
Follow up	1 (0.9)
Unknown	71 (65.7)
Total	108 (100)

Table 2. Frequency of reason of discharge against medical advice in the children patients at Boo-ali hospital of Sari in 2007

The relation of the person with patient who agreed for discharge	Frequency (%)
Father	78 (72.3)
Mother	21 (19.5)
Sister	1 (0.9)
Brother	1 (0.9)
Uncle	1 (0.9)
Aunt	1 (0.9)
Others	5 (4.6)
Total	108 (100)

Table 3. Frequency of the relation of the person with patients who agreed for discharge against medical advice in Boo-ali hospital in 2009

It showed that, in 35 (32.4%) the day of discharged occurred on the holiday or the day before or after holiday. There was significant relationship between the day of discharge and the reason of discharge against advice (P -value=0.03, $df=24$ and $X^2=38$). The relation between the living area and insurance with discharge against medical advice was not significant (P -value=0.39, $df=4$, $X^2=4$), (P -value=0.8, $df=32$ and $X^2=24$). The diseases for admission were divided into two groups of surgery (example, appendectomy) and non surgery (example, diarrhea, pneumonia).

We noticed that 100 (92.3%) were admitted for non surgical and 8 (7.8%) for surgical. The X^2 test showed insignificant relationship between the non surgical and surgical diseases and the discharge against medical advice (P -value=0.1, $df=8$, $X^2=12$), (P -value=0.3, $df=12$ and $X^2=14$), respectively.

It was noticed that in 22 (20.3%) medication and surgery were performed, most cases had phototherapy 12 (54.4%), and one case had two medical procedures.

DISCUSSION

Discharge against medical advice is one of the health care system challenges worldwide, from treatment and the medical expenses point of view, and for the consequences of the disease process, which can lead

to worsening of the condition and death; particularly, in case of children, since they cannot perceive the situation and participate in decision making. Results of this study showed that within a year, 2.2% of patients discharged against medical advice. Moreover, other reports are as follow: Duno in 2 years 0.34%, Abdul Rashid in 1 year 2.4%, Berger 1 year 1%, Seaborn in 2 years 0.57%, Fiscella in 2 years 0.07% and Chia in 6 months 26%.

Results of this study and the other similar studies show that discharge against medical advice are in the same domain, but early diagnosis of the patients eager to discharge against medical advice could help improve their satisfaction and avoid discharge (1, 2, 13, 14, 15).

Data of this finding showed that the relation between living area and type of insurance with discharge was not statistically significant. Fisla found that discharge against medical advice in a hospital significantly was higher than discharge after recovery (13).

Lorenzi in the multivariate analysis, male gender (OR 1.65; 95% CI 1.37-1.98) and residence in Rome area (OR 1.22; 95% CI 1.02-1.47) increased the odds of discharge against medical advice. The odds of such discharge decreased with increasing age (OR 0.994 per year; 95% CI 0.990-0.999). The proportion of patients discharged against medical advice decreased from 1.4% in 1995 to 0.4% in 1998 (16).

Regarding the children, we should bear in mind that they do not like long hospitalization and when the patients come from far distances and villages and their parents have to travel such a distance, it might be difficult for them, leading to discharge against medical advice.

Baptist research showed both emergency department revisits (21.7% vs 5.4%; $P < .001$) and readmission to the hospital (8.5% vs 3.2%; $P < .001$) (6).

Ibrahim et al, concluded that from 3039050 discharges in the sample, 43 678 were against medical advice (1.44%). In multivariable modeling, predictors of self-discharge included having Medicaid insurance

(adjusted odds ratio [AOR]=3.32; 95% confidence interval [CI]=3.22, 3.42), having Medicare insurance (AOR=1.64; 95% CI=1.59, 1.70), urban location (AOR=1.66; 95% CI=1.61, 1.72), medium (AOR=1.25; 95% CI=1.20, 1.29) or large (AOR=1.08, 95% CI=1.05, 1.12) hospital (defined by the number of beds), shorter hospital stay (OR=0.84; 95% CI=0.84, 0.85), and African-American race (AOR=1.10; 95% CI=1.07, 1.14). Teaching hospitals had fewer self-discharges (AOR=0.90; 95% CI=0.88, 0.92). Other predictors of discharge against medical advice included age, gender, and income (9).

Our finding showed the mean duration of staying 5.4 ± 3.7 days in 20 (12%) subjects for the readmission. If the duration of readmission be added to the first admission, certainly different figures will be obtained. In Berger's study, the patients who discharge against advice stayed longer in hospital and did not have good treatment outcome (2). In the study of Anis it was cleared that patients who discharged against medical advice had more readmission compared to the patients discharged with medical advice and their readmission occurred 35 days after the first admission and the hospitalization was longer than the first hospitalization (5). However, the effective factor in case of the children must be considered, too.

Our finding showed a significant relationship between the day of the discharge and the reason of discharge against advice.

Obviously, it is related to the holidays such as Friday in Iran and the subsequent holidays. On holidays, the physicians do not regularly visit the patients, particularly in the governmental hospitals, and on the other hand parents of the patients feel partial recovery of their children, therefore, they decide to discharge against medical advice. We found discharge with unknown reason in 71 (65.7%) patients. Presence of the least informative elements could help the therapeutic management nationwide.

We found that type of the disease does not have any relationship with the reason of discharge. The first reason of referring generally leads

to the patient's admission, but some patients, particularly those with internal disease, intent to discharge from the hospital as soon as the disease is recovered, however, this is less observed in case of surgery patients. Anyway, when a child is admitted due to the diarrhea and vomiting, compared to a child admitted for laparotomy and if both are discharged against the medical advice, taking care of the latter is much difficult and even impossible at home. It was found that in 72.3% of the cases father agreed for discharge and in 8.4% of the cases the person who agreed the discharge was not parents of the patients. There was no space provided in the form to record the consequence of discharge against medical advice to notify those who agree for discharge. It was only mentioned that the patients and their parents can sign the agreement.

As admission of the patient should be done with knowledge agreement, the discharge against medical advice should be done with proper awareness, while in the available form there was no space provided for these two items and the physicians sign agreement. Moreover, the form does not contain a proper space mentioning the reason of discharge. To identify the worsening factors, this point is very important and must be taken into consideration by the hospital managers.

4. CONCLUSION

It was cleared that for investigating the reason of discharge against medical advice in the pediatric patients using the available forms, certain problems arise. Using a form with proper data elements containing the reason of discharge, the rate of awareness from the discharge against advice consequences, when the patients and their parents change their idea of discharge, knowing the type of element and identification of the effective factors in children such as, presence of psychiatric problems in the patients' parents, addiction, etc is needed in hospitals. In order to support children, using the hospital aiding system is crucial. Using of this system could help to reduce the severity of complications resulting

from discharge against medical advice, which is due to the unawareness of the patients' parents and even preventing the extra hospital expenses. It seems that evaluation of this problem is prospectively helpful.

REFERENCES

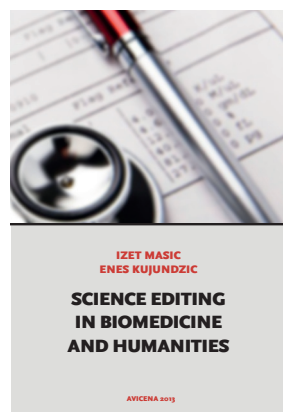
1. Seaborn Moyse H, Osmun WE. Discharges against medical advice: a community hospital's experience. *Can J Rural Med*, 2004; 9(3): 148-153.
2. Berger JT. Discharge against medical advice: ethical considerations and professional obligations. *J Hosp Med*, 2008; 3(5): 403-408.
3. Duno R. et al. Discharge against medical advice at a general hospital in Catalonia. *Gen Hosp Psychiatry*, 2003; 25(1): 46-50.
4. Hwang SW. et al., What happens to patients who leave hospital against medical advice? *CMAJ*, 2003; 168(4): 417-420.
5. Anis AH. et al. Leaving hospital against medical advice among HIV-positive patients. *Canadian Medical Association Journal*, 2002; 167(6): 633.
6. Baptist AP. et al., Hospitalized patients with asthma who leave against medical advice: characteristics, reasons, and outcomes. *Journal of Allergy and Clinical Immunology*, 2007; 119(4): 924-929.
7. Fiscella K, Meldrum S, Franks P. Post partum discharge against medical advice: who leaves and does it matter? *Maternal and Child Health Journal*, 2007; 11(5): 431-436.
8. Ibekwe RC. et al., Factors influencing discharge against medical advice among paediatric patients in Abakaliki, Southeastern Nigeria. *J Trop Pediatr*, 2009; 55(1): 39-41.
9. Ibrahim SA, Kwok CK, Krishnan E. Factors associated with patients who leave acute-care hospitals against medical advice. *American journal of public health*. 2007; 97(12): 2204.
10. Lorenzi E. et al. Characteristics of voluntarily discharged patients: some reflections and a proposal. *Annali di igiene: medicina preventiva e di comunità*. 2006; 12(6): 513.
11. Tavalaeie A. et al. Discharge against medical advice from psychiatric wards. *Journal of army medicine*. 2005; 8(1): 24-30 [Persian].
12. World Health Organization, International statistical classification of diseases and related health problems. 1994: WHO. Geneva, Switzerland, 1994.
13. Davaridolatabadi N, Sadoughi F, Meidani Z, Shahi M. The Effect of Educational Intervention on Medical Diagnosis Recording Among Residents. *Acta Inform Med*. 2013 Sep; 21(3): 173-175. doi: 10.5455/aim.2013.21.173-175.
14. Tavakoli N, Abbasi S. External Evaluation of Four Hospitals According to Patient-centered Care Standards. *Acta Inform Med*. 2013 Sep; 21(3): 176-179. doi: 10.5455/aim.2013.21.176-179.
15. Ajami S, Arab-Chadegani R. Barriers to Implement Electronic Health Records (HER). *Mater Sociomed*. 2013 Sep; 25(3): 213-215. doi: 10.5455/msm.2013.25.213-215.
16. Afshar P, Saravi Mohseni B, Nehmati E, Farahabbadi Bagherian E, Yazdani A, Siamian H, Vaheidi M. Prevalence of Resistance to Antibiotics According ICD-10 in Boo Ali Sina Hospital of Sari, 2011-2012. *Med Arh*. 2013 Oct; 67(5): 329-332. doi: medarh.10.5455/medarh.2013.67.329-332.

SCIENCE EDITING IN BIOMEDICINE AND HUMANITIES

Izet Masic and Enes Kujundzic. Sarajevo: Avicena, 2013. 272 pages; ISBN 978-9958-720-49-9

The book presents an original effort to summarize the role of academic periodicals and relevant media for communication of scientific knowledge, ideas and new scientific discoveries, various systems of the knowledge classification and categorization, methods for preparation of the papers with scientific and professional aspirations, including insight into the different types of information resources and instruments on access to sources of information in scientific communication. The book is conceptualized upon contemporary knowledge, methods and methodological approaches toward bases of knowledge and new technologies. The book presents a common ground of an interdisciplinary matter in the research in medicine laboratory, clinical and public health fields, integrating two important areas of scientific inquiry—Biomedicine and Humanities by such key words as Bioethics, Bioinformatics, Social Justice and Human Solidarity. All those various types of research could be of benefit to the society and the welfare of the individual in the community by gathering of evidence to improve clinical and public health practices and policies, identification of health problems and/or methods to promote health and prevent disease and disability. The expansion of scientific literature lays the foundation for the future scientific research, health policy and public health practice making the material accessible to all those who are pursuing or planning to carry out research in medicine, biologic and social sciences. Personal well-being, in general, relate to adoption of new knowledge in society, community for creating healthy environment development and improvement of new skills and leading healthy life styles. The book is fulfilling an important gap and dedicated towards improving the rank and relevance of domestic academic periodicals thus hopefully contributing to the general scientific competitiveness, first of all, in Bosnia and Herzegovina, as well as in Southeastern Europe and broader. The publication is a result of a rich scientific knowledge of authors and more than 30-year teaching and research experience in social medicine and public health, community and family medicine at the University in Sarajevo Faculty of Medicine. The 272 pages are distributed in 17 chapters with

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Prof. Dr. Doncho Donev