

# Retrospective Evaluation of Patients Who Leave against Medical Advice in a Tertiary Teaching Care Institute

Nikhil Gautam, J. P. Sharma<sup>1</sup>, Anita Sharma<sup>2</sup>, Vivek Verma, Poonam Arora<sup>1</sup>, Parshotam Lal Gautam<sup>3</sup>

Departments of Anaesthesia, <sup>1</sup>Anaesthesiology and <sup>2</sup>Medicine, HIMs, Swami Rama Himalayan University, Dehradun, Uttarakhand, <sup>3</sup>Department of Critical Care Medicine, Dayanand Medical College and Hospital, Ludhiana, Punjab, India

## Abstract

**Context:** Discharge against medical advice or leave against medical advice (DAMA or LAMA) is a global phenomenon. The magnitude of LAMA phenomenon has a wide geographical variation. LAMA reasons are an area of concern for all involved in health-care delivery system. **Aims and Objectives:** The study aimed to evaluate cases of LAMA retrospectively in a tertiary teaching care institute (1) to find the magnitude of LAMA cases (2) to evaluate demographic and patient characteristics of these cases. **Subjects and Methods:** We screened hospital record of a referral institute over 1 year after approval from IEC and ICMR, New Delhi. Patient demographics and disease characteristics were noted and statistically analyzed after compilation. **Results:** A total of 47,583 patients were admitted in the year 2015 through emergency and outpatient department. One thousand five hundred and fifty-six (3.3%) patients got DAMA. The mean age of patient excluding infants was  $46.64 \pm 20.55$  years. There were 62.9% of males. Average hospital stay of these cases was  $4.09 \pm 4.39$  days. Most of the patients (70%) belonged to medical specialties and had longer stay as compared to surgical specialties. Most of LAMA patients were suffering from infections, trauma, and malignancies. Most of the patients had LAMA from ward (62%) followed by Intensive Care Unit (ICU) (28.8%) and emergency (9.2%). In 592 (38%) of LAMA patients, the reason for leaving was not clear. The common cited reasons for LAMA were financial (27.6%) and poor prognosis (20.5%). **Conclusions:** About 3.3% of patients left hospital against medical advice in our retrospective analysis. Most of these cases did so from ward followed by ICU. Financial reasons and expected poor outcome played a significant role.

**Keywords:** Discharge against medical advice, emergency ward, leave against medical advice

## INTRODUCTION

Discharge against medical advice (DAMA) or left against medical advice is a global phenomenon in the health-care delivery system.<sup>[1-3]</sup> Multiple factors have been thought of and published. There may be regional and other differences in the magnitude and factors leading to leave against medical advice (LAMA) rate which includes social beliefs, social support, belief in alternative therapy and medical facility, demographic and economic constraints, and expected a poor outcome.<sup>[4-7]</sup> DAMA adversely affects the outcome of the disease.<sup>[8,9]</sup>

There is considerable variation in the prevalence rate of LAMA, ranging from 0.002% to more than 45%.<sup>[3,7]</sup> The LAMA rate varies among different hospitals, institutes, and countries due to multiple reasons. Furthermore, some studies have documented a higher rate of LAMA in developing than in developed countries. In India, Naderi *et al.* reported

3.84% incidence of LAMA among patients studied from the emergency department of a private hospital in prospective evaluation over 3 months.<sup>[5]</sup>

Often reasons cited for LAMA are multiple and variable. These include financial constraints, perceived improvement in the clinical state, preference for alternative therapy, levels of trust, and physician communications. There is the difference in reported reasons in developing and developed countries.<sup>[1,5,6]</sup> Researches show that LAMA is associated with higher patients' morbidity and mortality. It could also result in readmission and complications, longer hospital stays, and higher costs of treatment.<sup>[8-11]</sup>

**Address for correspondence:** Dr. Parshotam Lal Gautam, 61, Ashok Vihar, Rishi Nagar, Ludhiana - 141 001, Punjab, India.  
E-mail: parshotamg@yahoo.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**For reprints contact:** reprints@medknow.com

**How to cite this article:** Gautam N, Sharma JP, Sharma A, Verma V, Arora P, Gautam PL. Retrospective evaluation of patients who leave against medical advice in a tertiary teaching care institute. Indian J Crit Care Med 2018;22:591-6.

### Access this article online

#### Quick Response Code:



**Website:**  
www.ijccm.org

**DOI:**  
10.4103/ijccm.IJCCM\_375\_17

Discharge against medical advice is a well-known global problem and the magnitude of problem varies in different parts of world. Frequency of LAMA differs depending upon the type of hospital, region and country. There may be regional and other differences in the magnitude and factors leading to LAMA rate. Although multiple factors have been published, however, there has been sporadic research on contributing factors to LAMA. Most of the research has targeted to alcohol and drug abuse and psychiatric problems. However, to the best of our knowledge, there is no report from our region. Thus, we proposed to evaluate hospital record of our institute retrospectively to find the magnitude of the problem and patient characteristics.

We aimed to evaluate cases of LAMA retrospectively in a tertiary teaching care institute to find the magnitude of LAMA cases and to evaluate the demographic and patient characteristics.

## SUBJECTS AND METHODS

After approval and permission from hospital ethical committee, hospital authorities, and ICMR, New Delhi, this study was carried out in a tertiary care teaching institute of North India. All consecutive patients who had LAMA from institute from January 1, 2015, to December 31, 2015, were included in the study. LAMA files were screened to know data regarding patients' demographics (age, sex, and geographic area), disease characteristics, and hospital stay. Recorded data were tabulated in master chart, statistically analyzed, and compared with published literature. We calculated LAMA rate and its monthly distribution to find seasonal variation. We also tried to find commonplace of hospital from where patient had LAMA. Impact of disease, prognosis, and specialty on LAMA were derived too. A tangential analysis was also done to find the reason for LAMA.

## RESULTS

A total of 47,583 patients were admitted in the year 2015 through emergency and outpatient department in a tertiary care teaching institute over a period of 1 year. Of these, 1556 (3.3%) patients got discharged or left against medical advice in between the course of treatment. Age of LAMA ranged from newborn to 85 years. There were 76 infants including newborns. There were 1470 patients more than 1 year of age. Mean of their age was  $46.64 \pm 20.55$  years. Medical patients were elderly than surgical patients [Tables 1a and b]. There were 979 (62.9%) males and 577 (37.1%) females among total LAMA patients [Table 2]. There were 1091 (70.1%) Hindus, 292 (18.8%) Muslims, and 9 (0.6%) Sikhs [Figure 1]. Education and financial status were not documented in most of the record. Most of the patients belonged to medical specialty. 1089 (70%) LAMA patients were from either medical or its allied specialty. 428 (27.5%) belonged to surgical specialties [Table 3 and Figure 2]. Many of LAMA patients were suffering from infections. 555 (33.7%) had infections. 198 (12.7%) patients had polytrauma. Most of the trauma patients were following motor vehicle accidents.

163 (10.5%) patients had malignancy [Table 4 and Figure 3]. Most of the patients left hospital when they were in the ward. 965 (62%) had DAMA when they were in the ward and 448 (28.8%) had DAMA when they were in Intensive Care Unit (ICU) and 143 (9.2%) left from emergency only [Table 5 and Figure 4]. Average hospital stay who left hospital against advice was  $4.09 \pm 4.39$  days [Table 6 and Figure 5]. Medical patients had longer stay as compared to surgical patients. In 592 (38%) of LAMA patients, reason for leaving was not clear. 430 (27.6%) left hospital because of financial reasons and another 215 (13.8%) refused surgery or admission. 319 (20.5%) got discharged against medical advice because expected poor prognosis [Table 7]. 319 patients were either

**Table 1A: Showing age of LAMA 1470 patients (excluding infants) in year 2015**

	Mean	SD
Age (years)	46.64	20.55
<i>n</i> =1470		

**Table 1B: Showing age comparison of 1556 medical and surgical LAMA patients in year 2015**

	Medical		Surgical		<i>t</i>	Sig. (2-tailed)
	Mean	SD	Mean	SD		
Age (years)	49.31	19.98	41.41	20.45	6.793	0.000
<i>n</i> =1556						

**Table 2: Showing sex ratio of 1556 LAMA patients in year 2015**

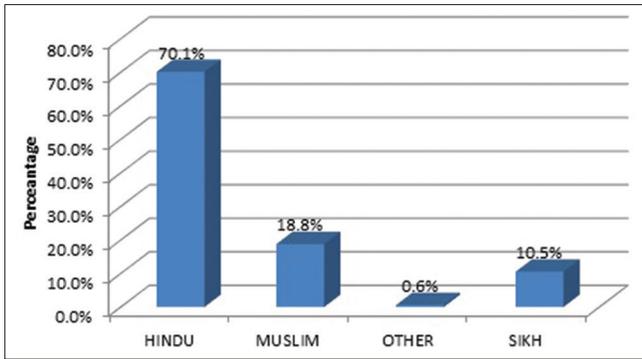
Sex	Frequency	Percent
F	577	37.1%
M	979	62.9%
<i>n</i> =1556		

**Table 3: Showing distribution of broad specialty of LAMA patients in year 2015**

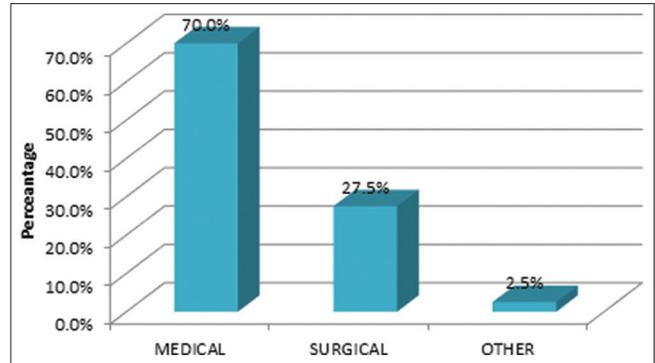
Patient belonged to specialty	Frequency	Percent
Medical	1089	70.0%
Surgical	428	27.5%
OTHER	39	2.5%
Total	1556	100.0%
<i>n</i> =1556		

**Table 4: Showing distribution of disease type among LAMA patients in year 2015**

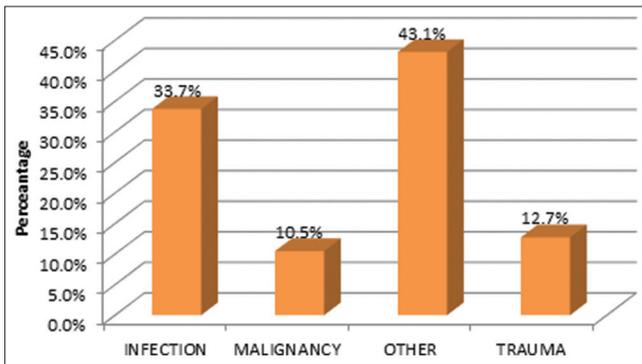
Type of disease	Frequency	Percent
Infection	525	33.7%
Malignancy	163	10.5%
Trauma	198	12.7%
Other	670	43.1%
Total	1556	100.0%
<i>n</i> =1556		



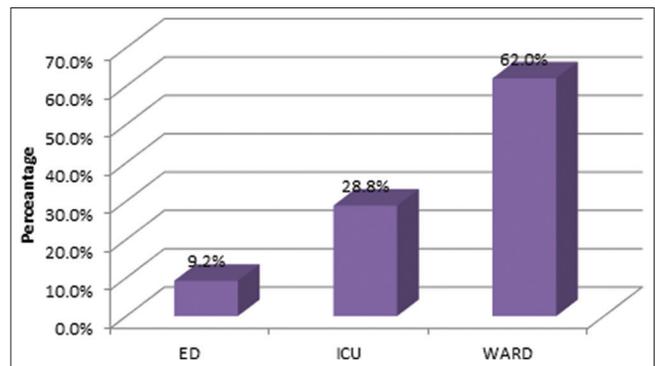
**Figure 1:** Distribution of leave against medical advice patients as per religious background



**Figure 2:** Distribution of leave against medical advice patients according to broad specialty



**Figure 3:** Distribution of disease type among leave against medical advice patients



**Figure 4:** Distribution of hospital place patients when they had leave against medical advice

**Table 5: Showing distribution of hospital place patients when they had LAMA**

Place of patient when had lama	Frequency	Percent
ED	143	9.2%
ICU	448	28.8%
WARD	965	62.0%
Total	1556	100.0%

n=1556

**Table 6: Showing stay distribution among 1556 LAMA patients in year 2015**

	Mean	SD
Hospital stay	4.09	4.398

n=1556

**Table 7: Probable reason for LAMA**

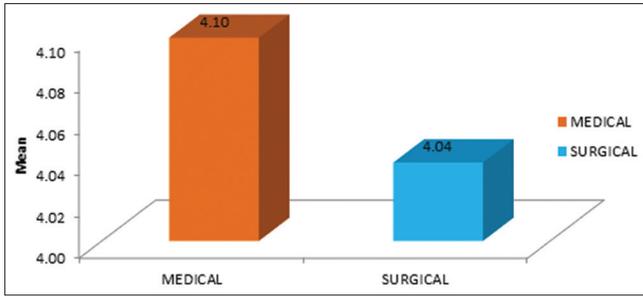
Reasons for lama	Frequency	Percent
Financial	430	27.6%
Poor prognosis	319	20.5%
Refused surgery	215	13.8%
Not known	592	38.0%
Total	1556	100.0%

n=1556

very sick or in advanced disease with expected poor prognosis at the time of discharge. 1196 (76.9%) patients were sick but stable and refused admission or surgery because of their personal or unknown or reasons. Very few patients left because of unavailability of ventilator or ICU bed. There were more patients who left hospital against advice in months of summer as compared in winter. However, percentage to monthly admission rates was nearly similar in all months except January where admission, LAMA, and rate were lesser as compared to the rest of other months [Figure 6].

## DISCUSSION

LAMA or DAMA is a relatively common and global problem, with studies reporting prevalence of about 0.002%–45% worldwide.<sup>[3-7]</sup> In our study, overall rate for LAMA was 3.3% which was similar to what has been reported by Naderi *et al.* from a small survey from ER (Emergency room). Our study had a large sample from indoor patients. There were 62.9% of males and 37.1% of females among total LAMA patients. Our patient population was mix up of medical and surgical patients with medical patients outnumbering the surgical patients. The problem of LAMA has been studied in an array of patients, but most of the literature relates to psychiatric illness or illicit drug abusers,<sup>[7,12]</sup> heart disease,<sup>[13,14]</sup> trauma,<sup>[15,16]</sup> cirrhosis,<sup>[17,18]</sup> pregnant, and postpartum patients.<sup>[19,20]</sup> Some studies believe



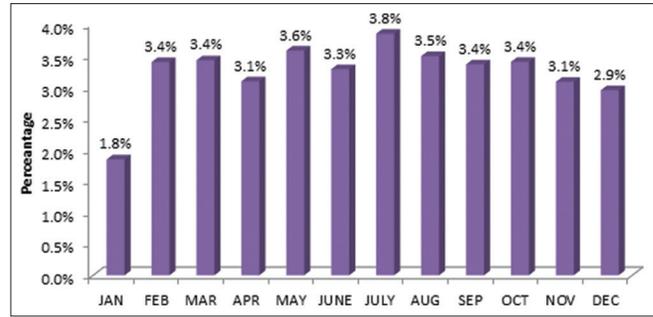
**Figure 5:** Hospital stay comparison among medical and surgical leave against medical advice patients

that the developing countries have higher rate of LAMA.<sup>[4,5,21]</sup> However, in our study, the incidence was similar to the most of the other studies done on mix populations. Disease-specific hospital discharges may be different.

We also studied the effect of religious background on LAMA. The population is mix up in the region so was the distribution of LAMA patients. There were 1091 (70.1%) Hindus, 292 (18.8%) Muslims, and 9 (0.6%) Sikhs. Education and financial status were not documented in the record, so it was not possible to do the analysis. It was difficult to see the impact of education, economic status, and religion because of inadequacy of data. Franks *et al.* reported in his research regarding the impact of race and ethnicity on DAMA that disparities in were largely accounted for by individual and hospital socioeconomic factors. Thus, probably where patients were admitted contribute to disparities in DAMA.<sup>[22]</sup> Some authors also quoted genders, insurance, and disease-specific reasons as the cause of disparity in rate and incidence.<sup>[23,24]</sup>

Most of the patients belonged to medical specialty. 1089 (70%) patients were from either medical or its allied specialty whereas 428 (27.5%) patients belonged to surgical specialties. Many of the LAMA patients were suffering from infections. 55 (33.7%) patients had infection, and only 198 (12.7%) patients had trauma. Most of the trauma patients had motor vehicle accident. 163 (10.5%) patients had malignancy. Most of the studies done earlier have been done in patients admitted in the Emergency Department, but in our study, most of the DAMA patients were from wards and ICUs. 965 (62%) had DAMA when they were in the ward and 448 (28.8%) had DAMA when they were in ICU. Only 143 (9.2%) left against medical advice from emergency.

Reason for LAMA was not clear in 592 (38%) patients, 430 (27.6%) patients left the hospital because of financial reasons, and another 215 (13.8%) refused surgery or admission. It is very difficult to say whether patient population refused surgery or admission because of financial reasons or poor expected prognosis. Another 319 (20.5%) patients got discharged against medical advice because expected poor prognosis. These 319 patients were either very sick or in advanced disease with an expected poor prognosis



**Figure 6:** Monthly relation of leave against medical advice and admissions in the year 2015

at the time of discharge. 1196 (76.9%) patients were stable although sick and included patients who were in the wards. Many of them had documented their personal reasons or unknown reasons. Even it is difficult to believe such reasons as it may be excused to leave. Very few patients left because of unavailability of ventilator or bed in ICU. The reasons for which the patients or their relatives may have decided for DAMA may be multifactorial. Some of the common patient-related factors observed include sociodemographic factors (single, young men lacking social support with financial constraints due to low socioeconomic status, and history of substance abuse or psychiatric disorder), primary diagnosis, treatment history, patient’s behavior and attitude toward treatment, dissatisfaction with the management, patient’s perception that he is better or belief that his illness is terminal, patient not receiving adequate nursing/medical care, not improving, and tired of staying in the hospital, dislike for the hospital, and preference of another hospital or alternative therapy. Factors from health-care provider’s aspect include lack of patient orientation to the treatment, lack of communication and awkwardness in doctor–patient relationship, inadequate staffing, hospital size and set up – urban or rural, and teaching or nonteaching, admission, and discharge policies. Another reason which is often less studied and discussed is that doctors promoting discharge to protect themselves from malpractices. Devitt *et al.* studied this factor and opined that only good clinical practice and thorough documentation remain the best legal protection on the part of the treating physician.<sup>[25]</sup> Discharging a patient against medical advice may provide partial protection, but it is not a royal road to legal immunity.

We tried to study the relationship of seasonal variation on finances and disease pattern also. There were lesser LAMA patients in January to April and November to December although the percentage of admitted patients were constant except in January when there were less number of admissions and the percentage of patients who had LAMA was also minimum.

There were many limitations in our study. Being retrospective, some data were missing. As the results are from a single trust-based and teaching hospital, same results cannot be

applicable to other hospitals such as private and government institutions.

LAMA is an established and global problem, the magnitude and reasons of which vary from country to country, state to state, region to region, and hospital to hospital. Multiple factors have been thought of and published in the literature. In our study, most of patients who had LAMA were either from ward or ICU. Ward patients were stable but left because of refusal to surgery or stay or treatment. ICU patients were expected to have guarded prognosis. Financial reasons do play a significant role. To reduce LAMA rate, it is important to target those individuals with any indication of LAMA during their hospital stay by communicating extensively with respect to all facets of care, while avoiding conflict and providing a caring and accepting environment for the patient.<sup>[26]</sup> A good knowledge of reasons for LAMA and understanding the problem in context to disease, outcome, and socioeconomic status keeping in mind the ethical and legal issues involved in health care can improve the approach to such population.

## CONCLUSIONS

LAMA is an established global problem, the magnitude and reasons of which vary from country to country, state to state, region to region, and hospital to hospital. Multiple factors have been thought of and published in the literature. Leave against medical advice phenomenon is an important issue of concern for the patient, family and involved health care professionals. This problem is a big challenge for health care delivery system and all involved. In our study, most of the patients who had LAMA were either from ward or ICU. Ward patients were stable but left either because of refusal to surgery or treatment. ICU patients were having guarded or poor prognosis. Financial reasons do play a significant role, but it was difficult to evaluate as it was either not declared or known or cited as a reason for LAMA. However, the financial reasons for this LAMA phenomenon are unacceptable in the current medical best practice. Thus, strengthening the Health Insurance Scheme, strict control of traditional medical practices, and focused health education are recommended strategies to reduce LAMA. A good knowledge of reasons for LAMA and understanding the problem in context of disease, outcome, and socioeconomic status keeping in mind the ethical and legal issues involved can create roadmap to address the problem. Skillful communication, flexible policies and procedures, negotiable management option, and good clinical can fix up the problem. Thorough documentation can improve research analysis and constitute the cornerstones of dealing with this problem.

## Financial support and sponsorship

This study was financially supported by ICMR.

## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

- Alfandre DJ. "I'm going home": Discharges against medical advice. *Mayo Clin Proc* 2009;84:255-60.
- Jimoh BM, Anthonia OC, Chinwe I, Oluwafemi A, Ganiyu A, Haroun A, *et al.* Prospective evaluation of cases of discharge against medical advice in Abuja, Nigeria. *ScientificWorldJournal* 2015;2015:314817.
- Eze B, Agu K, Nwosu J. Discharge against medical advice at a tertiary centre in South Eastern Nigeria: Sociodemographic and clinical dimensions. *Patient Intell* 2010;2:27-31.
- Nasir AA, Babalola OM. Clinical spectrum of discharges against medical advice in a developing country. *Indian J Surg* 2008;70:68-72.
- Naderi S, Acerra JR, Bailey K, Mukherji P, Taraphdar T, Mukherjee T, *et al.* Patients in a private hospital in India leave the emergency department against medical advice for financial reasons. *Int J Emerg Med* 2014;7:13.
- Aliyu ZY. Discharge against medical advice: Sociodemographic, clinical and financial perspectives. *Int J Clin Pract* 2002;56:325-7.
- Ti L, Milloy MJ, Buxton J, McNeil R, Dobrer S, Hayashi K, *et al.* Factors associated with leaving hospital against medical advice among people who use illicit drugs in Vancouver, Canada. *PLoS One* 2015;10:e0141594.
- Glasgow JM, Vaughn-Sarrazin M, Kaboli PJ. Leaving against medical advice (AMA): Risk of 30-day mortality and hospital readmission. *J Gen Intern Med* 2010;25:926-9.
- Southern WN, Nahvi S, Arnsten JH. Increased risk of mortality and readmission among patients discharged against medical advice. *Am J Med* 2012;125:594-602.
- Azami-Aghdash S, Abolghasem-Gorji H, Moradi-Joo M, Alamspour H, Royani S. Frequency and causes of discharges against medical advice from hospital cardiac care units of East Azerbaijan, Iran. *J Anal Res Clin Med* 2016;4:90-6.
- Azami-Aghdash S, Mohseni M, Etemadi M, Royani S, Moosavi A, Nakhaee M, *et al.* Prevalence and cause of self-medication in Iran: A systematic review and meta-analysis article. *Iran J Public Health* 2015;44:1580-93.
- Brook M, Hilty DM, Liu W, Hu R, Frye MA. Discharge against medical advice from inpatient psychiatric treatment: A literature review. *Psychiatr Serv* 2006;57:1192-8.
- Mohseni M, Alikhani M, Tourani S, Azami-Aghdash S, Royani S, Moradi-Joo M, *et al.* Rate and causes of discharge against medical advice in Iranian hospitals: A systematic review and meta-analysis. *Iran J Public Health* 2015;44:902-12.
- Manouchehri J, Goodarznejad H, Khoshgoftar Z, Sheikh Fathollahi M, Aghamohammadi Abyaneh M. Discharge against medical advice among inpatients with heart disease in Iran. *J Tehran Heart Cent* 2012;7:72-7.
- El Sayed M, Jabbour E, Maatouk A, Bachir R, Dagher GA. Discharge against medical advice from the emergency department: Results from a tertiary care hospital in Beirut, Lebanon. *Medicine (Baltimore)* 2016;95:e2788.
- Marcoux J, Alkutbi M, Lamoureux J, Feyz M, Saluja RS, de Guise E, *et al.* Discharge against medical advice in traumatic brain injury: Follow-up and readmission rate. *Can J Neurol Sci* 2017;44:311-7.
- Myers RP, Shaheen AA, Hubbard JN, Kaplan GG. Characteristics of patients with cirrhosis who are discharged from the hospital against medical advice. *Clin Gastroenterol Hepatol* 2009;7:786-92.
- Muthusamy AK, Cappell MS, Manickam P, Levine DL. Risk factors for discharge against medical advice in patients with UGI bleeding or abdominal pain: A study of 170 discharges against medical advice among 11,996 emergency department visits. *Minerva Gastroenterol Dietol* 2015;61:185-90.
- Tabatabaei SM, Sargazi Moakhar Z, Behmanesh Pour F, Shaare Mollashahi S, Zaboli M. Hospitalized pregnant women who leave against medical advice: Attributes and reasons. *Matern Child Health J* 2016;20:128-38.
- Fiscella K, Meldrum S, Franks P. Post partum discharge against medical advice: Who leaves and does it matter? *Matern Child Health J*

- 2007;11:431-6.
21. Shirani F, Jalili M, Asl-E-Soleimani H. Discharge against medical advice from emergency department: Results from a tertiary care hospital in Tehran, Iran. *Eur J Emerg Med* 2010;17:318-21.
  22. Franks P, Meldrum S, Fiscella K. Discharges against medical advice: Are race/ethnicity predictors? *J Gen Intern Med* 2006;21:955-60.
  23. Smith DB, Telles JL. Discharges against medical advice at regional acute care hospitals. *Am J Public Health* 1991;81:212-5.
  24. Ibrahim SA, Kwok CK, Krishnan E. Factors associated with patients who leave acute-care hospitals against medical advice. *Am J Public Health* 2007;97:2204-8.
  25. Devitt PJ, Devitt AC, Dewan M. An examination of whether discharging patients against medical advice protects physicians from malpractice charges. *Psychiatr Serv* 2000;51:899-902.
  26. Ayed IA. What makes patients leave against medical advice? *J Taibah Univ Med Sci* 2009;4:16-22.