

A Cross-Sectional Study on the Correlates of Discharge against Medical Advice in a Multispecialty Tertiary Care Hospital in Kolkata

Manasij Mitra¹, Maitraye Basu², Amrita Roy³, Priya Srivastav⁴, Rupali Bhattacharya⁴

¹Associate Professor, Department of Anesthesiology, MGM Medical College and LSK Hospital, Kishanganj.

²DGM, Quality Assurance, Apollo Gleneagles Hospitals, Kolkata

³Asst. Manager, Quality Assurance, Apollo Gleneagles Hospitals, Kolkata

⁴Manager, Quality Assurance, Apollo Gleneagles Hospitals, Kolkata

⁵Executive, Medical Records, Apollo Gleneagles Hospitals, Kolkata

Corresponding Author: Maitraye Basu

ABSTRACT

Patients taking Discharge Against Medical Advice have an increased risk of hospital readmission, morbidity, mortality, which leads to increase in healthcare costs and puts an undue burden on the healthcare system due to an inadequately treated initial condition.

Studies on the incidence, predictors and outcomes of DAMA have been limited in Indian settings. Studying the correlates of DAMA can help in interventions with an aim to reduce the rate of DAMA, increase patient satisfaction, and improve the quality of patient care and services provided at the hospital.

Materials and Methodology: This study was a retrospective cross-sectional study and was carried out in a 700 bed multi-speciality tertiary care hospital in Kolkata from January 2018 to October 2019. From, 68,010 patients admitted in the hospital during the said period, 2028 patients took DAMA.

Data for the study was collated and entered into SPSS-v19 software.

Frequencies and percentages were used to report the results of the descriptive statistics. Chi-square test was used to determine whether there was any significant association between the categorical variables. Statistical significance was defined by a P value ≤ 0.05 . To determine the factors affecting the DAMA further, logistic regression was also used.

Results: From a total of 2028 cases who took discharge against medical advice, full data was available for 1807 cases from the Discharge Against Medical Advice Consent Form and follow-up phone calls to the patient or next of kin. The DAMA rate in the hospital was 2.98%. Logistic regression was significant for male sex (P value=0.000), area of residence from

adjoining districts of the city (P value=0.000), type of admission as emergency (P value=0.000), unstable condition at time of taking DAMA (P value=0.000), conservative treatment line (P value=0.000) and length of stay ≤ 5 days (P value=0.000).

The highest DAMA cases are from the Critical care unit 52.74%, from the General ward 36.25%, from the Emergency and High end wards like single rooms and twin sharing rooms 5.42% each and a nominal 0.17% from the Day care unit.

44.86% DAMA patients were taken home, 42.75% were taken to a low cost set up, while only 12.39% were taken to an equivalent setup.

Discussion: The DAMA rate as observed in this study is in consonance with many studies while other studies have reported much higher DAMA rates.

Our findings are in consonance to the findings of DAMA studies done in the developing countries where financial reasons were the more common causes for DAMA. However, personal problems also played a role in the reason for taking DAMA.

Therefore, combinations of economic, psychological and logistic factors lead patients and their next of kins to premature discharge against the advice of the treating physician.

Conclusion: Discharge Against Medical Advice from private hospitals is a problem in the Indian healthcare scenario. Considering the importance of DAMA and the negative consequences it can have, it is recommended that practical measures like financial counseling at the time of admission, providing assistance for patients in need, mitigating the accommodation problems, dedicating single points of contacts for patients to address their problems and help them liaison as and when required can reduce DAMA.

Further studies on broader and mixed hospital settings will be beneficial in framing concrete policies not only at the unit levels but also at the public level to address the issue of Discharge Against Medical Advice.

Keywords: Discharge Against Medical Advice, next of kin, correlates, area of residence, condition at the time of discharge, financial constraints.

INTRODUCTION

Discharge against medical advice (DAMA), is a term used in health care institutions when a patient leaves a hospital against the advice of the treating physician. [1,2]

Leaving without fulfilling the discharge criteria is fraught with its own risks. On the contrary there are widespread ethical and legal consensus that competent patients (or their authorized surrogates) are entitled to decline recommended treatment. [3]

As per available data patients taking DAMA have an increased risk of hospital readmission, morbidity, mortality, leading to increase in healthcare costs and putting an undue burden on the healthcare system due to an inadequately treated initial condition. [4-6]

This could be due to deterioration in the patient's condition at home or cessation of the treatment before stabilization of his/her health condition. [7]

There is limited research in this domain in the international arena. Some studies have been done which have attempted to identify patient risk factors in order to develop interventions to reduce the likelihood of DAMA, however, scopes exist for more research to understand this practice and intervene effectively. [8,9]

Despite the unfavorable consequences of DAMA, it is one of the most common problems in the health system. Several factors like demographic, social and clinical factors may be responsible for this phenomenon. The percentage of patients who take DAMA, due to various reasons is variable. So also,

the DAMA rate has been widely variable from 0.3% to 26% depending on the nature of the healthcare institutions, public or private hospital and also on the types of patients studied like alcoholics, drug addicts, patients with mental health problems. [10-13]

The rate is also more in developing countries compared to developed countries. [14, 15]

Several variables reviewed through studies done in USA, Canada, Iran, Tehran have revealed young age group, male patients, having lack of health insurance, drug and alcohol addiction, mental health problems, dissatisfaction with the care received, financial problems, not achieving a satisfactory result to treatment as predictors of DAMA. [16-20]

India, being one of the most populous countries in the world with a population of 1.32 billion and a rapidly growing economy has carved its presence in the global marketplace. Though the country has made progress in its expenditures on healthcare with total expenditure on health per capita increasing from \$132 to \$267 and the gross national income per capita increasing from \$2,930 to \$5,350, there are still scopes of improvement in the healthcare sector in the country. [21,22] Added to this is the emerging burden of non-communicable diseases associated with the lifestyle changes and improved standards of living which are adding to the existing burden of communicable diseases. [23] In addition, wide variability in wealth distribution, demographics, health policies, health being a state subject also influences access to health care in the country. [24]

The health care system in India is a complex integration of the public health system, private hospitals, and alternative medicine practitioners. Though, India is set to increase its public health spending to 2.5 per cent of its Gross Domestic Product (GDP) by 2025 as declared, as per the World Health Organization and the World Bank, its public health spending currently constitutes only 1 per cent of the GDP. The

individual out of pocket expenditure for healthcare nationwide is approximately 70-80 per cent. [25]

Despite plans to upgrade the public healthcare facilities, the public health system is perceived to be poorly equipped to provide quality care. Moreover, availability of staff, equipment, and drugs varies significantly between and within states, forcing patients to seek care in the more expensive private sector. [26,27]

Studies on the incidence, predictors and outcomes of DAMA have been limited in Indian settings. DAMA patients are usually excluded from analysis of research studies and quality audits such as calculation of Standardized Mortality Ratios, Unplanned returns to ICU or Readmission Rates.

The constitution of the Indian healthcare system, together with the scarcity of data on DAMA cases in our healthcare settings points towards a strong rationale for such studies. Studying the correlates of DAMA can help in interventions with an aim to reduce the rate of DAMA, increase patient satisfaction, and improve the quality of patient care and services provided at the hospital. [28]

Thus, the aim of this study was to investigate the DAMA in patients in Apollo Gleneagles Hospitals, Kolkata as well as determining its reasons and associated predictors.

MATERIALS AND METHODS

This study was a retrospective cross-sectional study and was carried out in a 700 bed multi-specialty tertiary care hospital in Kolkata from January 2018 to October 2019. The hospital recorded an occupancy of 78.93% during the said period. All the patients admitted during the said period and subsequently took Discharge Against Medical Advice (DAMA) were considered in the sample frame of the study. Patients who were advised admission from the Emergency or Out Patient Department but refused admission and left were not

considered in the study. From, 68,010 patients admitted in the hospital during the said period, 2028 patients took DAMA.

As per the hospital policy, a patient may take discharge against medical advice. If a patient desires to take discharge against medical advice, the primary physician is notified, and the patient or the next of kin is asked to sign a Discharge Against Medical Advice Consent Form. The form is attached to the patient's medical record which is sent for further processing to the Medical Records Department.

Patients or the next of kin are informed of the medical risk of inadequate treatment which will result from discharge against medical advice. All components of the discharge process is followed for patients taking Discharge Against Medical Advice. Reasons for discharge against medical advice are documented in the Discharge Against Medical Advice Consent Form.

The hospital through the Medical Records Department attempts to follow up the patient within 72 hours of taking DAMA by telephonically contacting the patient or the next of kin and documenting the progress of the patient.

Statistical Analysis

Data for the study was collated and entered into SPSS-v19 software. Frequencies and percentages were used to report the results of the descriptive statistics. Chi-square test was used to determine whether there was any significant association between the categorical variables. Statistical significance was defined by a P value ≤ 0.05 . To determine the factors affecting the DAMA further, logistic regression was also used.

RESULTS

From a total of 2028 cases who took discharge against medical advice, full data was available for 1807 cases from the Discharge Against Medical Advice Consent Form and follow-up phone calls to the

patient or next of kin. The DAMA rate in the hospital was 2.98%.

mean age of the DAMA cases was 48.41 years (standard deviation ± 23.58).

The Age-Sex wise distribution of the DAMA cases is depicted in Figure 1. The

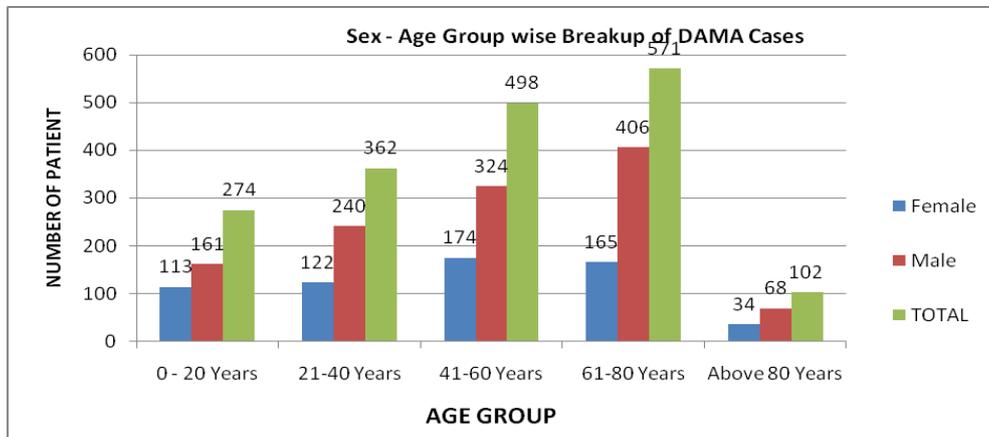


Figure 1

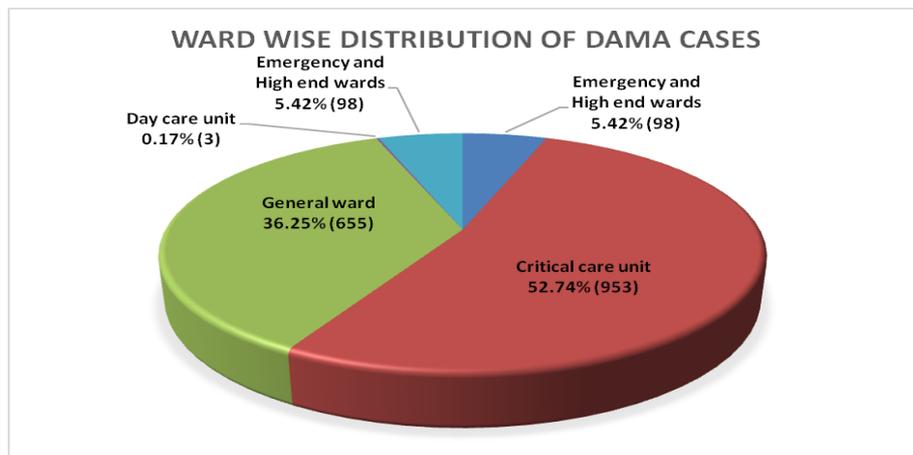


Figure 2: Ward wise distribution of DAMA Cases.

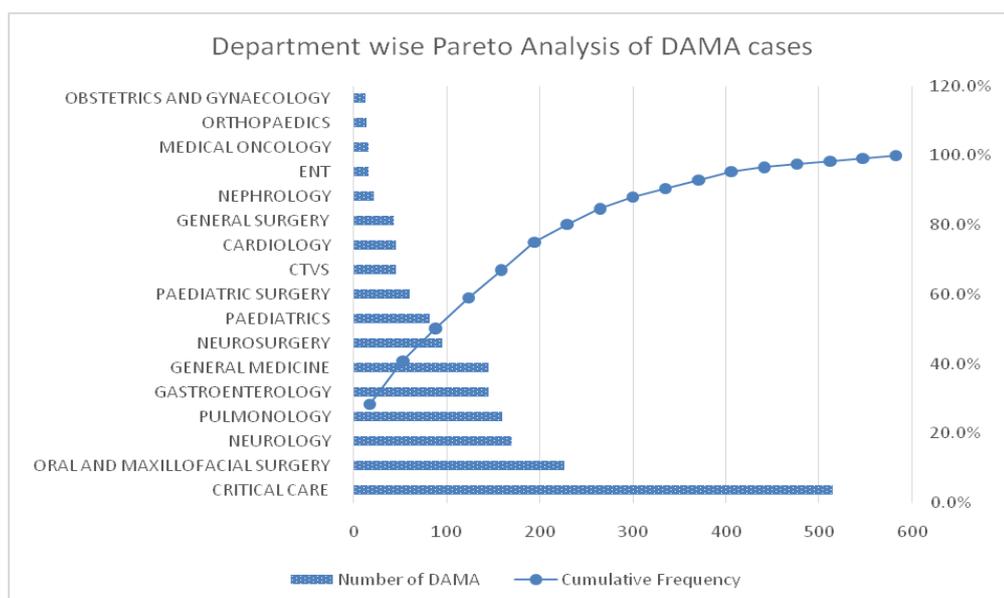


Figure 3

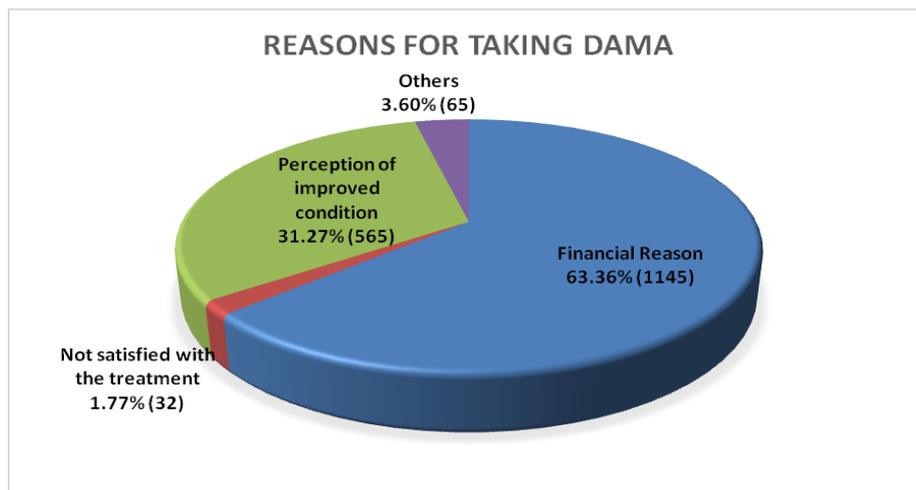


Figure 4: Reasons for taking DAMA.

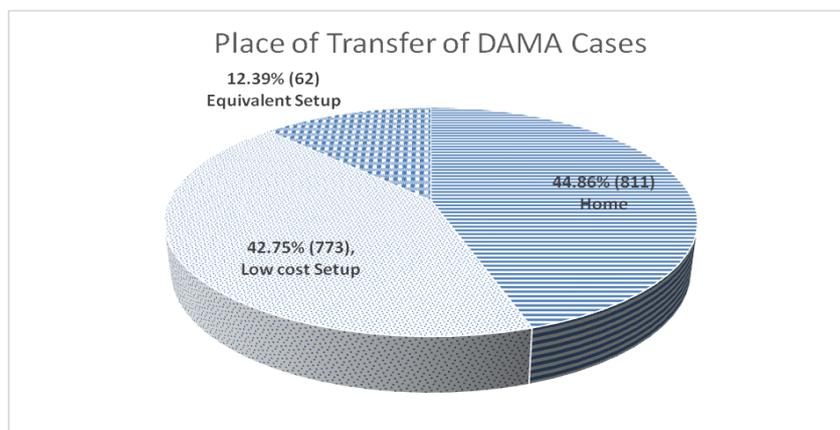


Figure 5: Place of Transfer of DAMA Cases.

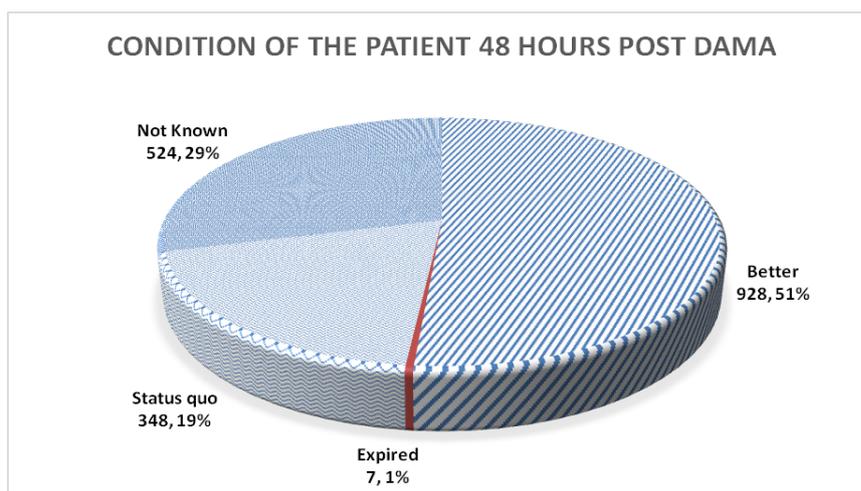


Figure 6: Condition of the patients 48 hours post DAMA.

Patients coming from adjoining districts of the city (1153, 63.81%) were more likely to take DAMA than patients hailing from Kolkata or other states of India

or outside country (644, 36.19% and this difference was statistically significant (P value=0.000).

Patients having emergency admissions (1416, 78.36%) were more likely to take DAMA than patients with planned admissions (391, 21.64%) and this difference was statistically significant (P value=0.000). The odds in favor of taking DAMA was 3.62 times more in patients having emergency admissions than patients with planned admissions.

Patients having unstable clinical condition (1134, 62.76%) at the time of taking DAMA were more likely to take DAMA than patients with stable clinical condition (673, 37.24%) and this difference was statistically significant (P value=0.000). The odds in favor of taking DAMA for patients having unstable clinical condition at the time of DAMA was 1.68 times more than patients with stable clinical condition at the time of DAMA.

Patients with proposed conservative treatment line (1732, 95.85%) were more likely to take DAMA than patients with proposed surgical treatment line (75, 4.15%) and this difference was statistically significant (P value=0.000).

Patients with Length of Stay (LOS) ≤ 5 days (1187, 65.69%) were more likely to take DAMA than patients staying > 5 days (620, 34.31%) and this difference was statistically significant (P value=0.000). The average length of stay of the DAMA cases was 4.97 days (standard deviation ± 4.09).

Ward wise distribution of DAMA cases is depicted in Figure 2. The highest DAMA cases are from the Critical care unit 52.74%, from the General ward 36.25%, from the Emergency and High end wards like single rooms and twin sharing rooms 5.42% each and a nominal 0.17% from the Day care unit.

Department wise Pareto analysis of DAMA cases revealed that, 28.4% cases were from the Critical Care Unit, 12.5% were from the Oral and Maxillofacial Surgery department, 9.3% were from Neurology, 8.8% from Pulmonology, 8.0% each from Gastroenterology and General Medicine and 5.2% from Neurosurgery followed by other departments as depicted

in Figure 3. These departments mentioned above cumulatively contributed to 80.2% of the DAMA cases.

The reasons for taking DAMA have been depicted in Figure 4. 63.36% cited the reason for DAMA as financial, for 31.27% the reason for DAMA was the perception of improved condition of the patient not requiring further hospital care, 1.77% were not satisfied with the treatment making them take DAMA and for 3.60%, the reasons were like distance from home and personal problems at home which made them go for DAMA.

The place of transfer of the DAMA cases has been depicted in Figure 5. 44.86% DAMA patients were taken home, 42.75% were taken to a low cost set up, while only 12.39% were taken to an equivalent setup.

The Condition of the DAMA cases 48 hours post DAMA depicted in Figure 6 revealed 51% were Better, 29% were not known, 19% were status quo and 1% expired.

DISCUSSIONS

The DAMA rate in the hospital was 2.98%. Studies have revealed wide variations in the DAMA rate depending on the region, healthcare infrastructure, type of hospital settings and the study population. The DAMA rate as observed in this study is in consonance with many studies while other studies have reported much higher DAMA rates. [29,30]

We did not find any association between age and DAMA cases in our hospital settings. In our study DAMA cases were maximum (571, 31.6%) in the age group of 61-80 years followed by (498, 27.56%) in age group of 41-60 years. Most studies on DAMA indicate that the phenomenon of DAMA is common in the middle age groups from 30-60 years. [31,32] This difference may be due to difference in selection bias as most of these studies were based on the perceptions of physicians and included patients with trauma or illicit drug use.

In our study, we observed that male patients were more likely to take DAMA. This is in consonance to some studies while there are studies on the contrary which showed that DAMA rates were higher in females. [26, 33] Also, there are studies which have shown that there was no gender bias related to DAMA. [34]

In consonance with other studies, we found that patients were more likely to have DAMA within the first 5 days of admission. This points out to the tendency to seek care in a different low cost medical setting or at home which may be provoked by financial constraints. Similar observations have been cited in other studies. [34]

Patients having emergency admissions, patients having unstable conditions at the time of DAMA and patients coming from adjoining districts were more prone to DAMA as seen in our study. These could be linked to the desperate attempt of bringing patients to a multispecialty tertiary care hospital in an emergency situation to avail quality care and later being unable to pull through the expenses taking DAMA and transfer to a low cost setting or home. Financial constraints and loss of hope for improvement may provoke next of kins to take DAMA to a low cost setting or home for patients whose conditions remained status quo or deteriorated even after treatment in a multispecialty tertiary care hospital. Personal problems like distance from home and difficulties for next of kins to continue treatment away from home may be reasons for more DAMA in patients coming from adjoining districts of the city. This part of the research findings is consistent with the results of studies on the impact of distance on tendency for DAMA. [26, 35]

The highest number of DAMA cases from the critical care units (52.74%), followed by the general wards (36.25%) also points out to the financial cause and perception of non response to treatment and no or unsatisfactory improvement in clinical

condition despite treatment in a multispecialty tertiary care hospital.

Among the reasons cited for DAMA, for 63.36% the cause was financial and for 31.27% the cause was the perception of improved condition of the patient not requiring further hospital care. In our study population only 1.77% cited dissatisfaction with treatment as the cause of DAMA. This was in consonance to the findings in the developing countries where financial reasons were more common. [35,36]

Therefore, combinations of economic, psychological and logistic factors lead patients and their next of kins to premature discharge against the advice of the treating physician.

The reasons of DAMA differ greatly depending on the socio-economic milieu, provisions of healthcare in a country like publicly or privately provided and publicly or privately funded and percentage of population having health insurance. [26,37] DAMA being a complex issue, solutions must be sought considering sociocultural, economic and environmental background. [38,39]

The findings from the study on the correlates of DAMA can be used to formulate targeted interventions which will reduce DAMA rates and make patients be more satisfied.

CONCLUSIONS

Discharge Against Medical Advice from private hospitals is a problem in the Indian healthcare scenario. The logistic regression model showed that sex, area of residence, condition at the time of taking DAMA were predictors of DAMA. DAMA took place mostly within the first 5 days of admission. Considering the importance of DAMA and the negative consequences it can have, it is recommended that practical measures like financial counseling at the time of admission, providing assistance for patients in need, mitigating the accommodation and logistic problems for patients or next of kins residing outside Kolkata, dedicating single points of contacts

for patients to address their problems and help them liaison as and when required can reduce DAMA.

Further studies on broader and mixed hospital settings will be beneficial in framing concrete policies not only at the unit levels but also at the public level to address the issue of Discharge Against Medical Advice.

Limitations of the Study

The study did not consider patients who were advised admission from the Emergency or Out Patient Department but refused admission and left the hospital.

This study looked into the follow up within just 48 hours of taking DAMA. Hence readmissions and outcomes of DAMA beyond 48 hours could not be tracked.

This being a retrospective study, the independent variables were predefined based on the standard proforma of maintaining the DAMA records in the hospital.

The study was done in a multispecialty tertiary care hospital and the findings may not be applicable in other settings.

Conflict of Interest: The authors declare there is no conflict of interest.

REFERENCES

1. Alfandre, D. "I'm going home": discharges against medical advice. *Mayo Clin Proc.* 2009 Mar;84(3):255-60
2. Nurse's Legal Handbook. Lippincott Williams & Wilkins. 2004. ISBN 978-1582552804
3. Miller, Robert (2006). *Problems in Health Care Law*. Jones & Bartlett Pub. ISBN 978-0763745554.
4. Hwang SW, Li J, Gupta R, Chien V, Martin RE. What happens to patients who leave hospital against medical advice? *CMAJ.* 2003;168(4):417-20.
5. Querques J, Kontos N, Freudenreich O. Discharges against medical advice. *JAMA.* 2014 May 7; 311(17):1807-8.
6. 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(9):926-9
7. Southern WN, Nahvi S, Arnsten JH. Increased risk of mortality and readmission among patients discharged against medical advice. *Am J Med.* 2012;125(6):594-602. doi: 10.1016/j.amjmed.2011.12.017.
8. Alfandre, D. Reconsidering Against Medical Advice Discharges: Embracing Patient-Centeredness to Promote High Quality Care and a Renewed Research Agenda. *J Gen Intern Med.* 2013 Jul 2
9. Pfuntner A., Wier L.M., Elixhauser A. Overview of Hospital Stays in the United States, 2011. HCUP Statistical Brief #166. November 2013. Agency for Healthcare Research and Quality, Rockville, MD.
10. The impact of leaving against medical advice on hospital resource utilization. Saitz R, Ghali WA, Moskowitz MA *J Gen Intern Med.* 2000 Feb; 15(2):103-7.
11. Alfandre DJ. *Mayo Clin Proc.* 3. Vol. 84. Elsevier; 2009. "I'm going home": discharges against medical advice; pp. 255-60.
12. Duñó R, Pousa E, Sans J, Tolosa C, Ruiz A. Discharge against medical advice at a general hospital in Catalonia. *Gen Hosp Psychiatry.* 2003;25(1):46-50. doi: 10.1016/s0163-8343(02)00253-0.
13. Lorenzi E, Da Cas R, Lorenzoni L, Massaria G, Aparo U. [Characteristics of voluntarily discharged patients: some reflections and a proposal]. *Ann Ig.* 2000;12(6):513-21.
14. Discharge of hospitalized under-fives against medical advice in Benin City, Nigeria. OnyiriukaAN Niger *J ClinPract.* 2007 Sep; 10(3):200-4.
15. Alebiosu C, Raimi T. A study of hospital patients' discharge against medical advice in the Ogun State University Teaching Hospital, Sagamu, Nigeria. *Nigeria Medical Practitioner.* 2001;40:33-5.
16. Tawk R, Freels S, Mullner R. Associations of mental, and medical illnesses with against medical advice discharges: the National Hospital Discharge Survey, 1988-2006. *Adm Policy Ment Health.* 2013 Mar; 40(2):124-32.
17. Ibrahim SA, Kwoh CK, Krishnan E. Factors associated with patients who leave acute-care hospitals against medical advice. *Am J Public Health.* 2007 Dec; 97(12):2204-8.
18. Saitz R, Ghali WA, Moskowitz MA. The impact of leaving against medical advice on hospital resource utilization. *J Gen Intern Med.* 2000 Feb; 15(2):103-7.
19. Eze B, Agu K, Nwosu J. Discharge against medical advice at a tertiary center in southeastern Nigeria: sociodemographic and clinical dimensions. *Patient Int.* 2010;2:27-31. doi: 10.2147/pi.s11337.
20. Roodpeyma S, Hoseyni SA. Discharge of children from hospital against medical advice. *World J Pediatr.* 2010 Nov; 6(4):353-6.
21. World Health Organization: India. [<http://www.who.int/countries/ind/en/>]. Last accessed 7 December 2019.

22. World Health Organization: Country Cooperation Strategy at a glance: India. [http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_ind_en.pdf?ua=1]. Last accessed 7 December 2019.
23. Subhan I, Jain A: Emergency care in India: the building blocks. *Int J Emerg Med* 2010, 3:207–211.
24. USAID: Private Health Insurance in India: promise & reality. [http://pdf.usaid.gov/pdf_docs/pnad1304.pdf]. Last accessed 3 December 2019.
25. Out-of-pocket-expenditure (% of current health expenditure). [<https://data.worldbank.org/indicator/SH.XPD.OOPC.CH.ZS>]. Last accessed 12 December 2019.
26. Naderi et al.: Patients in a private hospital in India leave the emergency department against medical advice for financial reasons. *International Journal of Emergency Medicine* 2014 7:13.
27. Ministry of Health and Family Welfare, National Health Mission, Indian Public Health Standards, 2013; accessed Oct. 13, 2016.
28. Ramakrishnan N, Ranganathan L, Abraham BK, Rajagopalan S, Venkataraman R. What Happens to Patients Discharged Against Medical Advice?. *Indian J Crit Care Med*. 2018;22(8):580–584. doi:10.4103/ijccm.IJCCM_101_18.
29. Dubow D, Propp D, Narasimham K: Emergency department discharges against medical advice. *J Emerg Med*. 1992;10:513-6 2.
30. Aliyu ZY. “Discharge against medical advice: socio demographic, clinical and financial perspectives,” *International Journal of Clinical Practice*. 2002;56:325-7.
31. 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 *The Scientific World Journal*. 2015;314817.
32. 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* 10(10): e0141594. 12.
33. Duno R, Pousa E, Sans J, Tolosa C, Ruiz A. Discharge against medical advice at a general hospital in Catalonia. *Gen Hosp Psychiatry*. 2003;25:46-50
34. Paul G, Gautam PL et al. Patients Leaving Against Medical Advice—A National Survey. *Indian J of Crit Care Med* 2019;23(3):143-148.
35. Wright L. “They just don’t like to wait”—A comparative study of Aboriginal and non-Aboriginal people who did not wait for treatment or discharged against medical advice from rural emergency departments: Part 1. *Australasian Emergency Nursing Journal*. 2009;12(3):78–85. doi: 10.1016/j.aenj.2009.05.005.
36. Katzenellenbogen JM, Sanfilippo FM, Hobbs MS, Knuiman MW, Bessarab D, Durey A, et al. Voting with their feet—predictors of discharge against medical advice in Aboriginal and non-Aboriginal ischaemic heart disease inpatients in Western Australia: an analytic study using data linkage. *BMC Health Serv Res*. 2013;13:330. doi: 10.1186/1472-6963-13-330.
37. Ingram C, Wessel J, Courneya KS. Women’s perceptions of home-based exercise performed during adjuvant chemotherapy for breast cancer. *European Journal of Oncology Nursing*. 2010;14(3):238–43. doi: 10.1016/j.ejon.2010.01.027.
38. BhanuDevpura, Pranav Bhadesia, SomashekharNimbalkar, Sandeep Desai, and Ajay Phatak, “Discharge against Medical Advice at Neonatal Intensive Care Unit in Gujarat, India,” *International Journal of Pediatrics*, vol. 2016, Article ID 1897039, 8 pages, 2016. <https://doi.org/10.1155/2016/1897039>.
39. M. Mohseni, M. Alikhani, S. Tourani, S. Azami-Aghdash, S. Royani, and M. Moradi-Joo, “Rate and causes of discharge against medical advice in Iranian hospitals: a systematic review and meta-analysis,” *Iranian Journal of Public Health*, vol. 44, no. 7, pp. 902–912, 2015.

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