Original Article :

Reasons for leaving against medical advice (LAMA) in the emergency department of a tertiary care hospital: a cross-sectional study

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Abstract

Background and Aims:
Objective: To identify the common reasons for leaving against the medical advice (LAMA) and the rate of going to another hospital or admission for the same complaint within 24 hours after LAMA.

Methods:
This is a cross-sectional study using a telephone interview. The study population is patients who left against medical advice between January 1st, 2022, and December 31st, 2022, in the emergency department at King Khaled University Hospital in Riyadh, Saudi Arabia.

Result:
The top three reasons for LAMA: long waiting time (40.2%); the patient's condition improved and there is no need to stay (32.5%): and not satisfied with the quality of the service provided (20.1%). 43.3% went to another hospital for the same condition. 20.6% were admitted to a hospital after LAMA.

Conclusion:
This study shed light on the most common reasons for LAMA in the emergency room as well as identifying the rate of LAMA patients who went to another hospital and/or were admitted. Our findings provide valuable and new information regarding LAMA in the emergency department that would inform the healthcare authorities to develop and implement policies that will reduce the occurrence of LAMA.

Keywords:
LAMA; DAMA; leaving against medical advice; emergency department; prevalence; reasons; discharged against medical advice

Introduction:

In medical institutions, Against Medical Advice (AMA) happens when a patient departs a hospital against their doctor's advice [1,2]. Discharge Against Medical Advice (DAMA) and Left Against Medical Advice (LAMA) are terms used to describe such patients. DAMA happens when a patient decides to discharge themselves against the recommendation and advice of their treating physician. LAMA refers to a condition where a patient physically leaves the hospital site against the advice and recommendation of their treating physician. While DAMA patients sign a formal discharge summary acknowledging the dangerous possibilities of being released from the hospital, LAMA patients include those who leave without signing these documents. Healthcare organizations constantly seek ways to reduce LAMA because of its potential negative effects on the patient's health and the resources of the health system [3-8]. Despite the efforts of health organizations to decrease this phenomenon, LAMA is still a persistent issue worldwide [9] with its prevalence in different parts of the world ranging from 1% to as high as 25.85% [10-13]. In the Emergency Department (ED), LAMA is especially concerning where patients are assumed to be at a severe risk of developing adverse health outcomes because of leaving too soon [14,15]. A study in the Kingdom of Saudi Arabia (KSA) found that the LAMA rate in the ED was close to 1% [16] while globally, it ranged from 0.1% to 20%[17-22]. An understanding of the reasons for LAMA is very important to establish appropriate strategies needed for healthcare professionals to address the issue. Previous studies found that some of the reasons for the patients' departure included a perceived condition improvement, the long waiting time, financial and communication problems, dissatisfaction with treatment and the desire to seek a second opinion [23-28]. In KSA, a study investigated the reasons for LAMA among paediatric patients and found that these included mainly the parent's incorrect belief that their child's condition had improved, dissatisfaction with the health provider, and family obligations at home [29]. Another research explored the issue among adult patients in the ED and the responses stated that this had to do with their knowledge about health, self-diagnosing, their condition not being clearly explained to them, lengthy waiting times, and communication problems [30].

This study set out to identify the common reasons for LAMA from the patients' perspectives. It also tries to identify the rate of admission for the same complaint within [24] hours after LAMA. The findings of this study should add valuable insights into the factors contributing to LAMA in the

ED and should enable decision makers to develop strategies to appropriately address this phenomenon.

Methods:

Study design:

This is a cross-sectional single-centre study. Data was collected using landline to conduct telephone interviews during June 2023. One interviewer conducted a structured interview format using a clear and standardized procedure to ensure that the interview remained consistent regardless of who the respondent is, allowing analysis to focus solely on response differences. The questionnaire was reviewed and validated by two senior faculty members based on criteria concerning face and content validity. The face validity evaluated the appearance of the questionnaire in terms of relevance, feasibility, and readability. The content validity involved exhaustive literature reviews to extract the related items that would be essential to answer the research questions. The interview questions included demographic and LAMA related questions. The demographic data examined participants characteristics of sex, age, and whether they had a private health insurance. In the second part of the interview, the participants were asked to select from a list of eleven reasons, to indicate those that prompted them to leave. They were also allowed to add their own reasons if they were not reflected on the list. After extensive literature review of potential reasons for LAMA. In addition, the participants were asked about their length of stay in the ED before LAMA, whether the patient went to another hospital after LAMA for the same complaint within 24 hours, and whether the patient was admitted in the hospital and for how long.

Study population and sample:

The study population were patients who left against medical advice post-triage between January 1st, 2022, and December 31st, 2022. In the hospital where this study was conducted, triage referred to when the patients were registered at the front desk and given a triage acuity level based on their complaint, ranging from level 1 (life-threatening) to level 5 (non-urgent). A list of all patients who left against medical advice post-triage during the study period was generated from hospital's electronic system and included in this study. Out of the 164,447 patients who came to the ED during the study period, 1,545 left against medical advice post-triage (0.9%). A convenience sampling method was used to collect the study data from the study population, of which 194 approved to participate in the study, making the response rate 12.5% (194 out of 1545).

Study setting:

This study was conducted in the Emer-

gency Department (ED) at King Khaled University Hospital (KKUH), a university teaching hospital that provides specialty care in Riyadh, KSA. The ED at KKUH has about 140,000 to 150,000 ED patient visits per year and manages approximately 383 to 410 admitted cases per day.

Statistical analysis:

Descriptive analysis was performed to identify the sample demographic characteristics. Descriptive analysis was also used to identify the most common reasons for LAMA and the proportion of patients who visited another hospital or were admitted after LAMA for the same complaint within 24 hours. The descriptive analysis includes summary of frequencies and percentages of the participants' responses to the research questions. This descriptive analysis provides summary of data to provide meaningful insights and a comprehensive understanding into the common reasons for LAMA from the patients' perspectives as well as identifying the rate of admission for the same complaint within 24 hours after LAMA.

Ethical approval:

Ethical approval was obtained by King Khaled University Hospital Institutional Review Board (IRB) number KSU-HE-23-376 and was conducted in accordance with the Declaration of Helsinki. The participants were assured that their participation in the study was voluntary, and the confidentiality of their information was protected. Informed oral consent was obtained from the participants and from the parent if the patient was a child. The consents were obtained verbally at the beginning of the interview when the investigator explained to the participants that agreeing to participate in the study is considered providing consent which they agreed to and their agreement to participate was documented.

Results:

A total of 194 LAMA patients participated in the study with almost half (57.7%) being males and a little over a third (36.1%) being younger than 14 years. Demographic details of the sample are found in Table 1.

Table 1 sample characteristics (n = 194):

Characteristic	Frequency	(%) Percentage
Age		
or less 14	70	36.1
15-18	8	4.1
19-29	26	13.4
30-39	29	14.9
40-49	20	10.3
50-59	18	9.3
60-69	9	4.6
or more 70	14	7.2
Sex		
Male	112	57.7
Female	82	42.3
Private Health Insurance		
Yes	23	11.9
No	171	88.1
Waiting time		
Less than 1 hour	35	18.0
.to <2 hrs 1	20	10.3

.to <3 hrs 2	22	11.3
.to <4 hrs 3	12	6.2
.to <6 hrs 4	20	10.3
.to <8 hrs 6	15	7.7
.More than 8 hrs	32	16.5
I don't remember	38	19.6

Table 2 Reasons for Leaving Against Medical Advice (LAMA):

Reasons	N (%)
Long waiting time	78 (40.2)
The patient's condition has improved and there is no need to stay	63 (32.5)
Not satisfied with the quality of the service provided	39 (20.1)
discomfort in the hospital environment	29 (14.9)
family obligations	18 (9.3)
The lack of respect for the patient by the health provider or hospital staff	14 (7.2)
Seek another doctor's opinion	13 (6.7)
Refuse a treatment plan	13 (6.7)
I do not trust the establishment	8 (4.1)
There is no improvement in the situation with the treatment I received	8 (4.1)
Not involved in decision-making about my/the patient's health	7 (3.6)
Other (Work related reasons)	3 (1.5)
Other (Transportation issues)	2 (1)

As shown in Table 2, the top three reasons given by the participants for LAMA: long waiting time (40.2%); the patient's condition improved and there was no need to stay (32.5%): and not satisfied with the quality of the service provided (20.1%). The least reported reasons were "I do not trust the establishment" (4.1%), "there is no improvement in the situation with the treatment I received" (4.1%), and "not being involved in decision-making about my/the patient's health" (3.6%). Other reasons added by the participants included work obligations (1.5%) and transportation issues (1%).

Table 3 actions made by patients after LAMA:

After LAMA	Yes	No	Total number
went to another hospital for the same condition	84 (43.3%)	110 (57.7%)	194
Admitted	40 (20.6%)	154 (79.4%)	

Table 3 shows the percentage of patients who LAMA then went to another hospital or were admitted for the same complaint within 24 hours. A total of 84 patients (43.3%) went to another hospital for the same condition. About a fifth of the patients (20.6%) were admitted to a hospital after LAMA. For those who were admitted after LAMA, eleven patients (27%) stayed for five to ten days in the hospital and 5% of the admitted patients stayed for longer than 20 days. A detailed table of the hospital stay duration is found in the Table4.

Table 4 Hospital Stay Duration:

Hospital Stay Duration	(%) Number
day 1	(20%) 8
days 2	(15%) 6
days 3	(15%) 6
days 4	(2.5%) 1
days 5-10	(27.5%) 11
days 11-15	(10%) 4
days 16-20	(5%) 2
days 20 <	(5%) 2
Total	40

Discussion:

This study investigated the patients' reasons for LAMA and the actions taken following LAMA in terms of seeking care in another hospital or getting admitted for the same complaint within 24 hours. The prevalence rate of LAMA at the ED in our study population was very small at 0.9%. This is similar to a previous study in KSA which showed that the LAMA rate in the ED was close to 1% [16] which was consistent with the findings for the USA (0.1% to 2.7%) [17], and Spain (0.19%) [31]. However, it differed from that for Nepal (6%) [32], Nigeria (7.3%) [33,] Iran (20.2%) [34], and Italy (20.96%) [22], all of which had much higher rates. These differences in the prevalence rate of LAMA between countries might stem from factors, such as social beliefs, social support, views in alternative therapies, trust in medical facilities, demographics, and financial limitations[11,35-37]. Furthermore, it is apparent that a higher rate of LAMA is shown in developing or poor countries than in developed countries which might be a result of advanced healthcare systems in these countries. As for the patients' reasons for LAMA, our results showed that long waiting time was the top reason for LAMA. In our study, about a third of the participants waited more than 4 hours at the ED post-triage before deciding to leave against medical advice. Other studies that examined wait times among LAMA patients were one in Turkey which found the average wait time being 2.3 hrs [38], and another one in Switzerland which found the average length of stay in the ED before LAMA to be 3.7 hrs [39]. Long waiting time and the perceived improvement in the patient's condition were found in many other studies to be key factors in LAMA [18,27,29,30,39-41]. Previous research conducted in Saudi hospitals found that the length of stay in hospitals can be decreased by facilitating an ideal discharge mechanism and optimizing patient flow and bed occupancy [42,43]. Financial constraints were found to also be another cause for LAMA in previous studies [33,44-46,27,24], but in our study, this was not an issue because health services are provided free at this stage in KSA. Regarding the actions taken by the patients after LAMA, the results showed that almost half of the patients visited another hospital for the same condition. In addition, twenty percent of the patients were admitted to a hospital after LAMA and twenty percent of them stayed for longer than 10 days. This is consistent with previous studies which observed that LAMA patients are likely to be readmitted [47,4,29,3,5]. Therefore, even if our results show small rate of LAMA in the ED (0.9%), there is a need for the creation of interventions that focus on reducing the incidences of LAMA. These interventions

might be informed by the knowledge and understanding of the main reasons that causes LAMA and encouraging awareness and education about the issue.

Limitations:

This study has some limitations. First, the study was conducted in one hospital and therefore the results cannot be generalized to the rest of the KSA ED population. Second, the small sample size with only 12.5% of LAMA patients participating in the study, which may not be representative of all LAMA patients at KKUH, specifically, the age group 0-13 is disproportionately larger in our sample as compared to the LAMA population (A detailed table of the population characteristics is found in S3 Table). Fourth, telephone surveys have a high rejection rate and therefore low responsiveness. Another limitation was related to the lack of information on disease type and triage level which might be important predictors of LAMA at the ED. We recommend future research to explore the impact of these factors on LAMA.

Conclusion:

This study shed light on the most common reason for LAMA at the emergency room as well as identifying the rate of LAMA patients who went to another hospital and/or were admitted. Our findings provide valuable and new information regarding LAMA in the emergency department that would inform the healthcare authorities to develop and implement policies that will improve the patients' satisfaction with the service so as to reduce the occurrence of LAMA.

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Conflict of Interest:

The author declares that there is no conflict of interest.

Financial support:

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