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Reasons for Early Signing against Medical Advice among Patients Presenting with Extremity Fractures at a Tertiary Hospital Trauma Centre, North-Western Nigeria

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Abstract

***Introduction*:** Signing against medical advice (SAMA) or discharge against medical advice (DAMA) is a fairly common occurrence among patients presenting to trauma with extremity fractures. The study aims to report the reasons for SAMA among these patients. ***Materials and Methods*:** This was a retrospective study of 105 admitted patients and later SAMA at the trauma centre of the Usmanu Danfodio University Teaching Hospital (UDUTH), Sokoto, Nigeria between February 2023 and December 2024. The study criteria included all patients with extremity fractures. The reason for SAMA within or more than 24 hours of admission includes the type of fractures (closed fracture, poly-trauma, multiple fractures or open fracture), financial, preference to traditional bone setting or proximity to home. The data analysis was done using SPSS Version 23. ***Results*:** There was a total of 105 patients in the study who SAMA. The SAMA prevalence was 3.7%. There were 90 (85.7%) males and 15 (14.3%) females. The mean age of patients was 32±19.55 (range 2 to 85). The most frequent age affected was 25 (9 patients) and the most involved age group was from 20 to 40 years with 54 (51.4%) patients. Eighty-one (77.1%) patients have SAMA within the first 24 hours of admission while 24 (22.9%) SAMA after 24 hours of admission (p-value <0.0001). There were 70 (66.7%) with closed fractures, 19 (18.1%) with polytrauma, 11 (10.5%) with multiple fractures, and 5 (4.8%) with open fractures. The reasons for SAMA were due to financial factors in 66 (62.9%) patients, preference for traditional bone setting (TBS) in 28 (26.7%) patients, and due to being closer to home in 11 (10.5%) patients. ***Conclusion*:** This study shows majority of patients had SAMA within the first 24 hours and occurred commonly among younger age groups, male gender, in patients with financial issues, preference for TBS, and closed fractures.

Keywords: Signing Against Medical Advice, Extremity Fractures, Financial Factors, Traditional Bone Setting, Closed Fractures.

INTRODUCTION

Signing against medical advice (SAMA) is a global phenomenon, though the incidence and causes differ among the various geographical locations and different health institutions [1]. SAMA occurs when a patient decides to leave or sign against medical advice from admission in a particular department or unit of a hospital against the wish of the healthcare givers and the health institution [2]. Although there may be some technical differences, the phenomenon comes in various nomenclature, including LAMA (leave against medical advice), and DAMA/AMA (Discharge against medical advice) [3]. Some reports were against the use of these terms and have suggested a more suitable term to be adopted [4]. The incidence of SAMA in Nigeria has been estimated to be 2.1% [5]. Various reasons lead to SAMA by patients, such as financial, dissatisfaction with the service, and seeking an alternative to treatment, among others [6]. It carries health consequences because of the high readmission rate and poor outcomes due to interruption of treatment [7]. There have been reports of increased morbidity and mortality related to SAMA and readmission [8]. The SAMA is associated with legal and ethical issues with the patient's autonomy on the choice of treatment on one end to the doctor's duty to professionally serve patients accordingly [9]. The hospital and healthcare staff are at risk of litigation from the patients especially when the reason for SAMA was viewed as staff's negligence or lack of appropriate treatment facilities [9, 10].

SAMA from patients with extremity fractures is slightly different, particularly in settings where traditional bone settings (TBS) are well recognised and the poverty level is considerable. In this case, patients often SAMA either due to financial reasons from the high cost of implant-related fracture fixation surgery to only preference for TBS treatment [11]. Admitted patients with extremity fractures at emergency department SAMA either within the first 24 hours of admission or after, and this depends on so many factors that constitutes the major reasons patients SAMA in many of African countries [12, 13].

Although, many studies have been published regarding SAMA in patients admitted for orthopaedic problems, there have not yet been many published literature on SAMA from extremity fractures related admission. The reasons for SAMA in general patients may be closely related to the same reasons on extremity fracture admission. However, the peculiarity and pattern of SAMA from patients with extremity fractures can give a new perspective into the implications and prevention of these patients from SAMA. Only a recent study by Fah AC *et al*., highlighted the functional outcomes of patients with long bone fractures following SAMA before definitive treatment [14]. A closer look at the timing of SAMA and its critical role in patients following extremity fractures has not yet been published.

The study aims to identify reasons for early signing against medical advice in patients with extremity fractures presenting at the trauma centre, Usmanu Danfodio University Teaching Hospital, Sokoto, North-Western Nigeria.

MATERIALS AND METHODS

This was a retrospective study of 105 admitted patients and was later signed against medical advice (SAMA) at the trauma centre of the Usmanu Danfodio University Teaching Hospital (UDUTH), Sokoto, Nigeria between February 2023 and December 2024. Ethical committee approval (Ref. No. UDUTH/HREC/2025/1492/V1) was obtained from the health research and ethics committee of UDUTH before the study commencement. The study criteria included all patients with extremity fractures who presented to the trauma centre and SAMA within the study period. Patient's medical records were obtained and information regarding the date and time of admission, demographic features, type of extremity fracture, associated injuries and the reasons for SAMA was recorded. The dependent variable was early or late SAMA, which was set either within the first 24 hours or more than 24 hours after admission respectively. The independent or predictive factors include the type of fractures (closed fracture, poly-trauma, multiple fractures or open fracture), and reasons for SAMA (Financial, preference to traditional bone setting or proximity to home).

The data analysis was done using SPSS Version 23. Descriptive statistic used numerical variables to describe the mean and standard deviation (SD) for normally distributed variables, and median and Interquartile range (IQR) for skewed variables. Analytical statistics establish the relationship between dependent and independent variables for categorical variables using Chi-square analysis. Multivariate logistics regression was used for more than 2 categorical variables and also checks for confounding.

RESULTS

Tables 1 and 2 summarise some of the study findings. Out of the total 2,852 admitted with extremity fractures, 105 patients had SAMA following admission. The SAMA prevalence was 3.7%. Among patients who SAMA, there were 90 (85.7%) males and 15 (14.3%) females. The mean age of patients was 32±19.55 (range 2 to 85). The most frequent age affected was 25 (9 patients) and the most involved age group was from 20 to 40 years with 54 (51.4%) patients. Eighty-one (77.1%) patients had SAMA within the first 24 hours of admission, while 24 (22.9%) had SAMA after 24 hours of admission (p-value <0.0001) (Figure 1). There were 70 (66.7%) with closed fractures, 19 (18.1%) with polytrauma, 11 (10.5%) with multiple fractures, and 5 (4.8%) with open fractures. The reasons for SAMA were due to financial factors in 66 (62.9%) patients, preference for TBS in 28 (26.7%) patients, and due to being closer to home in 11 (10.5%) patients. Following analysis, 57 (54.3%) patients SAMA <24 hrs. of admission due to financial factor (p-value=0.003; OR=4.275; 95% CI=1.607-11.373); 19 (18.1%) patients SAMA <24 hrs. due to preference for TBS (p-value=0.181; OR=0.469; 95% CI=0.176-1.253); and only 5 (4.8%) patients within first 24 hrs. due to need for proximity to home (p-value=0.013; OR=0.184; 95% CI=0.050-0.674). In terms of fracture characteristics, 63 (60%) patients with closed fractures SAMA within the first 24hrs (p-value=0.0001; OR=5.579; 95% CI=2.717-21.138); 13 (12.4%) patients with polytrauma SAMA within the first 24 hrs (p-value=0.356; OR=0.534; 95% CI=0.177-1.609); and 5 (4.8%) and 1 (0.95%) left within the first 24hrs of admission with multiple fractures and open fracture respectively (Table 2). Following multivariate logistic regression, only closed fracture was the independent reason for SAMA within the first 24 hrs of admission (p-value=0.002).

Table 1: Baseline characteristics of the study participants

Variables	Frequency (%)
Age (years)	
<20	26 (24.8)
20-40	54 (51.4)
40-60	14 (13.3)
61-80	10 (9.5)
>80	1 (1.0)
Sex	
Male	90 (85.7)
Female	15 (14.3)
Duration of Hospital Stay	
<24 hours	81 (77.1)
>24hours	24 (22.9)
Fracture type	
Closed fracture	70 (66.7)
Polytrauma	19 (18.1)
Multiple fractures	11 (10.5)
Open fracture	5 (4.8)
Reasons for SAMA	
Financial	66 (62.9)
Prefer Traditional bone setting	28 (26.7)
Proximity to home	11 (10.5)

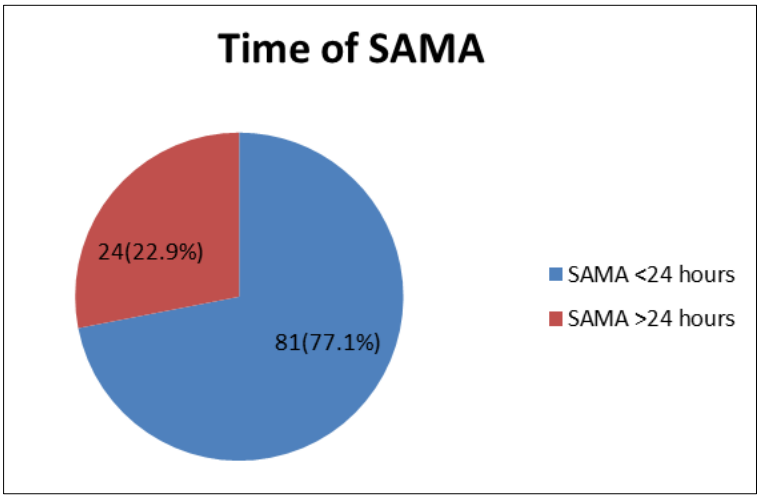

Figure 1: Early vs. Late SAMA

Table 2: Reasons for SAMA in relation to duration of admission (<24 hours or >24 hours)

Reasons for early SAMA	Duration of Hospital stay		OR (comparing different reasons for SAMA)	95% CI	P-value
	<24hrs	>24hrs			
Financial	57	8	4.275	1.607-11.373	0.003
Preference to TBS	19	9	0.469	0.176-1.253	0.181
Proximity to Home	5	6	0.184	0.050-0.674	0.013
Closed Fracture	63	7	5.579	2.717-21.138	0,0001
Polytrauma	13	6	0.534	0.177-1.609	0.356
Multiple Fractures	5	6	0.184	0.050-0.674	0.013
Open Fracture	1	4	0.059	0.006-0.555	0.008

DISCUSSION

The study findings are indicative of male gender preponderance for signing against medical advice (SAMA) and younger patients less than 40 years old were more affected. Most patients with SAMA within the first 24 hours of admission (77.1%) presented with closed fractures followed by polytrauma, multiple fractures, and then open fractures. The financial reason was the number one factor in patients' SAMA followed by the need for traditional bone setting (TBS), and preference to have treatment closer to home. In terms of SAMA within the 24 hours, all the reasons were

significant except for proximity to home. The most important independent reason for SAMA was the presentation of a closed fracture.

SAMA occurs with any fracture type cases; open, closed, or any fracture configurations and for other reasons as perceived and emanating from patients. It has no age or disease boundary, and gender disparity occurs across different studies but generally has a higher incidence among male patients [15]. Duration of hospital admission before SAMA is as important as the reason for SAMA because the time from admission to decision to SAMA has a lot to do with the circumstance surrounding the SAMA and the ultimate implications that happen to the patients thereafter [16]. The first 24 hours of admission is considered critical to the management of patients with extremity fractures because it's largely an emergency management at a trauma centre [17]. Quite often, patients present with severe injury and in critical conditions that require immediate resuscitation and subsequent stabilisation of both the patient in general and the associated fracture. Some patients wait to receive such life-saving management even though they may not have full intention to stay for continued treatment including possible subsequent surgical intervention.

Type of fracture alone can determine the possibility of SAMA even among patients with both weak or strong financial stand and predilection for TBS treatment. An open fracture, polytrauma and multiple fractures can be deterrents to premature SAMA at the emergency department. Similar to our study findings, the most likely patients with extremity fractures who leave AMA are those with closed fractures and financial problems [18]. This is because patients often feel a close fracture can easily be handled and managed by the TBS since there was no skin and soft tissue disruption and it doesn't seem to pose any further fracture complications [19]. Although complications may arise even in those patients with closed fractures treated by TBS, the role of financial factors as an additional reason for SAMA cannot be ruled out. Proximity to home makes it convenient for some patients with extremity fractures to take care of social issues aside from the convenience and money saving. Quite often this may not be possible and some patients capitalise on living in distant places and do SAMA.

Financial factors among fracture patients are common, especially in developing countries where a reasonable poverty level is substantial and adequate health insurance coverage is lacking. Even in developed nations, patients without health insurance coverage and those on Medicaid or Medicare were approximately three times more likely to have SAMA than those with private insurance [20]. Hospitalised fracture patients often resort to out-of-pocket payment for services and this has a lot of drawbacks, particularly in patients who presented as emergency at trauma centre. Moreover, the implants for fracture fixations are expensive and this adds to the high cost of hospital fracture management and hence contributes to triggering factors for SAMA [16]. Meanwhile, the patients' perception of the TBS is more of an affordable service and a welcoming reception than what is obtainable from the hospital staff [21].

Those patients who decided to SAMA after 24 hours are also at risk of complications after leaving the hospital to opt for management elsewhere. It is either more problems arise from the alternative treatment or due to delay before readmission if the patients decide to seek for another hospital treatment before being referred back. The patients usually returned to the hospital with more complications and potential difficulties in secondary treatment including surgical intervention [8-22]. At the trauma centre during the first point of contact, associated pains and deformities with extremity fractures are often relieved by temporary splinting. This gives some patients false assurance that if they proceed with TBS treatment there would be success of fracture treatment. This is because the study setting in Northern Nigeria comprises a society with high patronage for TBS treatment [23]. After 24 hours of admission, fracture patients are more likely to be stable, and those for operative fracture fixation have either been treated or on course to surgical fixation. Some patients may still opt for SAMA for the reasons previously mentioned, and this adds to further treatment dilemmas on readmission and more fracture complications if left inappropriately treated by TBS [19-24].

Other studies reported lack of confidence in the health workers as one of the main reason for SAMA particularly when a gap in communication arises; patients often feel not rightly received and the course of fracture management have not been well explained. This misconception from the injured patients and relatives usually gives a bad image of the hospital and may result in legal implications [16]. Patients with substance abuse have been shown to have a high incidence of SAMA [16-25]. This should be identified and any possible action taken to prevent SAMA among these cohorts. SAMA is generally viewed as a patient's right to make a personal decision on whether to receive treatment at the hospital or not. Meanwhile, it is the doctor's duty to serve what is best for the patient as part of his/her professional obligations [26]. The imbalance in this situation is always a concern and may not acquit the healthcare givers in the case of complications arising from SAMA. It is, therefore, necessary right from the patient's admission to begin with good communication for patients to fully appreciate the management detail, the expectations and logistics surrounding the in-hospital stay and also any possible complications. The undesirable consequences of SAMA should be well highlighted to patients at risk of it, especially on unjustifiable grounds.

The limitations of this study include a smaller sample size for the 1-year patients' data that SAMA at

the trauma centre, and this could give rise to type 2 error. It, however, gives a reflection of the nature of cases and the reasons for SAMA among those admitted at a trauma with extremity fractures. Additionally, there was no follow-up to know the post-SAMA situation of the patients which may prove difficult to do because of distance and patients' privacy right to personal information. It's a retrospective study, and missing data and information could lead to a reduction of sample size by exclusion from the study.

CONCLUSION

This study shows signing against medical advice (SAMA) within the first 24 hours in patients admitted with extremity fractures at trauma centre occurs mainly among younger age group, male gender, in patients with financial issues, and preference for traditional bone setting (TBS). The need to have treatment closer to home and patients with closed fractures are also strong factors for early SAMA. Although SAMA occurs even among patients with multiple fractures, polytrauma and open fractures, the frequency is less due to the complexity of treatment outside the hospital service. Closed fracture was the only independent predictor of SAMA in this study. Patients' health education, good communication skills by the health staff, universal insurance coverage and prompt treatment intervention are the identified factors in reducing the incidence of SAMA among the extremity fracture patients.

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REFERENCES

1. Tan SY, Feng JY, Joyce C, Fisher J, Mostaghimi A. Association of hospital discharge against medical advice with readmission and in-hospital mortality. JAMA Network Open. 2020 Jun 11;3(6):e206009.
2. Holmes EG, Cooley BS, Fleisch SB, Rosenstein DL. Against medical advice discharge: a narrative review and recommendations for a systematic approach. The American Journal of Medicine. 2021 Jun 1;134(6):721-6.
3. Ramakrishnan N, Ranganathan L, Abraham BK, Rajagopalan S, Venkataraman R. What happens to patients discharged against medical advice?. Indian Journal of Critical Care Medicine: Peer-reviewed, Official Publication of Indian Society of Critical Care Medicine. 2018 Aug;22(8):580.
4. Kleinman RA, Brothers TD, Morris NP. Retiring the "against medical advice" discharge. Annals of Internal Medicine. 2022 Dec;175(12):1761-2.
5. Ekwedigwe HC, Edeh AJ, Nevo AC, Ekwunife RT. Discharge against medical advice at the adult accident and emergency department in a tertiary hospital of a developing nation.
6. Mohseni M, Alikhani M, Tourani S, Azami-Aghdash S, Royani S, Moradi-Joo M. Rate and causes of discharge against medical advice in Iranian hospitals: a systematic review and meta-analysis. Iranian journal of public health. 2015 Jul;44(7):902.
7. Saia M, Salmaso L, Bellio S, Miatton A, Cocchio S, Baldovin T, Baldo V, Buja A. Hospital readmissions and mortality following discharge against medical advice: a five-year retrospective, population-based cohort study in Veneto region, Northeast Italy. BMJ open. 2023 May 1;13(5):e069775.
8. Garland A, Ramsey CD, Fransoo R, Olafson K, Chateau D, Yogendran M, Kraut A. Rates of readmission and death associated with leaving hospital against medical advice: a population-based study. Cmaj. 2013 Oct 1;185(14):1207-14.
9. Fadare JO, Jemilohun AC. Discharge against medical advice: Ethico-legal implications from an African perspective. South African Journal of Bioethics and Law. 2012 Dec 1;5(2):98-101.
10. Akinbodewa AA, Adejumo OA, Adejumo OA, Adebayo FY, Akinbodewa GO, Alli EO, Benson MA. Evaluation of administration of discharge against medical advice: Ethico-legal considerations. Nigerian Postgraduate Medical Journal. 2016 Jul 1;23(3):141-5.
11. Ariës MJ, Joosten H, Wegdam HH, Van Der Geest S. Fracture treatment by bonesetters in central Ghana: patients explain their choices and experiences. Tropical Medicine & International Health. 2007 Apr;12(4):564-74.
12. Anyaehie UE, Ede O, Edomwonyi EO, Ekwedigwe HC, Toluse AM, Muoghalu ON, Okoh N, Dabkana TM, Esan O, Ajiboye LO, Shodipo OM. Discharge against Medical Advice in Eight Tertiary Hospitals in Nigeria: A Prospective Study. Nigerian Journal of Clinical Practice. 2023 Dec 1;26(12):1927-33.
13. Bayor S, Kojo Korsah A. Discharge against medical advice at a teaching hospital in Ghana. Nursing Research and Practice. 2023;2023(1):4789176.
14. Fah AC, Koulagna BG, Ngongang FO, Bahebeck J. Functional Outcome of Patients with Long Bone Fractures Discharged against Medical Advice before Definitive Treatment at the Yaounde Emergency Center: A Retrospective and Prospective Study. Open Access Library Journal. 2025 Mar 4;12(3):1-1.
15. Lee CA, Cho JP, Choi SC, Kim HH, Park JO. Patients who leave the emergency department against medical advice. Clinical and experimental emergency medicine. 2016 Jun 30;3(2):88.
16. Albayati A, Douedi S, Alshami A, Hossain MA, Sen S, Buccellato V, Cutroneo A, Beelitz J, Asif A. Why do patients leave against medical advice? Reasons, consequences, prevention, and interventions. InHealthcare 2021 Jan 21 (Vol. 9, No. 2, p. 111). MDPI.

17. Fulkerson EW, Egol KA. Timing Issues in Fracture Management. Bulletin of the NYU hospital for joint diseases. 2009 Jan 1;67(1).
18. Bhoomadevi A, Baby TM, Keshika C. Factors influencing discharge against medical advice (DAMA) cases at a multispecialty hospital. Journal of Family Medicine and Primary Care. 2019 Dec 1;8(12):3861-4.
19. Owumi BE, Taiwo PA, Olorunnisola AS. Utilization of traditional bone-setters in the treatment of bone fracture in Ibadan North Local Government.
20. Kaplan GG, Panaccione R, Hubbard JN, Nguyen GC, Shaheen AA, Ma C, Devlin SM, Leung Y, Myers RP. Inflammatory bowel disease patients who leave hospital against medical advice: predictors and temporal trends. Inflammatory bowel diseases. 2009 Jun 1;15(6):845-51.
21. Ruhinda SK. Reasons for patronage of traditional bone setting as an alternative to orthodox fracture treatment a case of Muleba District, Kagera Tanzania. Huria: Journal of the Open University of Tanzania. 2020;27(1).
22. Boockvar KS, Halm EA, Litke A, Silberzweig SB, McLaughlin M, Penrod JD, Magaziner J, Koval K, Strauss E, Siu AL. Hospital readmissions after hospital discharge for hip fracture: surgical and nonsurgical causes and effect on outcomes. Journal of the American Geriatrics Society. 2003 Mar;51(3):399-403.
23. Onyemaechi NO, Lasebikan OA, Elachi IC, Popoola SO, Oluwadiya KS. Patronage of traditional bonesetters in Makurdi, north-central Nigeria. Patient preference and adherence. 2015 Feb 9:275-9.
24. Nwachukwu BU, Okwesili IC, Harris MB, Katz JN. Traditional bonesetters and contemporary orthopaedic fracture care in a developing nation: historical aspects, contemporary status and future directions. The open orthopaedics journal. 2011 Jan 7;5:20.
25. Simon R, Snow R, Wakeman S. Understanding why patients with substance use disorders leave the hospital against medical advice: a qualitative study. Substance abuse. 2020 Oct;41(4):519-25.
26. Delbon P. The protection of health in the care and trust relationship between doctor and patient: Competence, professional autonomy and responsibility of the doctor and decision-making autonomy of the patient. Journal of Public Health Research. 2018 Dec 20;7(3):jphr-2018.