TIKUR ANBESSA SPECIALIZED HOSPITAL

CLINICAL PROFILE AND OUTCOME OF PATIENTS WITH OUT ATTENDANT ADMITTED AT EMERGENCY DEPARTMENT OF SELECTED GOVERNMENTAL HOSPITALS IN ADDIS ABABA, ETHIOPIA

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A thesis proposal submitted to black lion specialized hospital, Department of Emergency and Critical Care Medicine, College of Health Science of Addis Ababa University, for partial fulfillment requirements for a specialty certificate in emergency and critical care medicine.

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ABSTRACT

Background: Emergency Department provides timely intervention for patients with life-threatening emergency medical and surgical conditions. This is possible through the support and involvement of families or caregivers during clinical evaluation and management. However, there are scenarios where patients present to emergency department might be attended to solely by the patient or by other agents, such as police or passersby, where their presence during the patient's emergency stay is impractical. Understanding the clinical characteristics and outcomes of patients managed without attendants is important for optimizing emergency care delivery and informing health care planning.

Objective: This study determines the prevalence, clinical profile, and outcome of patients without attendants in selected governmental hospitals of Addis Ababa.

Methods: A prospective cross-sectional study was conducted from August 1/2025, to November 1/2025, in a selected governmental hospital of Addis Ababa. After obtaining ethical clearance, data were collected by trained personnel from patients, using a data extraction tool and a questionnaire from patient documents/EMR. Data was cleaned and then exported using SPSS version 26. Descriptive statistics, including frequency and percentage, were generated for the prevalence, some clinical profiles, and outcomes of patients without attendant emergency department admissions. Considering p-value <0.05 with 95% confidence interval, a logistic regression model was conducted to see the strength of association between major outcomes and clinical profile of patients without attendants.

Result: One hundred thirty-three (79.2%) participants were male. The median age was 35 years (IQR:25-46). The prevalence of patients without attendants was 2.57%. The median length of stay is 11.2days (IQR:5.6-19.7), which looks quite exaggerated. 34(19.6%) of patients died. Male sex and high acuity patients (triaged as red and orange) were found to be significantly associated with patient mortality.

Conclusion: The length of stay and mortality rates in patients without attendants are higher than ED standards. Mortality is significantly associated with male sex and high acuity triage category.

Key words: Patient without attendant, prevalence, length of stay, mortality, Addis Ababa.

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TABLE OF CONTENTS

List of Tables

List of Figures

ACRONYMS

AAU	Addis Ababa University
ED	Emergency Department
EMR	Emergency Medical Records
IRB	Institutional Review Board
LOC	Level of consciousness
LOS	Length of stay
OR	odds ratio
PWOA	patients without an attendant
PWOF	patients without family
TASH	Tikur Anbesa Specialized Hospital
ZMH	Zewditu Memorial Hospital

CHAPTER 1: INTRODUCTION

1.1 Background

Emergency department (ED) is a place where lifesaving and critical interventions are given to patients who are critically ill(1). This service is possible through the concert and collaborative involvement of health care providers, family members, or attendants togethers with a well-prepared emergency setup. The care of the emergency service will be overwhelmed if one of these components is not fulfilled(2).

Normally, patients arrive at the casualty and emergency department of a hospital along with their family members and attendants, who usually stay with patients and look after them(3). They play a major role in providing necessary support and care to a patient. In addition, they help health professionals provide necessary and important information about patients, providing drugs and other consumables to the patient so that patients will feel psychologically secure in the company of their attendants or families(4). Furthermore, relatives also play an important role in dealing with payment issues, in patients' transfer to other treatment units, hospitals, or discharging patients at their home, facilitating smooth patient disposition(5).

But through day-to-day practice, there are occasions where patients are brought to Casualty and Emergency department not attended by the relatives, but by the police, or persons from the public etc., When Road traffic accidents occur, onlookers bring the patient to the Casualty, and they do not stay with the patient (5).

Involving patients and families in healthcare decisions about patient care and in hospital and health system policy and programs results in better health outcomes, higher quality of care, lower health system costs, and improved patient safety (6).

Contrary to the above statement, it’s quite common to see patients presenting to an emergency setup without family. Involving patients and families in healthcare decisions about patient care and in hospital and health system policy and programs results in better health outcomes, higher quality of care, lower health system costs, and improved patient safety (5,6).

As a basic human right, every individual is supposed to get emergency medical service irrespective of the presence or absence of families or attendants or their ability to pay for emergency medical services at the time of an emergency medical condition. This right to get emergency medical service is possible in some countries and is supported legally in countries like the USA and Japan and has guidelines for the Hospitalization of Persons without Family and Support for Persons with Difficulty in Decision-Making Regarding Medical Care (7–9). Despite this, many ED setups in many countries have no formal and structured organizational setup where the right to get emergency medical service is insured.

Patients visiting health institutions without family members or attendants, and the inability to pay for medical expenses, will pose a challenge with respect to their treatment processes, as well as during disposition after completing their emergency stay.

Patient without attendants (PWOA), which is defined in this context as those patients visiting ED and staying alone unattended by significant others till patient's outcome, will have an impact on both patients themselves and health institution in which they are admitted. Studies showed that such patients will have an impact on various aspects of physical, psychological, social, and environmental domains, as well as an impact on patient flow, and patients' morbidity, like prolonged length of stay(LOS) and death in busy emergency and non-emergency settings(1,10).

In our setup, the exact burden, objective clinical profile, and outcome of these groups of patients are not known, so the main aim of this study is to describe the prevalence, clinical profile, and outcome of these groups of patients and to examine outcome predictors.

1.2 Statement of the problem

PWOA, or patients without a caregiver, is a common scenario in day-to-day ED patient care and is becoming a public health concern in many countries(11,12). Even though there are no comprehensive data exists on the prevalence of adults without caregivers or family who are admitted and treated to the ED alone, there are some estimates that widely vary by region, health care system, and demographics, and most of the studies focused on pediatric ages and elderly cohorts, where unaccompanied rates may reach as high as 68%(13–15).

In many healthcare facilities, particularly in resource-limited settings, patients are admitted and treated without the presence of personal attendants or caregivers, and this group of patients faces unique challenges that can negatively impact their health outcomes and the efficiency of healthcare delivery(3). PWOA may struggle to meet their basic needs, such as assistance with mobility, feeding, personal hygiene, and communication with healthcare providers. Additionally, this group of patients may not have a caretaker who will manage payment issues for medication, laboratory workups, other materials, and the care process. Moreover, the absence of a personal attendant can lead to delays in care, increased risk of falls or medical complications, and heightened feelings of isolation and anxiety(12).

Being PWOA not only has an impact on their general health, but they create an additional burden on health institutions in general and staff in particular. Healthcare staff may become overburdened as they are required to provide both medical and non-medical support, potentially compromising the quality of care for all patients(10,12). The issue is exacerbated in settings with high patient loads, limited staffing, and inadequate infrastructure. Vulnerable groups, such as the elderly, individuals with disabilities, and those from distant or marginalized communities disproportionately affected(16,17). The magnitude and consequence of the problem are worse in those countries that have no strong social security services(18).

From a methodological perspective, some of the published evidence on the prevalence of PWOA is based on relatively smaller sample sizes and only includes those patients who are unconscious and unattended or unconscious and unidentified. Some of the existing studies are related to COVID-19 patients who are artificially separated from their families or caregivers and labelled as PWOA for isolation issues(1,5,19,20). Furthermore, some of the studies generally regarded all

patients who are admitted to hospital rather than dealing with patients admitted to acute care settings.

Concerning the Ethiopian context, in particular in this study setup, even though it is a common scenario to experience PWOA or caregiver in every institution, the magnitude of the problem is worse in some institutions. Patients who are admitted to these institutions without attendants and who can't afford their medical expenses do not get full formal support. Patients are kept at the emergency as ED boarding not only because of the shortage of ward beds but also due to a lack of attendants or caregivers who are supposed to cover patients' medication and other service expenses, in addition to a lack of adequate medical and social services provided to these groups of patients. Their medical expenses are partially covered by volunteer individuals and organizations, private health institutions, and imaging centers, or they get support in kind, like laboratory investigations, imaging studies, and medications that are not available in the respective institutions. This coordination is facilitated mainly by social service workers, ED directors, and treating physicians. At the institution level, some investigations and medications are allowed freely after communication with hospital administrators for each patient. Because of this lack of responsible attendants or caretakers to cover their medical expenses, it is observed that patients are unable to get timely intervention and smooth continuity of care, so they are subjected to increased morbidity and mortality.

Surprisingly, as far as investigator knowledge is concerned, there is no formal study done regarding the prevalence of PWOA. In addition, the clinical profile and outcome of these groups of patients are not objectively known. The investigator is hopeful that this study will serve as a baseline study to assess the prevalence, clinical profile, and outcome of PWOA and will serve as a benchmark study as a reference for further investigation.

1.3 Significance of the study

Patients without attendants, caretakers, or family members represent a particularly vulnerable group. They often faced delays in assessment of their problems, consent, communication, and continuity of care. However, the true magnitude of this problem is not known. Accordingly, this study would provide the true magnitude of the problem and would give the first local estimate of the prevalence of these groups of patients. In addition, examining the clinical profile and outcome of PWOA would help to detect high-risk or vulnerable subgroups of the population and the possibility of higher morbidity and mortality

The primary beneficiaries of this study are PWOA themselves, who will receive faster, safer, and more organized care as a result of the evidence generated. This study provided essential evidence for health care providers by highlighting the gaps in assessment, decision-making, and patient flow, allowing ED teams to design a clearer protocol for managing unaccompanied patients. Hospital administrators will also benefit from evidence that guides resource planning, including the need for stronger social workers, patient navigators, or a special support system. At the policy level, this result is informative for regional and national discussions on guidelines for handling this group of patients to improve care, equity, and safety.

CHAPTER 2: LITERATURE REVIEW

Among the few literatures that are conducted on prevalence and clinical profiles of patients, a study done on a retrospective analysis of the unaccompanied, unconscious patients attending the ED of Bir hospital in Nepali from April 2009 to April 2010 showed that a total of 64,240 patients received care in the ED of Bir Hospital and out of them, 248 (0.4%) were unaccompanied unconscious patients. The profile of patients showed Alcohol intoxication in 54(21.8%) cases, hypoglycemia in 45(18.1%), and 32(13%) comprised of the street beggars with poor hygiene and suffering from acute exacerbation or superadded infections on chronic infections. 2/3 of these patients were brought to the hospital by the police, and a 5th (20%) were brought by an unknown person and left without any information. 10(4.0%) of them were already dead before arriving ED. Mortality in the hospital was 39(15.7%); 10.9% died within 24 hours, and the remaining 4.8% died after 24 hours in the hospital (5).

A 3-year retrospective study was done in the Konya Adult Emergency Department of Turkey regarding the problem of unconscious and unidentified patients in emergency department admissions. In this study period, approximately 1 million 800 thousand patients were admitted to the ED, of which 1324 were unconscious and unidentified, making the prevalence significantly very low, which is approximately 0.0007%. The majority of the unidentified patients admitted to the ED with altered consciousness were immigrant males. Unidentified patients are a high-need population, most commonly presenting with substance misuse or trauma. Of the unidentified patients, 903 (68.2%) were discharged after treatment. 351 (26.5%) patients left the ED unattended. 32 (2.4%) patients were hospitalized. 38 (2.9%) patients died in the ED(20).

A scoping review was conducted to assess the types of evidence available and to address the gaps in existing literature regarding unbefriended older adults. We found limited research examining unbefriended older adults in Canada and the US. All of the included 5 studies were conducted in the United States and were published between 1993 and 1999. No Canadian studies or reports were located. Unbefriended older adults were childless or had fewer children, were more cognitively impaired, and were older than older adults who were not unbefriended. These findings demonstrate a stark scarcity of studies on unbefriended older adults(21).

A study done in the USA involving a one-year retrospective chart review of 344 unidentified patients who were admitted at the emergency room of a single urban hospital showed that the

prevalence of unidentified patients was 0.44% for all visits. The most significant finding in this study was patient mortality which was 47%, with highest for cardiopulmonary arrest (n = 42, mortality = 100%), followed by major trauma (163, 68%), drug overdose (27, 41%), miscellaneous medical conditions (11, 18%), neuropsychiatric disorders (59, 12%), acute alcohol intoxication (62, 0%), and seizures (13, 0%)(22).

A study was done in Japan on the current situation of the hospitalization of persons without family and related medical challenges in 4,000 randomly selected hospitals nationwide to investigate the actual conditions and problems, decision-making processes, and use of the government-recommended Guidelines for the hospitalization of, and decision-making support for, persons without family. Responses were received from 1,271 hospitals (31.2% response rate), of which 952 hospitals provided information regarding the number of admissions of persons without family. The mean (SD) and median number of hospitalizations (approximate number per year) of patients without family were 16 (79) and 5, respectively. Approximately 70% of the target hospitals had experienced the hospitalization of a person without family, and 30% of the hospitals did not. The most common difficulties encountered during hospitalization were collecting emergency contact information, decision-making related to medical care, and discharge support(9).

A study of medico-social aspects of patients without attendants treated in a super specialty tertiary care hospital located in Bangalore city during the period 1st September 1998 to 15th July 1999 was collected and analyzed. 130 patients treated during the study period had no attendants with them. Out of the total 130 cases, 16% (21) patients had neurological disorders, 76.9% (100) patients had neurosurgical disorders; the majority of the patients were victims of road traffic accidents, and 6.9% (9) patients had psychiatric disorders, and they were abandoned in the hospital campus. Head trauma cases formed 77% of the total patients. 82 patients were admitted by the police,14 patients by the public, and 12 patients by the family members, who later abandoned the patients. The relatives of 22 patients abandoned them in the hospital premises. It can be seen that the Police have brought 63% of patients to the hospital, and the relatives and others have brought 37% of the patients(4).

A study done on spectrum, pattern, and clinical outcomes of adult ED admissions in selected Hospitals of Western Ethiopia which was a hospital-based prospective study involving 889

respondents showed that 44(4.9%) of patients came to ED alone and 4(0.6%) of them brought by police but the study lacks stating the clinical profile and outcome of these specific group of patients(23).

In the reviewed articles, those patients who arrived at Emergency or hospital are mentioned and described by different terms: PWOA, patients without family (PWOF), unaccompanied, unidentified and unconscious, unidentified and unrepresented, unbefriended adults, and John do syndromes. Technically, not all patients had attendants and family members, and the investigator identified them all by the umbrella term patients without attendants.

Generally, most of the reviewed articles are cross-sectional studies and used a questionnaire as a data collecting tool, but these studies lack inclusion of a diverse spectrum of patients that are admitted to the ED without attendant, lack adequate sample size, some studies didn't specifically mention emergency admission of these groups of patients, rather state hospital admission. Additionally, almost all reviewed articles didn't try to assess the association of major patient outcomes with their clinical profile or patients' characteristics. Furthermore, there is no study that has been done to show the prevalence, clinical profile, and outcome of patients comprehensively.

Specific to the Ethiopian context, as per the author's knowledge, there is no formal study that is done specifically in relation to the subject matter, even though it is common to see such a group of patients in a day-to-day experience in the emergency setups, which is currently affecting service delivery and clinical outcome of patients significantly.

Conceptual framework

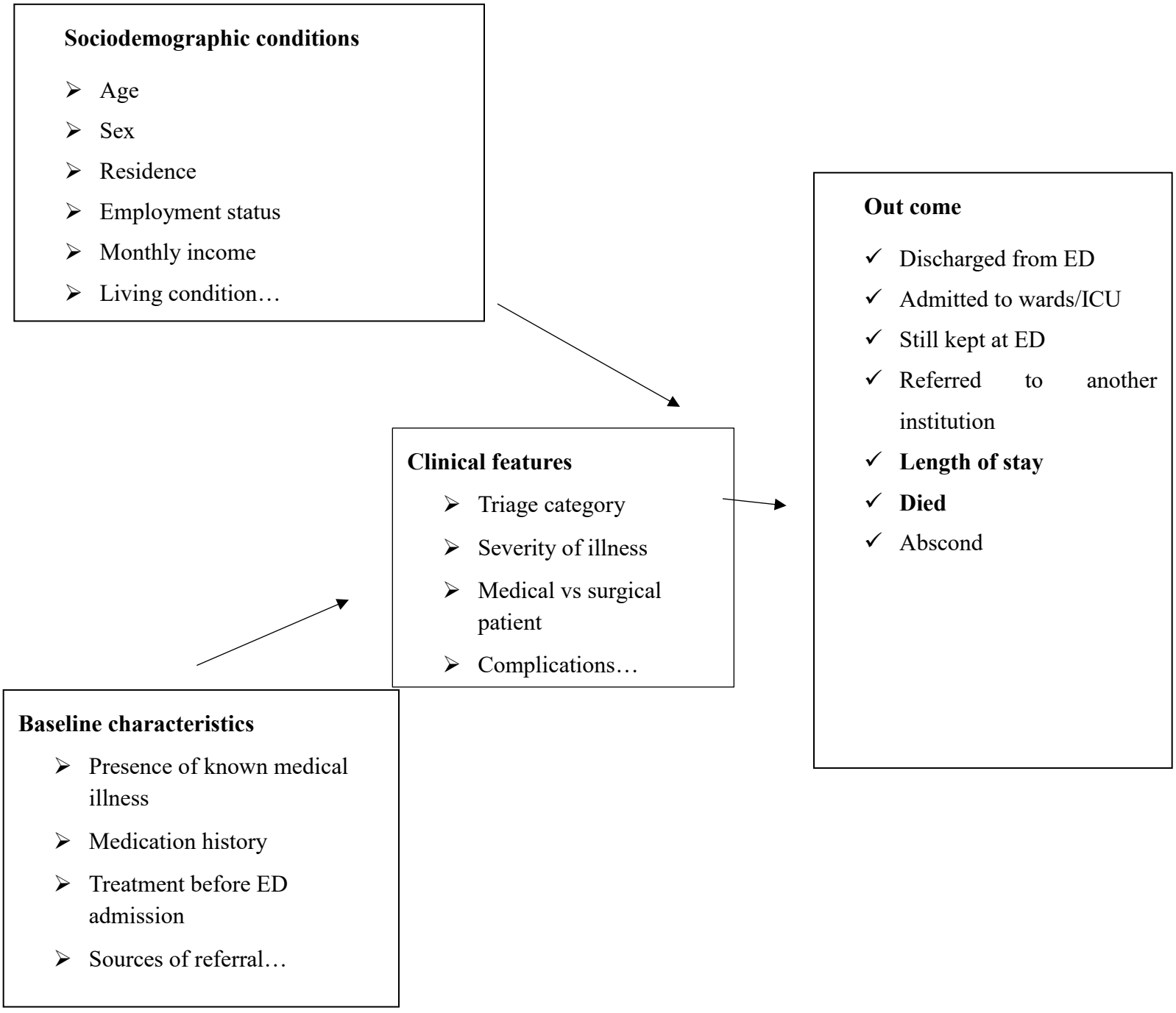

Figure 1. Conceptual framework showing basic patient characteristics, clinical features, and outcomes of PWOA(24,25).

CHAPTER 3: OBJECTIVE OF THE STUDY

3.1 General objective

- ✓ To assess prevalence, clinical features, and outcomes of patients without attendant admitted at the Emergency Department of selected Governmental Hospitals in the year 2025, Addis Ababa, Ethiopia

3.2 Specific objectives

- ✓ To determine the prevalence of patients without attendants admitted at the ED of the selected Governmental Hospital in the year 2025, Addis Ababa, Ethiopia
- ✓ To characterize the clinical features of patients without attendants admitted at the ED of the selected Governmental Hospital in the year 2025, Addis Ababa, Ethiopia
- ✓ To assess the outcomes of patients without attendants admitted at the ED of the selected Governmental Hospital in the year 2025, Addis Ababa, Ethiopia
- ✓ To examine factors affecting mortality and length of stay of patients without attendants admitted at the ED of the selected Governmental Hospital in the year 2025, Addis Ababa, Ethiopia

CHAPTER 4: MATERIALS AND METHODS

4.1 Study setting and period

This study was conducted in TASH and ZEWDITU Memorial Hospital from August 1 to November 1, 20225. Both hospitals are located in Addis Ababa city, which is the capital city of Ethiopia, and is located in the central part of Ethiopia at 9° 1′ 48″ north and 38° 44′ 24″ east, with a total population of 5,956,680, with a geographical coverage of 540 km^2(26).

From observed admission of PWOA in the governmental hospital of Addis Ababa, particularly in TASH and ZMH, most patients are street individuals or homeless people living in Addis Ababa. Accordingly, from 2021/2023 official report from academic and governmental estimates, there are about 50,000 homeless people (street children, youth, and adults, most of whom are beggars), while the NGO and media figures extend it over 60,000-100,000 in Addis Ababa(27).

TASH is a pioneer teaching hospital in the country. It is under AAU, which was recently granted autonomy. Currently, as a pioneer in ED with its own new building is providing emergency medical and surgical services for patients coming from all corners of the country.

Zewditu Memorial Hospital is under the Addis Ababa health bureau, has ED, and currently provides emergency services for nearby residents and receives referrals from nearby health centers and private health institutions.

4.2 Study design

A cross-sectional study was conducted within the specified data collection period

4.3 Population

4.3.1 Source population

All Patients who visited the ED of governmental hospitals of Addis Ababa city in the study period.

4.3.2 Study population

All patients who presented at TASH and ZMH ED without an attendant during the data collection period and who fulfilled the inclusion criteria.

4.3.3 Sampling/study unit

Individual who presented at TASH and ZMH ED during the data collection period and fulfilled the inclusion criteria and who volunteered and participated in the study.

4.4 Eligibility criteria

4.4.1 Inclusion criteria

- All patients ≥13 who visited the ED without an attendant were included in the study

4.4.2 Exclusion criteria

- All patients of less than <13years old and who were critical and unconscious patients with attendants were excluded.
- Patients who are dead on arrival or have no signs of life on ED arrival
- Patient who had a family member or caregiver after ED admission or during ED stay
- Repeated visits by the same patient during the study period

4.5 sample size determination and sampling technique

4.5.1 Sampling technique and procedures

The consecutive sampling method was used. Accordingly, any patient who arrived at the ED without an attendant who fulfilled the inclusion criteria was enrolled in the study. All PWOA fulfilling the inclusion criteria were subjected to consent if they were conscious, and consent was waived if they were unconscious and were asked if they were willing after regaining consciousness. Patients were enrolled in the study based on their arrival within the study period until the calculated sample size was satisfied.

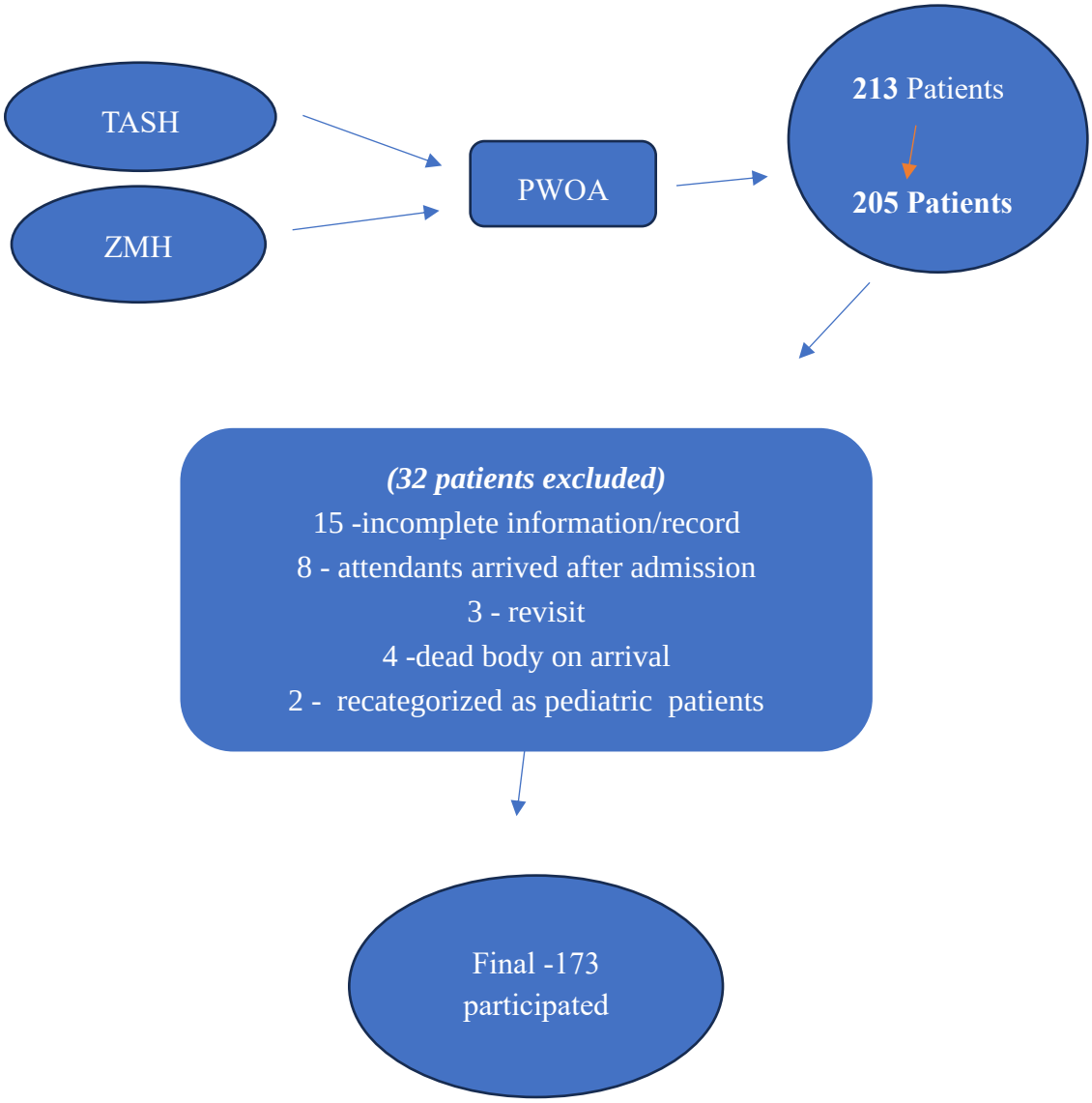

Figure 2.Sampling process of participants of the study of two governmental hospitals of Addis Ababa, Ethiopia.

4.5.2 Sample Size Calculation

To calculate the sample size, we considered the following assumptions using different scenarios.

1) We used the single population proportion formula. Using the mortality rate of PWOA in a study done in a Nepali hospital, which was 10.9% in the study done by Singh D.P. et al(5).

$$N=\frac{(z\_\alpha/2)^2 * p * (1-p)}{E^2}, \text{ where}$$

N: The required sample size.

z_α/2: The z-score corresponding to the desired confidence level (1-α). This corresponds to a 95% confidence level, α = 0.05, and z_α/2 = 1.96.

P: An estimate of the population proportion. In our case, the mortality rate 10.9%

(1-P): 1 minus the estimated population proportion, which is the proportion that is not the estimated value. In our case, 89.1%

E: The desired margin of error (or precision, which will be 0.05)

We calculated the sample size using the formula above, which yields 150. Considering the non-response rate to be 10%, we readjust the final sample size using the non-response inflation factor or the non-response adjustment formula as

Final sample size= Effective sample size/ (1- non-response rate anticipated)

=150/1-0.1)

=167

2) Using the same study, the prevalence of PWOA in the study was 0.4%. Using a similar single-proportion formula and considering similar statistical assumptions, the calculated sample size was minimal, which is 6, and was not considered for this study.
3) The sample size calculation was also designed to ensure sufficient statistical power for multivariate logistic regression analysis examining predictors of mortality among PWOA in the ED. To obtain a stable estimate in the logistic regression, the events per variable

(EPV) analysis rule was applied, which recommends a minimum of 10 outcome events per predictor variable included in the model.

Based on the previous study done, the expected mortality among unattended patients in the ED was 47%(22). The multivariable analysis planned to include 10 predictor variables based on clinical relevance. Using the EPV rule, the required sample size was calculated as

N=(EPV*K)/P

Where EPV= (events per variables) =10

K (number of predictor variables) = 10 predictors

P expected mortality from previous study 47%=0.47

N= 212.7≈213 participants required.

However, during the study period, 205 PWOA visited, out of which 32 patients excluded and only 173 eligible patients enrolled in the study. This sampling process is shown on figure 2.

4.6 study variables

4.10.1 Independent variables: Socio-demographic characteristics (age, sex, marital status, employment status, educational level, monthly income and living condition), baseline characteristics (sources of referral, triage category, presence of chronic medical illness, regular medication, modes of arrival and treatment given before arrival) and clinical characteristics (LOC on arrival, medical condition, intervention patient received after arrival, patient need of advanced medical care (ventilatory support, vasopressor)

4.10.2 Dependent variable: LOS and mortality

4.7 Operational definition of terms

- Patient without attendant: any patient visiting the ED by self, referred from a nearby health institution without significant others, or brought by other non-attendants like police or passersby, and who has no caretaker till the patient has a final clinical outcome, or any patient who is brought by a family or friend but left unattended till the patient's outcome.

- Adult population - any patient aged ≥13, as our setup accepts and treats patients above 13 years of age
- LOS- total time period patient stayed at ED, and or if patients were admitted to wards or ICU, their total time patient stayed at the hospital.
- High acuity patients- Patients triaged as red or orange according to the ED triage system
- Low acuity patients- Patients who are triaged as yellow or green as per the ED triage system
- Conscious- patients with a GCS of 15 at the time of initial clinical assessment
- Impaired LOC- patients having a GCS ≤14 at the initial clinical assessment

4.8 Data collection tools and procedures

A data collection tool (questionnaire and checklist) was developed after reviewing multiple studies and the standardized emergency care assessment tool(23,24,28). Key variables, definitions, and measurement items were adapted from previously published literature and modified to fit the study context. The tool consists of the following sections: sociodemographic characteristics, baseline clinical conditions, clinical profiles of patients, management provided, and outcomes. Two data collectors were trained for the interview of patients regarding their sociodemographic status and to extract data from patient EMR regarding clinical profile and outcome of patients admitted at TASH within the study period. See Annex 2: Data collection tool.

4.9 Data quality management

Data collection was by trained nurses. The investigator closely supervised the data collection process, and necessary corrections were made at the data collection sites. Since patients might be admitted to wards, patients' EMR was traced, and patient outcome was filled. The collected data was checked for completeness before data entry. Patient records were considered incomplete and excluded from analysis if the primary outcome or key predictor variables were missing. Records with >20% missing data for other variables would be discarded.

4.10 Data processing and analysis

After data collection, the already coded questionnaires were checked for completeness. Data was initially entered into a Google Form after several steps of checking for completeness and accuracy. The entered data was exported to the SPSS program version 26 for data analysis. Descriptive statistics were generated for prevalence, clinical profiles, and outcomes of PWOA. Additionally, death and LOS were compared with the general population of patients who visited the ED within a similar time period.

In this study, the inclusion of 10 predictor variables was planned based on the calculated sample size for regression analysis. However, during the study period, fewer than the calculated sample size was achieved, and fewer outcomes than anticipated were observed. Based on this finding, four predictor variables were allowed for regression analysis; however, we included additional variables for the reason of strong clinical relevance. Accordingly, one of the main outcomes, death, was subjected to regression analysis one by one with respect to independent variables, and variables with a p-value <0.2 were subjected to multivariate analysis and selected as independent variables. Before running the multivariate logistic regression analysis, whether the independent variables were highly correlated with each other was checked using tolerance and variance inflation factor (VIF). A tolerance value <0.2 or a VIF value >5 was considered indicative of problematic multicollinearity. Next, how well the model fit the data was examined using the Hosmer-Lemeshow goodness-of-fit test, with P>0.05 indicating adequate fit. Then, model's ability to explain the outcome was assessed using Nagelkerke R^2. When single outcome variable was analysed with multiple predictors, multiple regression was applied. The result was interpreted using the odds ratio (OR) to see the strength of association between major outcomes and clinical profile of patients. Regrouping, recoding, and dichotomization of some of the independent variables were done to ensure sufficient sample size and for easier analysis and interpretation. Additionally cutoff point for some variables was determined based on clinical relevance, literature, or data distribution(29–31).

Sensitivity analysis was performed to assess whether hospital-level differences influenced the results by repeating the regression model separately for TASH and ZMH. Additionally,

variables with unknown or missing values >10% were excluded from the analysis. Finally, the results of the study were presented using text, tables, charts, and graphs.

4.11 Ethical consideration

Data collection was started after obtaining approval from the Department of Emergency and Critical Care Medicine (Ref. No/487/17), the Addis Ababa Health Bureau Research Institutional Review Board (IRB) committee (Ref. No/A. A/Gov/21959), and an official letter was submitted to selected institutions before data collection. Involvement in the study was endorsed after written consent was obtained, as they have the full right to refuse their participation at any time. There was no harm more than possible minimal harm to the study, since there would hopefully be additional intervention given to them after the finding of the study. In addition, privacy and confidentiality of the patient data were secured by the data collector and investigator. Thus, name and address of the patient were not recorded in the data collection tool. As participants are all unattended and some of them are potentially decision-incapable patients (intoxicated or cognitively impaired), their voluntariness for the research participation is addressed by waiver of consents, as the ethical clearance obtained from IRB and the Department allows them to undergo this minimal risk research.

CHAPTER 5: RESULTS

5.1. socio-demographic characteristics of participants

A total of 173 eligible participants were approached and agreed to participate in the study. 90(52%) and 83(48%) of participants were from TASH and ZMH respectively. Out of 173 participants, 137(79.2%) were male. The median age was 35 years (IQR:14-56), and more than half of the participants' ages lie between 18 and 39 years. 152(87.9%) of participants resided in Addis Ababa. 38(17.9%) of participants are illiterate and 82(64.7%) of them had primary or secondary school level education. 47(27.2%) of participants were unemployed. Regarding marital status, 102(59%) of them are single. A total of 97(56%) of participants had a monthly income of below 1500 birr, or their income is unknown. 102(59%) of participants were single. This is shown in Table 1.

Table 1. Sociodemographic characteristics of PWOA in the selected health institution of Addis Ababa, Ethiopia.

Sociodemographic characteristics		Frequency (N)	Percent (%)
Name of Hospital	TASH	90	52.0%
	ZMH	83	48.0%
Gender	Female	36	20.8%
	Male	137	79.2%
Age	13-17	13	7.5%
	18-39	90	52%
	40-59	51	29.5%
	60-79	19	11.0%
place of living	Addis Ababa	152	87.9%
	Out of Addis Ababa	19	11.0%
	Unknown	2	1.2%
Marital status	Divorced	3	1.7%
	Married	43	24.9%
	Single	102	59.0%
	Unknown	17	9.8%
	Widowed	8	4.6%
Educational status	Basic literacy (read/write)	29	16.8%
	Illiterate	38	17.9%
	Primary education	66	38.1%
	Higher education	1	0.57%
	Secondary education	16	26.6%
	Unknown	23	13.3%
Employment status	Government employed	15	8.7%
	Private employed	34	19.7%
	Daily laborer	47	27.2%
	Maid /housewife	8	4.6%
	no formal job/unemployed	52	17.9%
	Street residents/beggars	14	8.1%
	Student	12	6.9%
	Unknown	12	6.9%
Monthly earnings (Salary)	<=1500	30	17.3%
	1501-3000	41	23.7%
	3001-9000	35	20.2%
	Unknown	67	38.7%

5.2. Baseline clinical characteristics of patients

This study identified the baseline clinical characteristics of patients without attendants visiting the ED and the reasons for emergency room visits. Out of the total patients, more than 146(84.3%) of the patients were referred from the nearby health center, whereas the remaining patients were referred from governmental hospitals, self-referrals, or others. Mode of arrival was 147(84.9%) by ambulance. Of all patients referred, 144(83.2%) were given some form of treatment from referring institutions. Upon arrival from the referring institutions, 63(36.4%) of patients were triaged as red, and 52 (30.1%) of them were categorized as orange. This is shown in Table 2 below.

Table 2. Distribution of PWOA by their baseline clinical information, Addis Ababa, Ethiopia, 2025

Baseline clinical characteristics		Frequency(N)	Percent (%)
Chief complaint	CNS	35	20.8%
	Fever and headache	68	38.8%
	GI	17	9.8%
	Skin/MSS	6	3.5%
	Non specific	7	4.1%
	Respiratory	24	13.9%
	Sexual assault	2	1.2%
	Trauma	12	6.9%
Mode of arrival	Ambulance	147	84.9%%
	On foot/people's shoulder	21	12.1%
	Private car/taxi	3	1.76%
	Unknown	2	1.2%
Source of referral	Public health center	146	84.3%
	Other public hospitals	7	7.14%
	Private health facility	1	0.6%
	Self/other	19	10.98%
Living condition	With family	19	10.98%
	With friends	54	31.21%
	On the street	35	20.23%
	Employer family	2	1.2%
	Relief center	5	2.9%
	Alone	45	26%
	Unknown	13	7.5%
Patient brought by	Family member	19	11%
	Friends/ neighbor	25	14.5%
	Health professional	72	41.6%
	Passer by	6	3.5%
	Police	26	15.0%
	Self	25	14.5%

5.3. Prevalence and nature of Emergency Department Admissions.

In this 3-month data collection period, a total of 6715 patients visited the ED of both institutions. Near the end of the data collection period, a total of 173 PWOA were included in the study. The denominator for prevalence calculation is all patients who arrived at the ED in the study period. Accordingly, the burden of PWOA was 2.57%.

Seventy-two (41.6%) patients were transported to the hospital by health professionals alone, whereas 26(15%) were brought by the police. Specific medical emergencies, as leading causes of PWOA admissions, were separately identified in this study. Accordingly, febrile illness (RF) with related complications were 99(54.3%), trauma and related conditions were 33(19%), and RVI and related conditions were 10(5.8%). This is shown in Figure 3.

Findings regarding the leading causes of ED Admissions complaints at the selected Institutions revealed that febrile illness complaints (38.8%), CNS complaints (20.8%), and respiratory complaints (13.9%) were among the top three leading chief complaints given by the patients. This is shown in Figure 5 below.

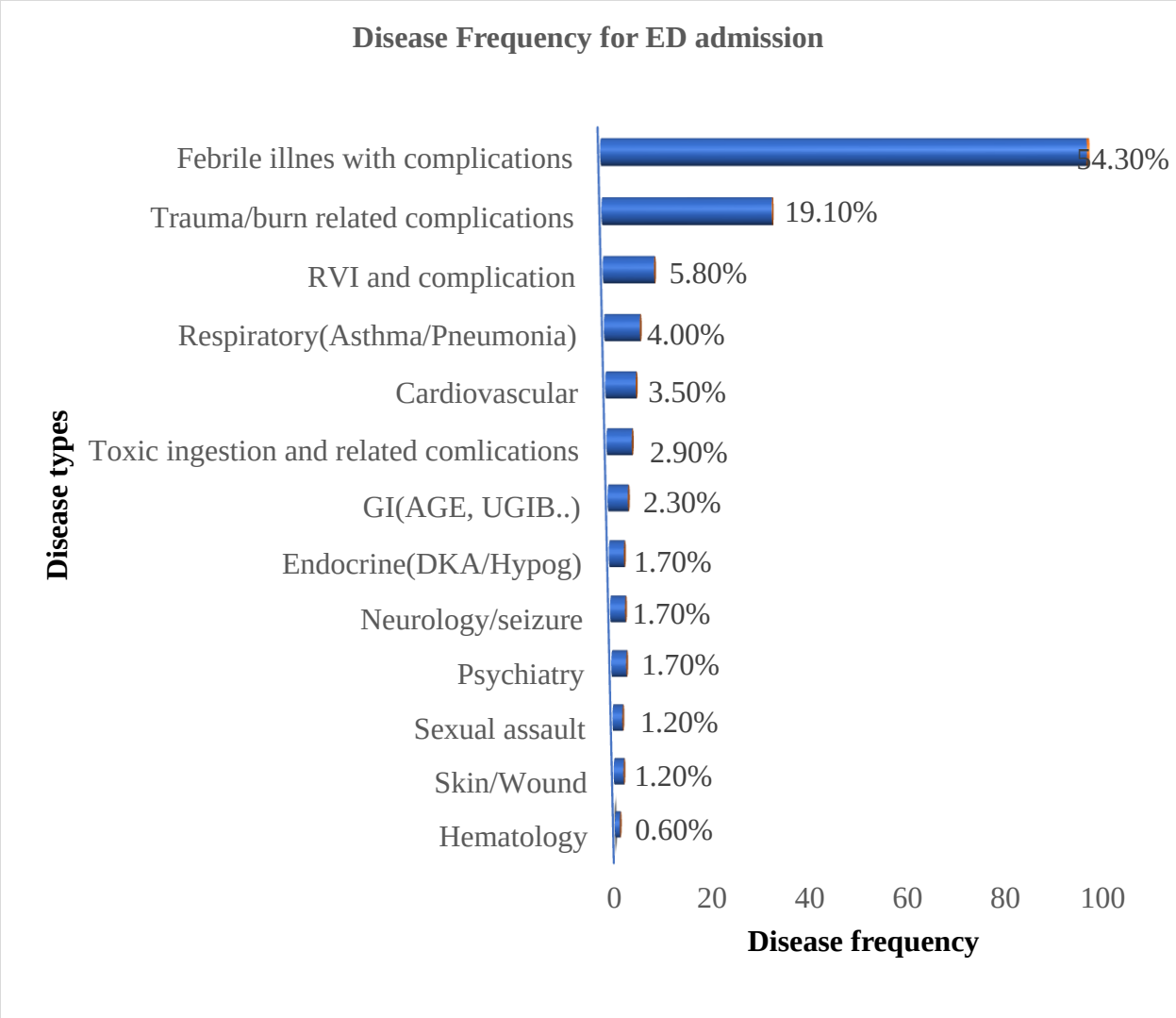

Figure 3. Disease frequency of PWOA admitted in the selected health institution of Addis Ababa, Ethiopia

5.4. Emergency admissions and care bundles given to patients

Regarding the triage category, 63(36.4%) of patients needed admission to the red side. 27(15.6%) of patients had chronic medical illness, and 25(14.4%) of patients were taking medications related to their chronic illness. About 130(75.14%) patients were given some form of treatment from referring health institutions, and 116 (67.05%) of patients received medical treatment.

Only 22(12.7%) of patients started treatment within less than 1 minute of emergency presentation, while 37(21.4%) of patients started treatment within 10 to <15 minutes. This is shown in Figure 4. After referral, 132(76.3%) of patients received medical intervention, while 34(19.7%) of patients received both surgical and medical intervention. 33(19%) and 56(32.36%) of patients received invasive ventilatory support and vasopressor respectively. This is shown in Table 4.

Table 3. Patient disease characteristics, emergency care, and outcomes for PWOA after admission in the selected health institution of Addis Ababa, Ethiopia.

Patient characteristics		Frequency (N)	Percent(N)
Triage category	High acuity (red and orange)	113	66.5%
	Low acuity (yellow and green)	58	33.5%
Chronic medical conditions	Yes	27	15.6%
	No	132	75.7%
	Unknown	15	8.7%
Treatment given at the referring hospital	Yes	130	75.14%
	No	43	24.86%
Intervention the patient received after referral	Medical	132	76.3%
	Surgical	7	4.0%
	Both intervention	34	19.7%
Did the patient need ventilatory support?	Yes	33	19%
	No	136	81%
Did the patient need vasopressor support?	No	117	67.64%
	Yes	56	32.36%
Complication	Respiratory	14	13.6%
	Sepsis/Shock	47	45.6%
	CNS/Psychosis	17	16.5%
	Electrolyte / GI	14	13.6%
	Coagulopathy/Bleeding	2	1.9%
	MSS/wound infection	4	3.9%
	multiorgan involvement	5	4.9%
Patient outcome	Discharged from ED	71	41.0%
	Died at ED / ICU	34	19.6%
	Still Kept at ED	9	5.2%
	Admitted to and discharged from wards/ICU	40	23.1%
	To another institution/relief centers	12	6.9%
	Went against medical advice	7	4.0%
Length of stay	<24 hours	10	5.8%
	≥24 hours	163	94.2%

5.5. Patient outcome

Regarding patient outcome among all PWOA seen in 3 months, 34(19.6%) of them died, of which 26(15%) died at the ED. 71(41%) of them were discharged from the ED. 32(18.5%) and 18(9.2%) of patients admitted to wards and ICU respectively. 8(4.6%) patients were admitted and died in the ICU. This is shown in Table 5. The other important outcome variable is LOS. In this study, only 10(5.8%) of patients stayed <24 hours, while 23(13.3%) of patients stayed more than a month. LOS is right-skewed, presented as median (IQR), which is 11.2days (IQR:5.6-19.7). This is shown in Fig. 5.

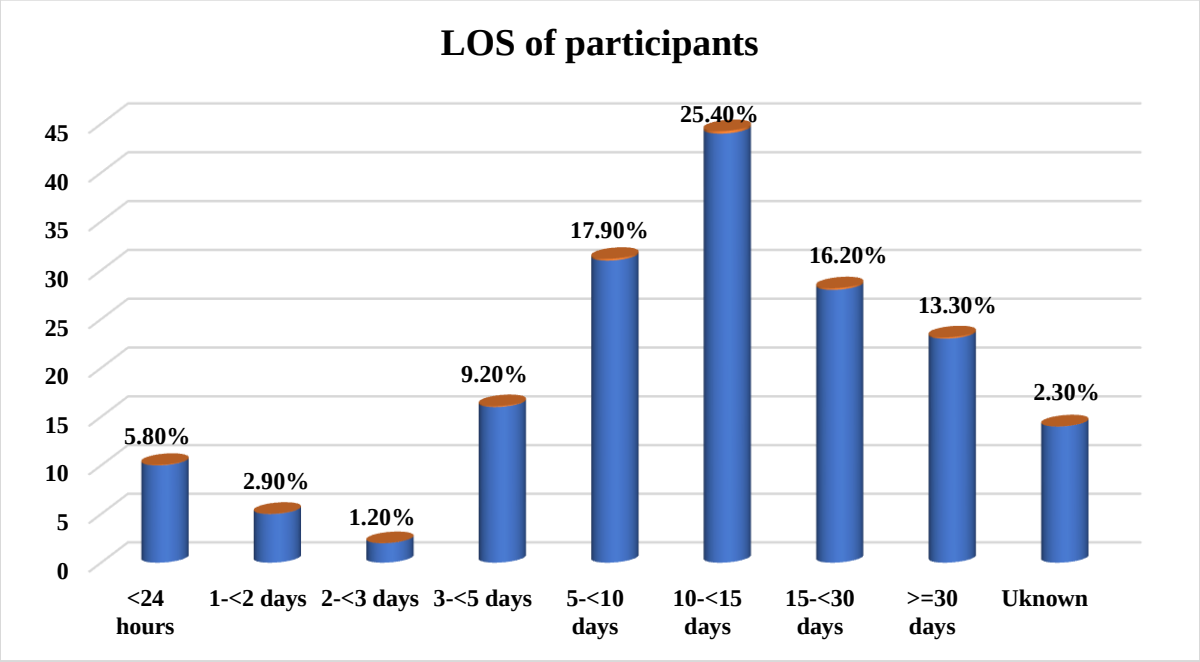

Figure 4. showing LOS of PWOA in the selected health institution of Addis Ababa Addis Ababa, Ethiopia

Table 4. Showing the association of some of the socio-demographic characteristics, clinical features, with patient outcome(death) of PWOA in selected health institutions of Addis Ababa, Ethiopia

Predictor variables	Category	Out come		Crude Odds Ratio		Adjusted Odds Ratio	
		Alive	Death	Sig.	COR (95% CI)	Sig.	AOR (95% CI)
Age	<35	76(54.7%)	10(29.4)	1	1	1	1
	≥35	63(45.3%)	24(70.6%)	0.01	2.90(1.29-6.50)	0.48	1.44(0.54-3.85)
Gender	Female	34(24.5%)	1(2.9%)	0.02	1	1	1
	Male	105(75.5%)	33(97.1%)	0.02	10.69(1.4-81.09)	**0.02**	10.2(1.1-100)
Living condition	With someone else	113(81.3%)	25(73.5%)	1	1	1	1
	Alone	26(18.7%)	9(26.5%)	0.03	0.86(0.75-0.99)	**0.057**	3.28(0.96-11.9)
Triage category	Low acuity	57(41%)	1(2.9%)	0.002	1	1	1
	High acuity	82(59%)	33(97.1%)	25.0 (3.0–	25.0 (3.0–167)	**0.014**	6.25(1.7-14.3)
Chronic medical illness	Yes	41(29.5%)	14(41.2%)	1	1	1	1
	No	73(70.5%)	20(58.5%)	0.042	1.52(1.02-2.26)	**0.053**	1.74(0.99-3.04)
Level of consciousness on arrival	Conscious	42(30.2%)	17(50%)	1	1	1	1
	Impaired LOC	97(69.8%)	17(50%)	0.03	0.43(0.20-0.93)	0.91	0.94(0.36-2.50)
Time between arrival and start of treatment	Immediate (<10 minutes)	27(19.4%)	15(44.1%)		1	1	1
	Late (>=10 minutes)	112(80.6%)	19(55.9%)	0.004	0.305(0.14-0.68)	0.307	0.56(0.18-1.70)

*N.B. Patients who needed ventilator and vasopressor support were considered mediator variables and are excluded from the final multivariate analysis, even though they had a statistically significant association.

5.6. Factors affecting outcomes of patients without attendants

Table 8 below shows the odds of association between predictor variables and one of the major patient outcomes. All predictors had tolerance values ranging from 0.4 to 0.9 and VIF values between 1.2 and 2.5, well within the accepted limits, suggesting the absence of multicollinearity. Additionally, the logistic regression model had good calibration (Hosmer-Lemeshow $\chi 2=5.8$, df=8, P=0.66). The model accounted for 54.4 of % variance in the outcome.

Among those predictor variables few of sociodemographic characteristics (age, marital status, employment status, monthly income and living condition of patients), base line clinical characteristics of patients (presence of chronic medical illness, modes of arrival at ED), clinical profile after patients admitted to ED (level of consciousness, time taken from time of patient arrival to initiation of treatment) and treatment bundles given to patients (type of intervention patient received,, vasopressor support and ventilatory support) were found to be significantly associated with p value <0.2 in determining patient mortality in binary regression level. These variables were selected in the adjusted model and subjected to multivariate regression analysis.

Accordingly, among the dead, 1(2.9%) was female, and 33 (97.1%) were male, and the multivariate analysis showed that, controlling all other variables in the model, the odds of death among male patients were 10.2 times higher than female patients (AOR: 10.2, 95% CI:1.1-100, P<0.02). Similarly, among the dead, 33(97.1%) were high acuity patients (triaged red and orange), whereas 1(2.9%) was low acuity (triaged yellow and green). After adjusting for the other factors, the odds of death among high acuity patients were 6.25 times higher than those of low acuity patients (AOR: 6.25, 95% CI:1.7-14.3, P<0.014).

On the other hand, among the dead, 14 (41%) had a chronic medical condition, whereas 20(58.5%) had no underlying illness. Participants with no chronic illness had higher odds of death (AOR:1.74, 95% CI:0.99-3.04, P<0.053), although this association did not reach statistical significance. Similarly, among patients who died, 9(26.5%) were living alone, whereas 25 (73.5%) were living with someone else, and participants living alone had higher odds of outcome (AOR:3.28, 95% CI: 0.96-17.48, P<0.57) with a borderline significant association.

5.7 Sensitivity analysis

Site-specific sensitivity analysis was conducted to evaluate whether the association observed in the primary pooled model was consistent across sites. The results didn't indicate notable site-level variation except in TASH, where the LOC that was not significant in the pooled model showed a near-significant association with mortality (AOR:1.32, CI:0.02-1.02, P<0.054). Accordingly, among patients with no impairment in LOC, the odds of death decreased by 90% compared to those with impaired LOC (AOR: 0.01, 95% 0.02-0.65, P<0.01) and emerged as a significant predictor of mortality. Conversely, in ZMH, the sensitivity analysis showed no significant association with the outcome. The remaining pooled predictors were not statistically significant when assessed separately within individual hospitals. The direction and magnitude of effect varied across sites, and the sample size within hospitals was smaller compared to the pooled analysis. This is shown in Table 5.

Table 5. Sensitivity analysis for the association of some of the socio-demographic characteristics, clinical features, with patient outcome(death) of PWOA in selected health institutions of Addis Ababa, Ethiopia

Sensitivity Analysis	Predictor variables	Category	Out come		Crude Odds Ratio		Adjusted Odds Ratio	
			Alive	Death	Sig.	COR (95% CI)	Sig.	AOR (95% CI)
TASH Patients	**Patient triage**	Low acuity	32(45.1%)	1(5.3%)	1	1	1	1
		High acuity	39(54.9%)	18(94.7%)	0.01	0.07(0.09-0.54)	**0.054**	1.32(0.02-1.02)
	Chronic medical condition	No	41(57.7%)	9(47.4%)	1	1	1	1
		Yes	30(42.3%)	10(52.6%)	0.07	1.69(0.96-2.97)	0.45	1.36(0.60-3.07)
	Intervention patient received	Medical	51(71.8%)	17(89.5%)	**1**	1		1
		Medical and surgical	15(21,1%)	2(10.5%)	0.20	2.5(0.52-12.06)	0.23	3.16(0.49-20.38)
	Level of consciousnes s on arrival	Impaired LOC	51(71.8%)	8(42.1%)	1	1	1	1
		Conscious	20(28.2%)	11(57.9%)	0.01	0.29(0.1-0.83)	0.07	0.13(0.02-1.20)
	Time between arrival and start of treatment	Late (>=10 minutes)	60(84.5%)	11(57.9%)	1	1	1	1
		Immediate (<10 minutes)	11(15.5%)	8(42.1%)	0.01	0.25(0.08-0.77)	0.34	0.44(0.08-2.38)
ZMH Patients	**Gender**	Female	15(22.1%)	1(6.7%)	1	1	1	1
		Male	53(77.9%)	14(93.3%)	0.20	3.96(0.48-32.62)	0.22	3.88(0.45-33.54)
	Chronic medical condition	Yes	11(16.2%)	4(26.7%)	1	1	1	1
		No	57(83.8%)	11(73,3%)	0.02	0.12(0.03-0.46)	0.23	1.53(0.77-3.02)
	Patient Arrival to treatment initiation	Immediate (<10 minutes)	16(23.5%)	7(46.7%)	1	1	1	1
		Late (>=10 minutes)	52(76.5%)	8(53.3%)	0.08	0.35(0.11-1.12)	0.18	0.38(0.09-1.55)

CHAPTER 6. DISCUSSION

In the 3-month data collection time, the burden of PWOA was 173(2.57%). The denominator for prevalence calculation is all patients who arrived at the ED in the study period, which was 6715. Accordingly, this figure is comparable with the studies done in pediatric and youth populations, which is between 2-3%(15). On the contrary, our finding is quite high when compared to studies done in Nepal, Turkey, and the USA.(5,20,22). The observed difference could be due to differences in socio-demographic and socio-economic status, high specific disease burden and variety, and limited social support services. Other studies also revealed that adults attending the ED without attendants is less specifically quantified, and in those that are quantified, the prevalence would depend on additional factors like institutional policies, local and social determinants, and emergency response systems.(32). Additionally, we can't entirely correlate our study with other setups because the term PWOA in other setups is inferred for those patients who are unidentified and unconscious, unconscious and unrepresented, or adult orphans, unbefriended, patients isolated from families/caretakers in the case of the COVID era, and other similar terms.

Our study showed 94(54.3%) of patients who visited the two institutions were patients with febrile illness, mainly relapsing fever, followed by trauma-related causes, which were 33(19.1%). Our patients' clinical profile is quite different from studies done in India, Brazil, Japan, Canada, and other parts of the world, which showed that most patients presented with complaints related to trauma, substance misuse, acute neuropsychiatric problems, complications of chronic medical illness(4,10,22). The difference in the study findings might be attributed to epidemiological differences and the temporal nature of the relapsing fever pattern and distribution compared to patients in other parts of the world.

Regarding the outcome of the study, the two most important outcomes considered in this study among PWOA were mortality and LOS. Accordingly, the overall mortality among participants is found to be 19.6%. Additionally proportionate mortality of PWOA from overall ED mortality during the data collection period was about 11.7%. This finding is significantly higher when compared to some studies(20,22,33), whereas this study is in congruence with studies done in some centers(4,5). The difference observed might be attributed to differences in social

vulnerability, prehospital factors, differences in admission disease characteristics, and study methodology differences (sample size, study design).

Compared to unpublished monthly audit data overall mortality rate in the ED of respective institutions <24 hours were about 0.6%, whereas the overall ED mortality rate during the data collection period was 3.85%. This unpublished finding is comparable to some studies.(20,34). But our study negated this, and mortality was significantly higher, which is comparable to some studies.(35,36)

As described in the results, death is significantly associated with male gender and high acuity triage category. This finding is consistent with several other studies(35,37–39). Contrary to this, our study varies with some studies where those who are aged, rural settlers, those PWOA with non-communicable diseases, and foreigners with language barriers are strongly associated with mortality.(40,41).

Although living alone was not statistically significant, the effect size was large and suggests that an individual may have a clinically meaningful increase in risk. Similarly chronic medical condition demonstrated a borderline association with the outcome, while the result fell slightly above the conventional threshold, which was 0.053. The direction and magnitude of the effect support existing literature showing worse outcomes among patients with chronic illness(11,36,42–44).

Although the pooled model identified two predictors of mortality, hospital-level sensitivity analysis demonstrated heterogeneity across sites. Neither hospital reproduced a significant association with the outcome variable; TASH patients showed a near-significant association with LOC. Several factors may explain this variation, such as a smaller sample size at the hospital level, reducing statistical power to detect other significant associations, differences in patient case mix, severity, and referral patterns across hospitals, variability in clinical practice or care process, and differences in resource availability.

The other important aspect of outcome in this study was LOS. LOS is defined in our study as the main ED boarding plus inpatient stay. Compared to the overall ED LOS, our study showed that PWOA has prolonged LOS compared to ED standards. In this study, taking the standard cut of 24 hours, almost 94.2% of patients stayed more than 24 hours, and out of these, 28.5% of

participants stayed more than 2 weeks in the hospital due to a variety of reasons. Additionally, our data on LOS was not normally distributed and presented as median, which is 11.2days (IQR:5.6-19.7), which looks quite exaggerated. This finding showed higher LOS, contrary to some studies(33,45). On the other hand, this study is consistent with other similar studies done in Ethiopia and South Africa(46,47). The difference in the finding might be explained in terms of many patients in the centers remain in the ED as boarders due to bed shortage, absence of separate and adequate isolation areas especially most of our patients are RF and other, difference in patient clinical characteristic as some of the patients complicates and needed prolonged Red or ICU admissions, higher social vulnerability in our set up which prevented proper medication and related care provisions, unable to hand overing of patients who completed their treatment to relief centers even though some efforts are being done like transferring the old and mentally incapacitated ones to locally available charity organizations.

Strengths and Limitations

As far as the investigator's knowledge, this is the first study of its kind done in our setup regarding the prevalence, clinical profile, and outcome in these marginalized patient groups, and the investigator is hopeful that this finding will help as a baseline study for further investigation and for additional objective pursuit of evidence. Additionally, the selected institutions are among the foremost governmental institutions visited by these groups of underprivileged patients. In this regard, the estimates on this research might tell the true burden, even though multicenter and all-inclusive studies need to be done.

This study has a variety of limitations. To start, it has a relatively comparable sample size compared with some of the reviewed studies, but still has a lower sample size compared to similar studies that are done with different study designs. Second, the observed mortality rate was substantially lower than the expected rate used for sample size planning, resulting in fewer outcome events and lower EPV than initially planned. This may have reduced the statistical power of the multivariate analysis and the precision of effect estimates, leading to wider CI. Therefore, the regression results should be interpreted cautiously. The other drawback in this study was the limited time frame to collect data and resource-related issues to include more study sites. Additionally, the research would have better credibility if it incorporated a matched

comparison group that would avoid confounders and potential biases. Furthermore, factors like staff burden, institutional care process factors and other confounders might contribute for some of patients' outcome. At last, as this is a cross-sectional study, there is limitations on generalization and making inferences about causality.

Conclusion and Recommendations

Our findings showed that the prevalence of PWOA is quite significant, impacting the quality of care given to this group of patients. Additionally, mortality in these group patients is significant compared to the overall ED patients. Furthermore, this study revealed that mortality is significantly associated with patient male sex and high acuity triage category.

The investigator would like to give recommendations to the following stakeholders.

For policymakers

As this groups of patients have higher social vulnerability, a formal mechanism should be devised to address this aspect. A significant number of patients were having preventable diseases like febrile illness (RF) and are in the productive age groups, which can contribute a lot to a nation's development. MOH and subordinates with a Structured and well-legislated policy should focus primarily on the prevention aspect, focusing on target populations like prison centers, as most of the patients come from such sites. Additionally, provision of some of the care that should be provided freely and a strengthened support for the treatment, care, and follow-up of this group of patients.

Hospital administrators

Hospital administrators should establish a structured patient support system by mobilizing institutional resources to support PWOA to improve clinical outcomes, decrease mortality, and shorten hospital stay. Such interventions are more cost-effective and equity-based approaches than strengthening overall health performances.

For Health Care Providers

Clinicians, other health care providers, and supporting staff should emphasize and strengthen the provision of health education in centers that are sources for the majority of PWOA, which will

significantly reduce care burden in the hospitals. Additionally, as this group of patients has significantly higher social vulnerability, our social support system should be strengthened, and advocacy from the health care provider should be promoted.

For future research initiative

Additional studies with a larger sample size, including multiple centers, will give a true picture of the prevalence, clinical profile, and outcome of PWOA. Proper documentation of patients' cards, clinical picture, and outcome of these groups of patients is paramount so that previously treated large numbers of patients with incomplete information will not hinder retrospective studies. To have maximum policy impact, future work should incorporate a matched comparison group (attended patients) and capture operational metrics (crowding, boarding time, bed availability) to disentangle social vs. system-level contributors to outcomes. Additionally, other aspects of the health of these groups of patients should be studied, like psychological problems due to the absence of families, job burden on health care providers, and other aspects, should be sought in order to have a broader and clearer understanding of this group of patients.

DECLARATION OF THE PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific, ethical, and technical conduct of the research project and for the provision of required progress reports as per the terms and conditions of the department of emergency and critical care in effect at the time of grant is forwarded as a result of this application.

Name of student: Solomon Tegene Mamo

Date ---------- signature

Approval of the first advisor

Name of the advisor Date ---------- signature

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ANNEXES

Annexes 1: Information Sheet for Study Participants

Dear study participant

My name is Dr. Solomon Tegene Mamo emergency and critical care resident at Tikur Anbessa Specialized Hospital. I am researching the prevalence, clinical profile, and outcome of patients without attendants in selected governmental hospitals of Addis Ababa. The study is being conducted by me under the supervision of Dr. Merahi Kefyalew and Dr. Finot Abebe. This is a cross-sectional study, so I kindly request that you participate in this study. Your cooperation and willingness are vital in assessing the burden, clinical profile, and outcome of patients without attendants in public hospitals of Addis Ababa. The study will be carried out through your involvement in filling out a questionnaire by interview, and some information will be extracted from your chart or EMR. The interview may take 5-7 minutes, so you are kindly requested to provide important information as honestly as you can. Your name will not be written in this form and will never be used in connection with any information that we take from you. There is no possible risk associated with participating in this study, except for the time spent delivering information to us. You will not be paid for participation in the study. All information taken from you will be kept strictly confidential. Your participation is voluntary, and you are not forced to participate in the study. If you feel discomfort with the study, it is your right to drop it, and it will never have any impact on the service you are being provided or will be provided. If you have any questions regarding this study or would like to be informed of the results after its completion, please feel free to contact the principal investigator by the information given below.

Phone no: +251920594493 **Email: solomontgn97@gmail.com**

Part II: Consent Form for Study Participants

I have read the above information, and I freely agree to participate in the study. I understand that I am free to refuse to answer any question and to withdraw from the study at any time. I understand that my response will be kept anonymous.

Participant signature ----------date----------

Thank you for your participation.

Annex 2: Data collection tool