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Study of the Unknown Patients at Advanced Trauma Centre of a Tertiary Care Hospital in North India

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Abstract

Introduction: A large number of patients are admitted to government hospitals without any information or identification; these patients are known as "unknown" patients. In any healthcare setting, unknown and unaccompanied patients pose a substantial challenge to the treating doctor and Hospital Administration.

Aims and Objective: The study aimed to determine the demographic characteristics of such patients, their care management, the primary cause of injury and the outcome.

Material and methods: It was a hospital-based, prospective and retrospective study, using total enumeration, done in the Advanced Trauma Centre of tertiary care institute (PGIMER, Chandigarh); the study period was from 1st January 2018 to 31st March 2022.

Results: A total of 53583 patients reported to the trauma centre, out of which 438 were unknown patients, out of which 413 (94.3%) were males, and 25 (5.7%) were females. The significant age group seen as unknown patients was of 30-60 years accounting for 71.5% (313). The primary cause of trauma was a road traffic accident (RTA), accounting for 83.6%(366), majority of unknown got admitted to neurosurgery department accounting 51.4% (225), followed by orthopedics 21.7% (95), majority of these unknown patients were brought by health care worker 74% (324). On analyzing the outcome, the majority were discharged 62.1% (272), followed by brought dead or died here 31.3% (137), there were 5.7% (25) patients absconded, and 0.9% (4) were referred back.

Keywords: Unknown patients • Trauma centre • Primary cause of trauma • Neuro-surgery

Introduction

The patients admitted in government hospitals without personal information, family information, or identification are admitted as "unknown" patients. They are also known as an unidentified patient. For the following reasons, unknown patients cannot give their identity information at the initial point of contact. The various causes include road traffic accident, assault, gunshot injury, fall from height, burns, mechanical injury etc. Clinicians cannot obtain a patient's medical history, allergy status, or any other information. This makes it challenging for clinicians to make decisions regarding treatment in legal, ethical, and economic situations. In terms of medico-legal challenges, humanitarian concerns, and treatment and rehabilitation issues, these patients constitute a unique difficulty in developing countries, especially India [1].

The arrival of an unknown patient to the trauma centre is filled with anxiety. Their treatment is challenging and raises moral, medical, and legal concerns, particularly in underdeveloped nations with few resources. These difficulties may lead to a worse prognosis in unknown patients. No significant landmark events have demonstrated improvement in "care of the unknown patients," owing to a general lack of interest. As per our Hospital's policy, all emergency patients are treated without payment within the first 24 hours of arrival, but unknown patients are treated free of cost during their complete hospital stay [2].

Head injury is considered the leading cause of death and disability, putting a strain on healthcare resources. Head injuries are the primary cause of all accidental deaths and two-thirds of hospital trauma deaths. In younger patients, traumatic brain injury is the primary cause of death. Accident rates in developing countries are rising in general, and traumatic brain injury rates in particular as traffic grows, along with additional variables such as industrialization, fall from height, and ballistic trauma. Many of such patients are brought in by bystanders/good Samaritans or referred from a nearby hospital, and their names are unknown at the time of admission [3].

In any healthcare setting, unknown and unaccompanied patients pose a substantial challenge. The literature search shows challenges in their management, including prehospital care, treatment, and rehabilitation. These patients spend more time in hospitals before and after discharge, use more hospital resources, such as nursing care, and are at a higher risk of morbidity and mortality. Our Hospital has created ways to help such patients, including a designated fund for consumables and a non-profit organization for other needs [4].

Need of the study

The main aim of our study is to determine the demographic pattern and outcome of unknown patients in our setting and to review the care provided to such patients and further improve it. To the best of our knowledge, there are no literature studies on this subgroup of unknown patients in our trauma centre. With this purpose, we set out to assess the spectrum of unknown patients presenting to the trauma centre of our Hospital.

Materials and Methods

Aim

The aim is to determine the demographic pattern and outcome of unknown

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patients admitted to the Advanced Trauma Centre of PGIMER, Chandigarh.

Objectives

- To determine the average length of stay of unknown patients (Table 1).
- To determine the gender predominance and age group of these unknown patients (Figures 1 and 2).
- To determine the primary cause of injury and type of injury, and outcome in unknown patients (Figures 3 and 4).

Research settings

The study was conducted in the Advanced Trauma Centre of PGIMER, Chandigarh.

Research Design

We used a cross-sectional research design, which includes both a retrospective and prospective study.

Sources of Data

The data was collected from hospital records of all the unknown patients admitted to the Advanced Trauma Centre of PGIMER, Chandigarh.

Methods of data collection

For this study, the data was collected by using a semi-structured questionnaire. The investigators developed a tool for the present study based on the objectives, a review of the literature and the suggestion of the experts of the Hospital administration area. The study tool consisted of cr no of the patient; age group patient belongs, gender of the patient, who brought the unknown patients to PGI, under which department did patient got admitted, referral place and Hospital, cause of injury, type of injury, date of admission, date of discharge, mode of treatment and outcome of patients.

Population

The population for the present study is unknown patients admitted at PGIMER, Chandigarh.

Sample size

All unknown patients covered who were admitted from 2018 to till March 2022.

Sampling technique

Total enumeration.

Inclusion criteria

All patients were included.

Table 1. Length of stay.

	Count	Mean	Standard Deviation	Minimum	Maximum
Length of stay (in days)	438	9.7603	12.3918	1	124

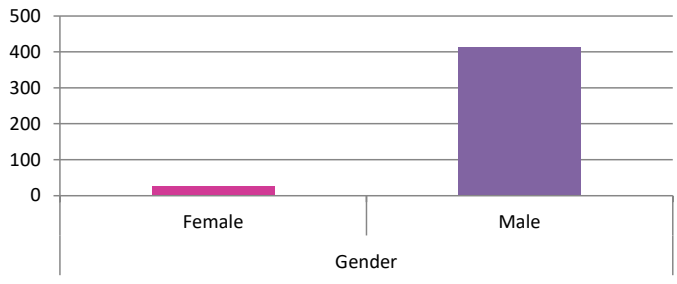

Figure 1. Gender predominance seen in unknown patients.

Figure 2. Age group distribution.

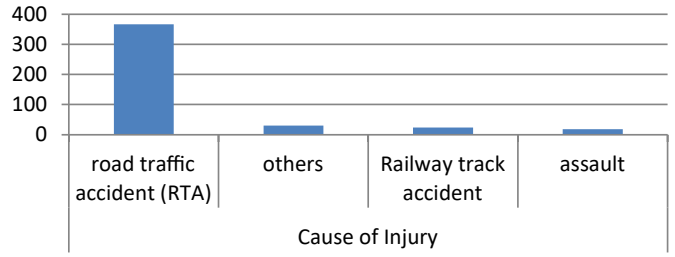

Figure 3. Cause of injury.

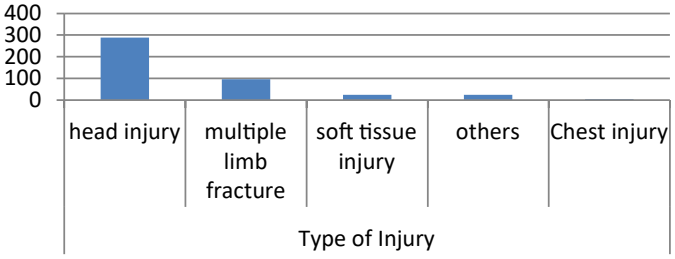

Figure 4. Type of injury.

Exclusion criteria

Not willing to participate in a study.

Data processing and analysis

This was a cross-sectional study carried out in PGIMER, and the proposed participants were from the Advanced Trauma Centre of PGIMER to participate in the research study. Data will be taken from hospital records of patients. Privacy will be strictly protected during the entire study procedure. Data will be analyzed by SPSS software.

During this period, emergency clinical services were available 24 hours and seven days a week with faculty, residents, and nurses, while all surgical sub-specialist teams were available 24x7. Laboratory and imaging services and operation theatre were also operational 24 hours and 7 days a week.

Protocol at our institute for unknown patients

In our Hospital (PGIMER, Chandigarh), when an unknown patient is admitted to Pgimer, he/she is treated free of cost. When an unknown patient is admitted, ANS (sister i/c of the ward) gives information to APRO (Public relation officer) and police. Our NGO Lifeline and nursing officer helps patients with daily routine work and treatment issues, daily cleaning, diet etc. Police try to find out the address of the unknown patient. Our institute Pgimer Chandigarh provides all medicine, ot services, ICU services, ward services etc to these patients free of cost.

When the patient becomes healthy, then information is again sent in writing to APRO Office by ANS. Then the patient is evaluated; if he can walk and talk, he can be sent home by bus/ train, for which Pgimer arranges bus/ railway tickets. If the patient cannot walk, then an ambulance is arranged for the patient and sent back home. If the patient doesn't know anything about home address then help of ashrams like Serve humanities Serve God, Guru Ashra, Prab ashra, Sarbat da Bhalla etc., is taken.

Results

During the study period from 1st January 2018 to 31st March, 2022 total of 53583 patients reported to the trauma centre, out of which 438 were unknown patients, accounting for 1% (approx) of all patients. Out of 438 Unknown patients, 413 (94.3%) were male, and 25 (5.7%) were female, giving a male to female ratio of 17:1. Unknown patients were part of the major age group 30-60 years 71.5% (313), followed by the younger age group less than 30 years 26.7% and least were age greater than 60 years 1.8% (8). The major cause of trauma was a road traffic accident (RTA), accounting for 83.6% (366), followed by various others like burns, etc. 6.8%, railway accidents 5.5% (24) and assault 4.1% (18). Most of the unknown patients had a head injury of 66% (289), followed by multiple limb fractures 21.9% (96), soft tissue injury 5.5% (24) and 6.6% (29). So major of unknown got admitted to the neurosurgery department 51.4% (225), followed by orthopaedics, 21.7% (95), some in multiple departments, 18.3% (80) and some in the surgery department, 8.7% (38). The majority of the unknown was brought by health care workers 74% (324), secondly by police personal 11.6% (51), followed by NGOs and others 4.1% (18). While checking the demographic profile of the patient, the majority of patients were from Haryana 39.5% (173), followed by Chandigarh, 28.1% (123), and followed by Punjab, 26.3% (115), Himachal Pradesh 5.3% (23), least from Uttar Pradesh 0.9% (4). On analysing the outcome, the majority were discharged 62.1% (272), followed by brought dead or died here 31.3% (137), there were 5.7% (25) patients absconded, and 0.9% (4) was referred back. Of 438 patients, 272 (62.1%) became known during treatment, but 166 (37.9%) remain unknown after treatment. The average length of stay seen in unknown patients was 9.7 days in 438 patients, with a standard deviation of 12.4. Most unknowns were referred from urban areas, accounting for 84.9% (372), and few from rural areas, accounting for 15.1% (66) (Figures 5-9).

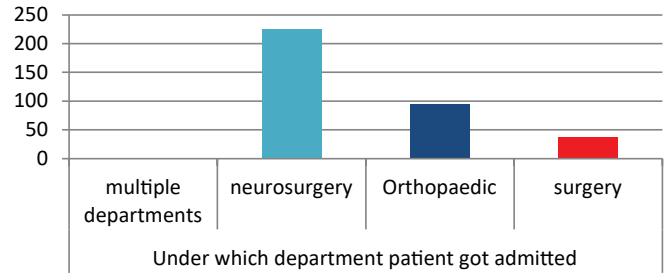

Figure 5. Department of admission.

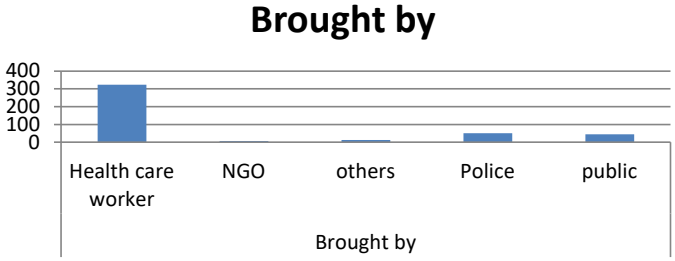

Figure 6. Who brought unknown to trauma centre?

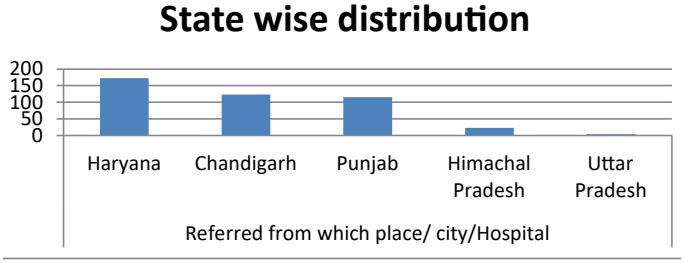

Figure 7. State wise distribution.

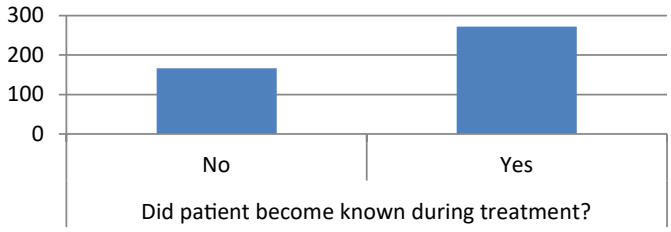

Figure 8. Outcome of unknown patient.

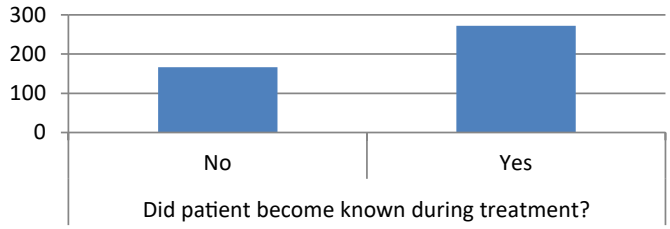

Figure 9. Did the patient become known during the treatment?

Discussion

The majority of our unknown patients were males (94.3%), as males are the main breadwinners of their families and are more at risk of road trauma; our results are similar to the study done by Ahuja A, et al. [3], where males (94.5%) form a significant chunk of the fraction of the unknown patients. Most patients were in the age group of 30-60 that were admitted at tertiary care hospitals. Nath HD, et al. [5] also concluded that roadside accident was the most common. Our study also found speed journeys and the increasing number of vehicles on our roads leading to the surge in roadside accidents, this also showed that the most common cause of injury is a head injury; this conclusion was supported by the present study, which showed head injury is the most common cause of injury in these patients. Poor road condition is a major contributor to roadside accidents, so more road safety rules and good quality roads are needed to reduce RSA. Overloading, over speeding drunk driving, phone use etc., are the most common cause of RSA.

Secondary prevention measures such as enforcing motorcycle helmets will reduce head injury following a crash. This is particularly important in our community where motorcycles are a major means of transport. Motorcycle-associated RTA victims commonly present to our trauma centre with severe head injuries. The usefulness of seat belts while driving also needs to be emphasized, as many commuters only put them on sighting the Road Safety Corps or Police. Most of our unknown patients sustained head injuries, and all who died had severe head injuries. However, the higher mortality rate can also be due to a gap in offering "unknown patients" timely and appropriate intervention due to logistic problems usually encountered in their management process. The care of the unknown patient presents special challenges in our setting, which include medical, moral, and legal issues [6].

As a tertiary care hospital most of the patients 74%, were brought by health care workers, including doctors, nursing officers, EMTs, ambulance drivers etc. This differs from Eni UE, et al. [2] studies, where most of the patients are brought by police or road safety corps. Ahmad FU, et al. [7] studied 325 unidentified patients; 193 (65%) could be identified during the hospital stay x. In our study, similar results are seen, 68.9% became known. This process has aided in recovering of patients. Liew BS, et al. [7] study showed that 85% of patients were discharged; similarly, in our study, 62.8% of patients showed good outcomes and were discharged.

Conclusion

These unknown patients present significant difficulties. They are commonly found lying on the road unconscious or alone at the accident scene. They are taken to a hospital by a health care worker, police officers, or members of the

public who are unfamiliar with dealing with patients with severe injuries. Their prehospital care is frequently inadequate, and the lack of adequate transfer facilities worsens their situation. Such patients are frequently homeless, and their injuries are exacerbated by debility caused by inadequate nutrition, diabetes, hypertension, substance addiction, and mental problems. As a result, the prognosis for these abandoned patients remains grim.

The job of paramedical workers during their hospital stay is critical; their daily nursing care in the absence of a relative is difficult. It will require a team of skilled and sympathetic nurses, physiotherapists, nutritionists, psychologists, and social workers who can assist and rehabilitate patients. The general public and police must be aware of severe brain injury patients' transportation and prehospital management. For the care of such patients, peripheral hospitals must be well equipped. Treatment of such unknown patients might be costly, so every Hospital should reserve funds for this purpose.

Ethical Considerations

Permission has been obtained from the Institutional Ethical Committee for the study.

Conflicts of Interest

The authors declare that they have no conflict of interest with respect to the research, authorship, and/or publication of this article.

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