
**St. PAUL'S HOSPITAL MILLENNIUM MEDICAL COLLEGE
DEPARTMENT OF PUBLIC HEALTH, ETHIOPIAN FIELD
EPIDEMIOLOGY TRAINING PROGRAM (EFETP) COHORT III**



**Prevalence and Associated Risk Factors of Head Injury among Trauma Patients of Addis Ababa Burn, Emergency and Trauma Hospital, Ethiopia
June 16 to July 16, 2019**

Prepared by: Yosef Asrat (MD)

**Research Advisers: 1. Mr. Getachew Tilahun
2. Mrs. Sisay Tanie**

**A STUDENT RESEARCH THESIS TO BE SUBMITTED TO THE DEPARTMENT OF
PUBLIC HEALTH, SPHMMC, IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE MASTERS DEGREE OF FIELD EPIDEMIOLOGY**

MARCH 26, 2019

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March 2019

Addis Ababa, Ethiopia

Assurance of Investigator

The undersigned agrees to accept responsibility for the scientific, ethical and technical conduct of the research Project and for provision of required progress reports as per terms and conditions of the Research and Publication Directorate or /and Department of Public Health of St Paul's Hospital Millennium Medical College.

Name of Student _____ Date _____
Signature _____

Approval of Advisor(s) Advisors
Name:

Signature

Date

1. _____	_____	_____
2. _____	_____	_____

Acknowledgement

I would like to express my heartfelt thanks to my advisors and mentors Mr. Getachew Tilahun and Mrs. Sisay Tanie for their invaluable comments, supervision and constant encouragements that always make me forward and motivated in working this proposal and in every aspect of the development of the proposal paper.

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Summary

Background: Injuries are a major problem in both developing and developed countries. Trauma is a neglected public health problem in developing countries with over 90% of the world's injury deaths occurring in low and middle income countries. Globally, traumatic head injury will exceed many other diseases as the main cause of disability and death by the year 2020 according to the World Health Organization (WHO) since it is a significant public health problem because it impairs brain function and it often results in negative long term or permanent physical, cognitive, behavioral, and emotional changes. Since 2010 Ethiopia has been committed to improve trauma care system via increasing pre hospital care system and training of the first cadre of emergency physician and nurses. There was no enough research conducted on head injury in the country's context, the prevalence of head injury is a common health problem that causes morbidity and mortality in the productive age group of population which directly affects the development of the country

Objective: To assess the prevalence and associated risk factors of head injury among trauma patients presented to AaBET hospital from June 16 to July 16, 2019, Addis Ababa, Ethiopia.

Method: Institution based, analytical cross sectional study will be conducted. All patients presented to AaBET hospital will be the source population for the study and All trauma patients presented to AaBET hospital from June 16 to July 16, 2019 will be the study population. A structured questionnaire will be adapted from the WHO (World Health organization) injury surveillance document and will be used after modified to fit the study population. For the data collection three nurses and two supervisors will be selected from AaBET hospital and two days training will be given for the data collectors and supervisors about the questionnaire by the principal investigator. The questionnaire will be translated in to Amharic language and those patients included in the study will be interviewed by data collectors and data abstraction tool will be used for patient card review.

Pretest of the structured questionnaire will be done on 5% of study sample at Ras Desta Hospital to check the validity and reliability of data collection tools and necessary modifications will be made based on the findings. Frequencies and cross tabulations will be used to summarize descriptive statistics of the data. Simple logistic analysis will be used primarily to check variables which have associations with the dependent variable. Variables found to have association with the dependent variable will be entered into multiple logistic regression for controlling the possible effect of confounders and finally the variables with significant association at $P\text{-value} < 0.05$ will be identified on the basis of Odds Ratio with 95 % confidence interval.

DURATION and BUDGET: The study will be conducted from June 16 to July 16, 2019 with an estimated budget of 25,550 birr.

Acronyms and Abbreviations

THI	.....	Traumatic Head Injury
TBI	.....	Traumatic Brain Injury
GCS	.....	Glasgow Coma Scale
WHO	.....	World Health Organization
ED	.....	Emergency Department
CDC	.....	Center of Disease Control and prevention
RTA	.....	Road Traffic Accident
AaBET	.....	Addis Ababa Burn, Emergency and Trauma Hospital
MTBI	.....	Mild traumatic brain injury
HI	.....	Head Injury
JUSH	.....	Jimma University Specialized Hospital
RTI	.....	Road Traffic Injury
LOC		Loss of Consciousness
SPHMMC		St. Paul's Hospital Millennium Medical College

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1. Introduction

1.1 Background

Injuries are a major problem in both developing and developed countries. Trauma is a neglected public health problem in developing countries with over 90% of the world's injury deaths occurring in low- and middle-income countries [1].

Traumatic Head Injury (THI) is defined as non-degenerative, non-congenital insult to the brain from an external mechanical force, possibly leading to permanent or temporary impairment of cognitive, physical, and psychosocial functions, with an associated diminished or altered state of consciousness [2].

THI defined by the Centers for Disease Control and Prevention is caused by a bump, blow, or jolt to the head or a penetrating head injury that disrupts the normal function of the brain [3]. Depending on severity using GCS, head injury classified into mild, moderate and severe head injury [4].

Globally, THI will exceed many other diseases as the main cause of disability and death by the year 2020 according to the World Health Organization (WHO) since it is a significant public health problem because it impairs brain function and it often results in negative long-term or permanent physical, cognitive, behavioral, and emotional changes [5].

A Centers for Disease Control and Prevention analysis of hospital, emergency department (ED), and vital statistics databases estimated that about 1.4 million people presented for medical care for a traumatic brain injury each year in the United States from 1995 through 2001. The analysis also found that approximately 50,000 (3.6%) of them died from their injuries, 235,000 (17%) were hospitalized, and 1.1 million (80%) were treated and released from the ED [6].

1.2 Statement of the Problem

Head injury is a major cause of trauma deaths and disabilities as well as a huge consumer of available health care resources [8]. It also has both short and long term economic impact on patient's life, his/her family and the society at large [9]. The burden of head injury is succinctly captured by the World Health Organization (WHO) global burden of injury. It ranked head injury among the top ten leading causes of death, with an estimated 5 million deaths annually and Africa men have the highest injury-related mortality rates in the world. Among African nations the rate of injury mortality in 2004 was the highest in Nigeria and the lowest in Egypt, South Africa and Ethiopia were second and third, respectively [10].

The incidence of Traumatic Brain Injury (TBI) worldwide is rising, mainly owing to injuries associated with the increased use of motor vehicles, particularly in middle-income and low-income countries. Estimates of TBI incidence show substantial variation between countries. Data from the CDC indicate that each year in the USA, 1.7 million people sustain a TBI. A 1.4 million of these injured individuals are treated in emergency departments, with around 275,000 hospitalizations and 52,000 fatalities. A meta-analysis of reports from 23 European countries revealed a hospital admission incidence of 235 per 100,000 people [11].

Head injury is a significant public health problem in Ethiopia and one of the most common reasons for emergency department visit with admission increasing from time to time [12]. In Ethiopia, the most common identified risk factors for severe head injuries were RTA (Road Traffic Accident), interpersonal violence and falling accidents [4]. Even if the government of Ethiopia has developed policies and strategies to minimize road traffic accidents, morbidity and mortality associated with severe head injury as result of RTAs are still very high [13].

1.3 Significance of the Study

Since 2010 Ethiopia has been committed to improve trauma care system via increasing pre hospital care system and training of the first cadre of emergency physician and nurses. There was no enough research conducted on head injury in the country's context, the prevalence of head injury is a common health problem that causes morbidity and mortality in the productive age group of population which directly affects the development of the country. The study will provide base line information on magnitude and associated outcomes of head injury cases. The result of this study will be used by concerned bodies for planning and evaluating how to prevent the head injury Addis Ababa Burn, Emergency and Trauma Hospital is the first emergency center established in the country. Given the intention of the country to improve the care of the injured we plan to conduct this analytical cross sectional study in AaBET and this will give us new insight on the prevalence and the associated risk factors of head injury.

2. Literature Review

Traumatic Head injury (THI) is an important global public health problem as a major cause of traumatic death and disability. The spectrum of severity of THI varies, but most THI is classified as mild traumatic Head injury (MTHI) followed by moderate and severe head injury, based on clinical and surveillance definitions. From a public health perspective, it is important to know the incidence of a condition in order appropriately to plan healthcare policy and provision. Furthermore, determining what factors increase the risk of MTHI is necessary to develop public health programs to prevent the problem and lessen the likelihood of disability [14].

In USA, the incidence of head injury at the emergency department was reported to be 394/100,000 people with a mortality rate of 19.3 per 100,000 [15]. In the United Kingdom, the attendance rate of HI at an emergency department showed that HI constituted 3.4% and the total attendance, and incidence was 453/100,000. [16]. According to a study which was conducted in Korea. The mortality rate of the head injury was 9.5%. The severity of head injury based on GCS was mild in 73.4%, moderate in 11.4%, and severe in 16.3% [17].

According to study which was conducted in Norway based on GCS and presence or absence of consciousness at time of examination to 492 (84%) mild, 16 (3%) moderate and 77 (13%) severe head injury. Sex specific incidence rates were 258 per 100,000 for males and 156 per 100,000 for females the causes of head injury were falls in 299 (51%), RTA in 126 (21%), assaults in 81(14%) and other in 79 (14%) cases [18].

A study which was conducted at Tertiary Care Hospital in India indicated that the majority of head injuries are due to Road Traffic Accident 298 (59.60%) cases followed by fall from Height 101 (20.20%) cases, Assault 21 (4.20%) and occupational head injury 79 (15.80%) cases, whereas other like gunshot comprised of 1 (0.20%) cases. The peak incidence of head injury was observed in the age group 21-30 years comprising 45% of the cases and it was also observed that 21% belonged to the age group 31-40 years. Out of 500 cases 383 (76.6%) were males while 117 (23.4%) were females [19]. A Study which was conducted in Egypt at Assiut University indicated that incidence of head injury was 3.07%. Head injuries due to road traffic accidents represents 60.9% (810 cases) and 35.8% of cases (290) were in age group between 20- 30 years, followed by the age group between 10-20 (22.2%) and 30- 40 (18.52%), the least affected age group was age greater than 60 (4.9%) and less than 10 (2.5%). Males affected more than females which accounts 85.7% of males and 14.3% of females with a ratio of 6:1 patient were classified according to Glasgow Coma Scale (GCS) into: severe (GCS < 8) which accounts (32%), moderate (GCS 9-12) accounts 22% and mild (GCS 13-15) accounts 46% [20]. According to a study conducted in Nigeria 13.0% had head injuries. There were 342 (79.9%) males and 86 (20.1%) females with male to female ratio of 3.9:1 and incidence was common in age between 21- 30years 33.8%, while the least were those between 71-80 years 0.7%. Road traffic accidents (RTAs) were the most common cause of injury accounting for 71.7% patients. According to this study, severity of head injury on Glasgow coma scale indicated that majority of patients suffered mild head injury [21].

According to the study which was conducted at JUSH interpersonal fight (38.5%) and traffic Accidents (36.5%) accounted for most of the injuries. Of all injuries, 15.4% were due to falling accidents mainly in children and distribution of the severity of injury measured with the initial Glasgow Coma Score (GCS) indicates that 37 (71%) of all patients were discharged with a good recovery Glasgow Outcome Scale (GOS) 5, 7.7%. with a disability and 21.2% died and All patients with initial GCS greater than 6 survived whereas almost all patients with initial GCS 6 and less were died and Patients with both nonreactive pupils at the initial examination died in 87.5% of cases. Only 10% of the patients who sustained injury from interpersonal fight had an initial GCS below 9 compared to 52.6% in RTI patients. In this study initial GCS of 10 (64.7%), (13.6%) suffered moderate head injury, while (21.7%) sustained severe head injury [22].

A study conducted in 2018 in Ethiopia shows the prevalence of head injury was 40.5% of trauma patients visiting the Surgical Emergency Department of Gondar University Referral Hospital. The cause of head injury was mostly related to interpersonal violence which accounts for 49 (46.7%), followed by RTA, which accounts for 28 (26.7%) and 13 (12.4%) were from a fall. the majority of head injury patients lie in the age group of 25–44years 101 (38.8%) followed by 51 (19.6%) in the age group 20–24 and 38 (14.6%) were in the age group 15–19. Head injury severity in this study was based on the Glasgow Coma Scale with the majority of patients sustaining mild head injury 56 (53.3%), 41 (39.1%) sustaining a moderate head injury, while 8 (7.6%) sustained severe head injury. The odds are 5.33 times greater of being a male likely to sustain a head injury as compared with female [23].

3. Objective

3.1 General Objective

- To assess the prevalence and associated risk factors of head injury among trauma patients presented to AaBET hospital from June 16 to July 16, 2019 Addis Ababa, Ethiopia.

3.2 Specific Objectives

- To determine the prevalence of head injury among trauma patients presented to AaBET hospital.
- Associated risk factors of head injury among trauma patients presented to AaBET hospital.
- To assess the outcomes of head injury among trauma patients presented to AaBET hospital.

4. Method

4.1 Study area and Period

The study will be conducted from June 16 to July 16, 2019 in Addis Ababa burn, emergency and trauma hospital(AaBET) which is an affiliate Hospital of SPHMMC and it was opened by the FMOH on August 2015 with the mission of managing burn, emergency cases and trauma. Annually, the hospital serves 5,000 to 7,000 patients with a total of 250 beds. It has a total of 209 health professional, with 161 Nurses, 28 Medical Doctors and 20 Specialists with different areas of specialty. In addition, 15 pharmacy professionals serve the hospital (SPHMMC, 2016) AaBET Hospital provides 24/7 specialty services in emergency medicine, critical care, trauma and acute care surgery, orthopedics, neurosurgery, and forensic medicine; patients presenting with complaints requiring additional specialty services (e.g., cardiology, gastroenterology) are stabilized and transferred to nearby SPHMMC.

4.2 Study Design

Institution based, analytical cross sectional study will be conducted.

4.3 Source Population

All trauma patients presented to AaBET hospital will be the source population for the study.

4.4 Study population

All trauma patients presented to AaBET hospital and fulfill the inclusion criteria from June 16 to July 16, 2019.

4.5 Inclusion and exclusion criteria

- **Inclusion criteria**
 - All trauma patients who have head injury who visits AaBET hospital from June 16 to July 16, 2019.
- **Exclusion criteria**
 - All trauma patients who presented to the hospital comates and without attendant will be excluded from the study.
 - All trauma cases diagnosed death on arrival without possible cause of death will be excluded from the study.

4.6 Sample size and sampling techniques

The sample will be calculated using single population proportion formula to obtain the sample size needed to estimate the prevalence of head injury in the population visiting AaBET hospital. Systematic random sampling technique will be employed to select the study participants. Among the trauma patients who visit the hospital and registered in the triage center we will include every third patient from the list in to the study.

$$n = \frac{(Z_{\alpha/2})^2 P(1-P)}{d^2}$$

Where;

n=minimum sample size required for the study.

Z=standard normal distribution (**Z**=1.96), **CI** of 95%.

P=Prevalence of Head injury patients visiting Gondar University Hospital Emergency department was **P**=14.8% [22].

d=Absolute precision or tolerable margin of error=5% (0.05).

$$n = \frac{(1.96)^2 \times 0.148 (1-0.148)}{(0.05)^2} = 194$$

By adding 5% non-respondent rate the total sample size is **204**

4.7 Variables

Dependent variable

- Head injury

Independent variables

- Age
- Sex
- Educational level
- Occupation
- Role of human intent
- Mechanism of injury
- Associated injury
- Alcohol consumption
- Marital status
- Residence

4.8 Definition of terms

Prevalence- The total number of cases of a disease in the given statistical population at a given time.

Head injury- Physical damage/ structural change to the scalp or skull due to any type of external force to the head.

Traumatic brain injury (TBI) - Alteration in brain function which is manifest as confusion, altered level of consciousness, coma, seizure, and etc.

GCS- Glasgow coma scale used for assessing the neurological status of the patient.

Trauma- Any serious injury to the body often resulting from violence or an accident.

Mild head injury- An injury to the head when Glasgow coma scale is between 13 and 15.

Moderate head injury- An injury to the head when Glasgow coma scales between 9 and 13.

Severe head injury- An injury to the head when Glasgow coma scale is less than or equal to 8

4.9 Data collection tools and procedures

A structured questionnaire will be adapted from the WHO (World Health organization) injury surveillance document and will be used after modified to fit the study population and data abstraction tool will be used for patient card review. For the data collection three nurses and two supervisors will be selected from AaBET hospital and two days training will be given for the data collectors and supervisors about the questionnaire by the principal investigator. The questionnaire will be translated in to Amharic language and those patients included in the study will be interviewed by data collectors.

4.10 Data quality assurance

Before the data collection the questionnaire will be translated to Amharic and translated back to English to check its consistency. Pretest of the semi structured questioner will be done on 5% of study sample at Ras Desta Hospital to check the validity and reliability of data collection tools and necessary modifications will be made based on the findings. Prior to data collection period, training will be given for two data collectors and one supervisor. Onsite supervision will be given to solve any ambiguity with data collection tools and techniques and the filled check lists will be cross checked at the end of each data collection day for completeness.

4.11 Data processing and Analysis

Data cleaning will be carried out by the principal investigator. Data will be checked for completeness and will be entered to Epi-info version 7.2 statistical software and will be exported to SPSS version 24(Statistical Package for Social science) for further analysis. Frequencies and cross tabulations will be used to summarize descriptive statistics of the data. Simple logistic analysis will be used primarily to check variables which have associations with the dependent variable. Variables found to have association with the dependent variable will be entered into

multiple logistic regression for controlling the possible effect of confounders and finally the variables with significant association at $P\text{-value} < 0.05$ will be identified on the basis of Odds Ratio with 95 % confidence interval.

5 Ethical consideration

Ethical clearance will be obtained from Ethical review committee of St. Paul's Hospital Millennium Medical College and permission and formal letter of cooperation will be secured from the SPHMMC Academic provost. Each respondent will be informed about the purpose of the study and informed verbal consent will be obtained from each study participants before the actual data collection. Those patients who agreed will be included in the study.

6 Dissemination plan

The result of the study will be given to the study setting and to SPHMMC, department of Public Health, and the finding will be disseminated to concerned bodies such as service providers, policy makers and other concerned stake holders. Finally, the manuscript will be published through reputable journal.

7 Budget break down

7.9 Stationeries

S. No.	Item	Unit of measurement	Quantity	Cost per unit	Total Cost per unit
1	Duplicating papers	Reams	5 Reams	500 birr	2500
2	Photocopy paper	Reams	5 reams	500 birr	2500
3	Pen	Dozens	5 dozens	100 birr	500
4	Pencil	Dozens	5 dozens	100 birr	500
5	Laser jet Ink	Pack	3 packs	2000	6000
7	Flash disk	8GB	3	500	1500
8	Total				13,500

7.10 Personnel

S. No	Item	Unit	Quantity	Cost per unit (birr)	total cost
1.	Data collector	Per questionnaire	204	40	8160
2.	Secretarial works	Per head	1	1000	1000
3.	Stapling	per head	2	200	400
4.	Total				9,400

7.11 Total budget

To be changed for	Price(birr)
Personnel	9,400
Stationary materials	13,500
Contingency (10%)	2,490
Total	25,550

8 Work Plan

S.N	Activities	Responsible Person	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1	Topic selection	Principal investigator	x										
2	Topic approval	Research office		x									
3	Consulting advisors	Principal investigator						x					
4	Writing proposal	Principal investigator						x					
5	Submission of 1 st draft	Principal investigator						x					
6	Feed back	Advisor						x					
7	Submission of final proposal	Principal investigator							x				
8	Data collection	Principal investigator								x			
9	Analysis	Principal investigator									x		
10	Submission of 1 st result	Principal investigator										x	
11	Feed back	Advisor										x	
12	Submission of final result	Principal investigator											x

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10. Annex

11.1 Dummy table

Sex	Number	Percent
Male		
Female		
Total		

AGE	NUMBER	PERCENT
<5		
5-14		
15-24		
25-34		
35-44		
45-54		
55-64		
>64		

OCCUPATION	NUMBER	PERCENT
Employed		
Student		
Farmer		
Unemployed		
Other		
Unknown		

RESIDENCE	NUMBER	PERCENT
Urban		
Rural		

11.2 Questionnaire

Prevalence and Associated Risk Factors of Head Injury among Trauma Patients of Addis Ababa Burn, Emergency and Trauma Hospital, Ethiopia May 16 to June 16, 2019

Consent Form

My name is _____, I am a nurse working here in AaBET Hospital emergency OPD and now I am collecting data from our trauma patients for the research being conducted to determine the Prevalence and Associated Risk Factors of Head Injury among Trauma Patients by Dr. Yosef Asrat who is the Master of Field Epidemiology student in SPHMMC. You are selected as one of study subject by chance. The investigator employed me for this data collection to maintain your data strictly confidential. We believe that the findings of this study will have significant input in understanding the cause and outcomes of head injury. The interview will be done when you give permission, participation is totally voluntary. Name and other personal identifiers will not be recorded on data collection format and the information we got will be kept confidential and will also be used for this study purpose alone. You have full right not to be part of this study and you will not also be denied of getting any medical services from the hospital. If you have any questions about this study you may ask me or the principal investigator Dr. Yosef Asrat (Tel: 0913155435 or E- mail Yosef.asrat34@gmail.com) Are you willing to participate in this study?

1. Yes

2. No

Signature which shows that the respondent has consented (verbally) to take part in the study.

Identification No.		Date:	
I. Socio-demography of the participants			
A. Age:			
B. Sex: Male ☐ Female ☐			
C. Where do you live (Residence)?			
1. Urban ☐			
2. Rural ☐			
D. What is your educational background?			
1. Primary school ☐			
2. Secondary school ☐			
3. Tertiary ☐			
4. Illiterate ☐			
E. what is your Occupation?			
1. Employed ☐			
2. Unemployed ☐			
3. Student ☐			
4. Pastoralist ☐			
5. Farmer ☐			
6. Other ☐			
F. What is your Religion?			
1. Orthodox, ☐			
2. Protestant, ☐			
3. Muslim ☐			
4. Catholic ☐			
5. other ☐			
G. What is your Marital status?			
1. Married, ☐			
2. Single ☐			
3. Widowed ☐			
4. Divorced ☐			
5. Not Applicable ☐			
II. History of the patient who presented in the emergency department			
A. How did the patient arrive in the emergency department?			

1. Ambulance	☐
2. Taxi	☐
3. Private car	☐
4. Ambulatory	☐
5. Police	☐
B. Where were you when you get injured?	
1. Home	☐
2. School	☐
3. High way/street	☐
4. Other(specify)	☐
C. What were you doing when you were injured?	
1. Work	☐
2. Education	☐
3. Travelling	☐
4. Sport	☐
5. Other (specify)	☐
D. How was the injury inflicted on the patient?	
1. Traffic injury	☐
2. Sexual assault	☐
3. Fall	☐
4. Other blunt forces	☐
5. Gun shoot	☐
6. Stab/cut	☐
7. Fire /heat	☐
8. Choking / hanging	☐
9. Drowning	☐
10. Poisoning	☐
11. Other (specify)	☐
E. How was the injury occurred(intent)?	
1. Unintentional	☐
2. Intentional	☐
3. Self-harm	☐
4. Other (specify)	☐
F. Did you use alcohol within 6 hours of the incident?	
1. Yes	☐
2. No	☐

Prevalence and Associated Risk Factors of Head Injury among Trauma Patients of Addis Ababa Burn, Emergency and Trauma Hospital, Ethiopia May 16 to June 16, 2019

ስሜ.....እባላለው በሙያዬ ነርስ ስሆን የምሰራውም አቤት ሆስፒታል ድንገተኛ ክፍል ነው። አሁን የተለያዩ ጉዳት ከደረሰባቸው ከህመማን መረጃ እየሰበሰብኩ ሲሆን መረጃውም የጭንቅላት ጉዳት ስርጭቶችን በተለያዩ ጉዳቶች ከደረሰባቸው ህመማን ላይ ያለውን ስርጭት ለማወቅ የሚደረግ ጥናት አካል ነው ። ጥናቱንም የሚያከናውነው ደ/ር ዬሴፍ አስራት ሲሆን የመጨረሻ ዓመት የ ፊልድ ኢፕዲሞሎጂ ተመራቂ ተማሪ ነው በ ቅ/ጳ/ሆ/ሚ/ሜ/ኮ። በዚህ ጥናት ውስጥ እርሰው በእጣ ገብተዋል። አጥኝው መረጃ ከእርስወ ለመሰብሰብ የመደበኛ ስለሆነ እዲተባበሩኝ በትህትና እጠይቃለሁ። ይህ ጥናት ስለ ጭንቅላት ጉዳት መንስኤ እና ውጤት ተጨባጭ መረጃዎች ይሰጣል ተብሎ ይታመናል። ስለሆነም በመጠየቁ መሳተፍ ወይም አለመሳተፍ መብትዎ እደሆነ አውቀው ተሳታፊ እንዲሆኑ ተጋብዘዋል። ስምዎ ሆነ ሌሎች መረጃዎች በጥንቃቄ የሚያዙ ስለሆነ መረጃዎ በሚስጥር ተይዞ ለጥናት ብቻ ይውላል። ጥናቱ ውስጥ ባይሳተፉም ምን አይነት የህክምና አገልግሎት የማይከለከሉም። ግልጽ ያልሆነ ነገር ካለ በዚህ አድራሻ አጥኝውን ማነጋገር ይችላሉ ። ስልክ 0913155435 ኢሜል yosef.asrat34@gmail.com

በጥናቱ ለመሳተፍ ፈቃደኛኖት?

1. ፈቃደኛ ነኝ
2. ፈቃደኛ አይደለሁም

ካር ቁጥር:.....

ቀን:.....

1. እድሜ
2. ጾታ ሀ. ወንድ ለ. ሴት
3. የመኖሪያ ስፍራ ሀ. ከተማ ለ. ገጠር
4. የትምህርት ደረጃዎ ምን ያህል ነው?
 ሀ. የመጀመሪያ ደረጃ
 ለ. ሁለተኛ ደረጃ
 ሐ. ሦስተኛ ደረጃ
 መ. ያልተማረ
5. ሥራዎ ምን ድን ነው?
 ሀ. ተቀጣሪ ሰራተኛ
 ለ. ስራ አጥ
 ሐ. ተማሪ
 መ. ገበሬ
 ሰ. ሌላ
6. ሀይማኖትዎ ምን ድን ነው?
 ሀ. ኦርቶዶክስ ክርስቲያኒቲያን
 ለ. ፕሮቴስታንት
 ሐ. ሙሥሊም
 መ. ካቶሊክ
 ሰ. ሌላ
7. የጋብቻ ሁኔታዎ?
 ሀ. ያገባ/ያገባች

- ለ. ያላገባ/ያላገባች
 - ሐ. የሞተበት/የሞተባት
 - መ. የፈታ/የፈታች
8. አደጋው እንዴት ደረሰብዎት?
- ሀ. በትራፊክ አደጋ
 - ለ. በወሲብ ትንኮሳ
 - ሐ. በመውደቅ አደጋ
 - መ. በሌሎች የምት አደጋ
 - ሰ. በተተኮሰ ጥይት
 - ረ. በመውጋት
 - ሸ. በእሳት አደጋ
 - ቀ. በድብደባ
 - በ. በመስመጥ አደጋ
 - ተ. በመመረዝ አደጋ
 - ቸ. ሌላ
9. አደጋው ሲደርስብዎት የት አካባቢ ነበሩ?
- ሀ. እቤት
 - ለ. ትምህርት ቤት
 - ሐ. አውራ ጎዳና ላይ
 - መ. ሌላ ቦታ
10. በአደጋው ወቅት ምን አየሰሩ ነበር?
- ሀ. ስራ ላይ
 - ለ. ትምህርት ላይ
 - ሐ. ጉዞ ላይ
 - መ. ስፖርት ላይ
 - ሠ. ሌላ
11. አደጋው የደረሰበዎት በምን ምክንያት ነው?
- ሀ. ያልታሰበ ድንገተኛ አደጋ
 - ለ. ሆን ተብሎ የደረሰ አደጋ
 - ሐ. በገዛ ራስ ላይ የደረሰ አደጋ
 - መ. ሌላ
12. አደጋው ከመድረሱ በፊት ባሉት ስድስት ሳንታት ውስጥ አልኮል ጠጥተው ነበር ?
- ሀ. ተጠቅመዋል
 - ለ. አልተጠቀምኩም
13. ወደ አቤት ሆስፒታሉ እንዴት ደረሱ?
- ሀ. በአምቡላንስ
 - ለ. በታክሲ
 - ሐ. በግል መኪና
 - መ. በእግር ተጉዘው
 - ሠ. በ ፖሊስ

Data Abstraction tool for patient cards

A. How sever was the head injury according to GCS score?	
1. Mild	☐
2. Moderate	☐
3. Sever	☐
B. What was the patient outcome after the injury?	
1. Treated and discharged	☐
2. Admitted	☐
3. Died	☐
4. Other (specify)	☐
C. What was the nature of the head injury the patient sustained?	
1. Penetrating Head injury	☐
2. Blunt Head injury	☐
3. Other (specify)	☐
D. What are the associated injuries the patient sustained?	
1. Skull fractures	☐
2. Neck injury	☐
3. Chest injury	☐
4. Abdominal injury	☐
5. Pelvic injury	☐
6. Other (specify)	☐
E. How was the trauma patient treated in the hospital?	
1. Non operative approach	☐
2. Surgery	☐
3. Medical treatment	☐
4. Other(specify)	☐