

DEMOGRAPHIC ANALYSIS OF FRACTURE PROFILE OF PATIENTS AT ACCIDENT AND EMERGENCY DEPARTMENT OF ORTHOPEDIC SURGERIES AND TRAUMATOLOGY (DOST)-UNIT-1 MAYO HOSPITAL LAHORE

Sundas Zahra^{1*}, Abid Rashid¹, Farhan Sarwar², Muhammad Nouman Tabassum³, Faryal⁴ and Naheed Akhtar⁵

Abstract: Trauma is a type of body wound, collapse or breakdown due to unexpected physical injury like from collision or disaster. Trauma includes various injuries and accidents; the data was analyzed for the patient's demographic profiles, nature of severity of accidents, types of accidents, way of treatment of various injuries and accidents. This is a non-randomized, hospital based, single centered, retrospective study conducted at accident emergency (AE) department, Mayo hospital Lahore. Data was collected from department of orthopedic surgeries and traumatology king Edward medical university Mayo hospital Lahore. In this study I have analyzed that the data for the patients coming to A & E department with severe injuries occurring during accidents over a period of time one year. Historical study design was used in this project and I was provided with all the demographic data and required information. Data was analyzed by using spss 11.5. Objective of this to analyze the demography of fracture profiles of the patients at accident emergency department of orthopedic surgery and traumatology (dost)-unit-1 Mayo hospital Lahore. Descriptive statistical tools, frequency distribution, graphs, mean, standard deviation, chi square and proportion was used to analyze the data. The percentage of patients coming to accident and emergency department in month of August was greatest i.e. 10.65% by month of October and December having percentages 9.74% and 9.65% respectively. 2. Out of total 1970 patients 1511 (76.7%) were males and remaining 459 (23.3%) were females with different types of injuries and fractures have come to A & E department over a period of one year. 3. Out of 1970 patients 1608 (81.6%) patients were having close fracture while 337 (17.1%) were having open fracture 4. frequency of bone affected for hummers bone was 185 (9.4%). for femur was 427 (21.7%), for scapula was 26 (1.3%), for ankle was 64 (3.2%), for clavicle was 114 (5.8%), for ulna was 134 (6.8%), for radius was 164 (8.3%), for tibia was 330 (16.8%), for hand was 279 (14.2%), for foot was 126 (6.4%), for pelvic dislocation was 32 (1.6%), for patella was 44 (2.2%), for vertebral dislocation was 14 (6.8%), for skull was 1 (0.1%), for metacarpals was 20 (1%), for elbow was 5 (0.3%), for metatarsals was 1 (0.1%) and for cervical was 2 (0.1%). From this research I concluded that the proportion of accidents in summer season in months of August and in winter season in months of October and December specially in males was greater than in females and injuries of lower limb involving femur and tibia were more common than fractures of upper limb in patients in year 2008.

1. College of Physical Therapy, Directorate of Medical Sciences, Government College University, Faisalabad, Pakistan
2. Department of Orthopedics, Punjab Medical College, Allied/Civil Hospital, Faisalabad, Pakistan.
3. Shaukat Khanum Memorial Cancer Hospital (SKMCH), Lahore, Pakistan
4. University of Lahore, Gujrat Campus, Pakistan.
5. College of Allied Health Professionals, Directorate of Medical Sciences, Government College University, Faisalabad, Pakistan

***Corresponding Author Email:**
zaharasundas@live.com

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INTRODUCTION

Trauma: Trauma is a type of body wound, collapse or breakdown due to unexpected physical injury like from collision or disaster (1). After sixty minutes of trauma occurrence, trauma victims may need

particular emergency care including surgical procedures and blood transfusions within initial hours of crisis.

Trauma Patient: A victim who has agonized a lethal physical injury with possibility of secondary complications like cardiovascular

and respiratory failure eventually leading to death.

Types of Trauma: Major types of trauma are:

Nature Trauma: Earth quakes, substantial fires, floods, tropical storms and volcanic eruptions are archetypal natural catastrophes. The devastating aspects of these natural catastrophes are physical harm, loss of belongings and horror of death.

Large Scale Transportation Accidents: Devastating transportation collision on large scale includes incidents like airline crashes, ships and train collisions mostly involving numerous victim's high mortality rate.

House or Other Domestic Fires: Fire injury is the most common physical trauma that usually occurs at home leading to highly affecting injuries and burns and is caused by short circuits, gas explosions, heaters and smoking in bed.

Motor Vehicle Accidents: In Pakistan and United States the serious and major cause of trauma incidents presented in emergency department are motor vehicle accidents.

Stranger Physical Assault: To beat, stab, shoot and other violent actions against a person not well known to the attacker with the motive of robbery or the expression of anger is the stranger's assault that causes physical trauma (2).

Physical Trauma: (blunt trauma, penetrating trauma): Any type of physical injury of extreme level according to severity including penetrating and blunt trauma (3).

Bone Fractures: Any type of break or crack in the continuity of the bone is known as bone fracture. Majority of bone fractures occurs due to accidents or collisions involving high impact forces and stress along with some pathological conditions of musculoskeletal origin like osteoporosis, osteogenesis imperfecta, bone tumors and cancers etc.

Fractures with larger displacements and angulations are also of concern because it may complicate the condition with difficult reduction and mostly requires surgical procedures which also take more time to heal.

Classification:

Closed Fracture: Fractures in which overlying skin remains unblemished.

Open Fracture: Fractures involving open wounds communicating with the fractured bone, with increased chances of contamination of bone and may require specific antibiotic therapy and debridement because the fracture hematoma is exposed.

Simple Fractures: Fracture along single line that divide the bone into two parts which is a simple one with better prognosis and easy to treat.

Multi—Fragmentary Fracture: Breaking of bone into numerous pieces is known as multi-fragmentary fracture.

Compression Fracture: Fracture due to impact of compressive forces specially involving vertebrae with spinal crumpling in osteoporotic patients (4).

According to planes there is another classification of fractures which includes complete, incomplete, linear, transverse, oblique and spiral. This classification considers the fractures lines making an angle with the bone axis and planes.

OTA Classification: The orthopedic trauma association, an association for orthopedic surgeons devised an elaborate classification system to describe the injury accurately and guide treatment. There are five parts to the code (5).

Location: the part of the bone involved (e.g. shaft of the femur): proximal diaphysis distal malleolar.

Type: It is important to note whether the fracture is simple or multifragmentary and

whether it is closed or open. a=simple, b=wedge fracture, c=complex fracture.

Group: the geometry of the fracture is also described by terms such as transverse, oblique, spiral, or segmental.

Subgroups: other features of the fractures are described in terms of the displacement, angulations, and shortening. A stable fracture is one which is likely to stay in a good position while it heals; an unstable one is likely to shorten, angulated or rotates before healing and lead to poor to form groups (6).

Demography: Demography is a statistical study of all populations. The science which deals with any type of effectual population which is varying with time. The study size, composition, distribution of population, spatial and regional changes are under influence of factors like nativity, emigration, aging and demise are included in this type of study. Demographic studies are valid to be applied on communities, or to classes characterized by standards like educational status, nationality, religion, and ethnicity.

Formal Demography: Formal demography limits its objects of study to the measurement of populations, processes, while the broader field of social demography population studies also analyzes the relationship between economic, social, cultural and biological processes influencing a population (7).

MATERIALS AND METHODS

Study design: Historical descriptive study design was used.

Study setting: The study was completed at the department of orthopedic surgery and traumatology (dost)-Unit-I.

Sampling Technique: Non probability purposive selection

Inclusion Criteria: Already collected data based on Performa filled at accident and emergency department of orthopedic

surgeries and traumatology DOST UNIT-I, were taken of year 2008. That Performa containing 77 variables regarding the patient's general information, socioeconomic status, mode of accidents, body parts injured, treatment given and the gender specifications etc.

Exclusion Criteria: The patients Performa's without proper information and other than fracture and trauma injuries were excluded.

Data Analysis: Raw data were entered into Statistical Package for Social Sciences (SPSS) 11.5 and was analyzed using the same software.

All data were presented in frequency table (percentage) and selective graphs. The quantitative data were presented as mean ($\pm$) standard deviation. On parametric chi square (χ^2) test for proportion were used to see the most common category of different variables. A "p" values less than 0.05 were considered as significant.

RESULTS:

The study was performed on one-year data (year 2008) of patients presented at accident emergency department of orthopedic surgery and traumatology (dost)-unit-1 mayo hospital Lahore.

In this study, it was observed that out of 1970 patients treated at accident emergency, 1511(76.7%) were male and 459 (23.3) were female and from this we concluded that the frequency of accident injury in males is more than female due to their more exposure to external environment as males have to go on jobs and other outside activities so risk of their injuries is much more than females.

Out of 1970 patients the frequency of the patients having poor socioeconomic status was 1176 (59.7%), the frequency of patients having middle socioeconomic status was 756 (38.4%) and the frequency of patients belonging to higher socioeconomic status was 38 (1.9%). So in poor socioeconomic

status the rate of trauma was greater as compared to middle and high socioeconomic status so it is also an important factor related to accident injuries. Most of patients affected by injuries were belonging to working class like students, government employee, labor, manual worker etc.

In all patients, 1683 (85.4%) patients were belonging to urban areas and 287 (14.6%) were belonging to the rural areas so it reveals that the rate of accident injuries is greater in urban areas than in rural areas due to greater traffic capacity in cities than in villages and due to more traffic the road traffic accidents is greatest of all injuries which is about 1025 (52%).

Out of total 1970 patients the frequency of patients having any pre-existing illness regarding CNS was 5 (0.3%), having psychiatric illness was 5 (0.3%), having G.I.T was 3 (0.2%), having respiratory illness was 9 (0.5%), having I.H.D was 15 (0.8%) and the frequency of the patients having no pre-existing illness was 1859 (100%).

Out of total 1970 patient's frequency of patients having congenital illness was 1 (0.1%), having RA was 3 (0.2%), having DJD was 1 (0.1%), having osteoporosis was 10 (10%), having trauma 234 (11.9%), having infection was 5 (0.3%), having previous fracture was 1 (0.1%), having any type of surgery was 6 (0.3%) and having no pre-existing local disease was 1708 (86.7%).

It was concluded from whole data that the frequency of patients having RTA/ industrial as an injury type was 1025 (52%), agriculture was 108 (5.5%), fall/ sports was 598 (30.4%), domestic was 125 (6.3%), violence was 32 (1.6%), firearm was 72 (3.7%), blast was 3 (0.2%), suicidal self-inflicted was 7 (0.45%).

The frequency of patients whom were given analgesics as first aid was 745 (37.8%), frequency of those who were given splint aid

treatment was 285 (14.5%), for dressing of wounds was 140 (7.1%), for traction was 20 (1%), for i/v fluid was 16 (0.8%), for blood transfusion was 1 (0.1%), for resuscitation was 8 (0.4%), for antibiotics was 132 (31.6%) and those which were not given first aid was 623 (31.6%).

The frequency of patients for whose shock index was less than 1 was 1909 (96.9%), from equal to 1 was 48 (2.4%), and for those whose pulse rate was not recordable were 10 (0.5%).

It was observed that the frequency of patients for growth place having open fracture was 337 (17.1%), for close fracture was 1608 (81.6%) and those whose information was not given were 25 (1.3%).

It was also concluded that the frequency of the involving right side fracture was 1189 (60.4%), for left side 754 (38.3%) and for having both side involved was 27 (1.4%).

The frequency of the bone affected for humerus bone was 185 (9.4%), for femur was 427 (21.7%), for scapula was 26 (1.3%), for ankle was 64 (3.2%), for clavicle was 114 (5.8%), for ulna was 134 (6.8%), for radius 164 (8.3%), for tibia was 330 (16.8%), for hand was 279 (14.2%), for foot was 126 (6.4%), for pelvic location was 32 (1.6%), for patella was 44 (2.2%), for vertebral location was 14 (0.8%), for skull was 1 (0.1%), for metacarpals was 20 (1%) for elbow was 5 (0.3%), for metatarsals was 1 (0.1%), for cervical was 2 (0.1%).

As a whole rate of patients having upper limb injuries was 919 (46.7%), the rate of head and neck injuries was 17 (1%) and the rate of lower limb injuries was 1034 (52.3%).

The frequency of bone segments affected involving proximal end was 375 (19%), involving shaft was 748 (38%), involving distal end was 365 (18.5%), involving malicious was 31 (1.6%) and involving none was 451 (22.9%).

The frequency of various fracture groups involved in fractures for simple fracture was 1421 (72.1%), FO wedge group was 134 (6.8%), for comminuted was 265 (13.5%), for transverse group was 1 (0.1) % and of those having none was 149 (7.6%).

The frequency of fracture bone end if the bone was fractured for extra articular was 1594 (80.9%), for partial articular was 114 (5.8%), for complete articular was 127 (6.4%) and of those for which it was not applicant was 135 (6.9%).

The frequency of the patients having fracture displacement involving group mild, less than 50% was 1111 (56.4%), for group moderate (50-100) was 480 (24.4%), for group gross more than 100% was 213 (8.4%) and of those for this it was not applicant was 166 (8.4%).

The frequency of patients having no muscle injury was 1801 (91.4%), having no skin injury was 1458 (74%).

The frequency of the patients having no muscle injury was 1801 (19.4%), having circumscribed muscle injury was 99 (5%), having avulsion penetration was 10 (0.5%), having tendon injury (extensor) was 15 (0.8%) and having crush compartment injury was 19 (1%).

This study concluded that the frequency of the patients having no injury was 1901 (96.5%), having isolated NV injury was 31 (1.6%), having local vascular injury was 9 (0.5%), having segmental vascular injury was 7 (0.4%) and having subtotal/ amputation was 22 (1.1%).

The frequency of the patients to whom blood was transfused was 81 (4.1%) and to whom blood was not transfused was 1889 (95.9%).

The frequency of patients for which anesthesia was none was 1275 (64.7%), for which local anesthesia was 396 (20.1%), for regional was 69 (3.5%), for general anesthesia was 99 (5%) and for analgesia+

sedation was 20 (1%), spinal was 111 (5.6%).

The frequency of the patients for procedure done in a and e for treatment by w/d was 46 (2.4%), by orif with k-wire fixation was 219 (11.1%), by amputation was 160 (8%), by plating was 2 (0.1%), by ex-fix was 66 (3.4%), by back slab was 394 (20%), by polysling was 123 (6.2%), by traction was 193 (9.8%), by nothing was 334 (17%), by pop cast was 147 (7.5%), by tension band wire was 2 (0.1%), by colley's cast was 55 (2.8%), by u- slab was 49 (2.5%), by pin plaster was 3 (0.2%), by AO ext fixator across wrist was 19 (1%), by close reduction hand with pop was 7 (0.4%), by AO ext. fixator was 24 (1.2%), by tendon repair was 11 (0.6%), by DCP was 11 (0.6%), by pop cast +skin traction was 52 (2.6%), by w/d+ reduction+ stem pin was 1 (0.1%), by w/d +wound closure was 6 (0.3%), by amputation was 2 (0.1%), by open k nail passed was 14 (0.7%), by removal of fb was 55 (2.8%), by conservative was 21 (1.1%), by ulnar gutter was 6 (0.3%), by stump chosen was 1 (0.1%), by calcaneus pin was 1 (0.1%), by volar slab was 2 (0.1%), by steimen pin 21 (1.1%), by crepe bandage was 27 (1.4%), by cuff and collar sling was 2 (0.1%), by close reduction was 26 (1.3%), disarticulation was 1 (0.1%), by relocation of tm joint was 2 (0.1%).

The frequency of mode of transport of patients to MHL through govt. ambulance was 281 (14.3%), through NGO ambulance was 83 (4.2%), through private ambulance was 219 (11.1%), through pick up was 42 (2.1%), through private car was 193 (9.8%), through taxi was 75 (3.8%), through rickshaw was 297 (15.1%), through motorcycle was 113 (5.7%), through cycle was 7 (0.4%), through walking was 5 (0.3%), through rehra was 4 (0.2%) and the other modes was being 650, (33%).

It was observed that the frequency of govt. ambulance as a mode of transportation was less than the sum of other private modes of transport which shows that most of people in Pakistan use their own convenience or other modes in emergency. In Pakistan time diversion while reaching to accident emergency is greater than in foreign countries.

Objective description by data analysis:

The study shows that the relationship between socioeconomic status and accident information was such that out of total 1970 patients, the accident information of 538 patients having poor (0-5000) socioeconomic status was given and of 638 patients wasn't given. The accident information of 356 patients having middle (5000-15000) SES was given and of 400 was not given and the accident information of 14 patients having high (Above 15000) SES was given and of 24 patients was not given. The chi square test value for this was 1.667 and p value was 0.434.

This observation shows that out of 1970 patients, 868 patients having RTA/Industrial were male and 157 were female, 79 patients having agricultural injury were male and 29 were female, 387 patients having fall/sports injury were male and 21 were female. 71 patients having domestic injury were male and 3 were female. 67 patients having firearm injury were male and 3 patients having blast injury were male and no female was affected, 7 patients having suicidal injury were male and no female was affected. The chi square test value for this was 130.360 and P value was 0.000.

It was observed that out of 1970 patients, 1909 patients having fresh fractures were observed N, 394 were expected N and 1515 were residual, 8 patients having old fractures was observed N 394 were expected N and -386 were residual, 5

patients having fatigue fracture were observed N, 394 were expected N and -389 were residual, 45 patients having dislocation fracture were observed N 394 were expected N and -394 were residual, 3 patients having traumatic amputation were observed N, 394 were expected N and 391 were residual. The value of chi-square was 7284.83 and p value was 0.000.

DISCUSSION

The results of this study were compared to the other researchers in foreign countries and in Pakistan. In comparison to a research on the related topic done in 2007 in Mayo Hospital Lahore and concluded that the frequency of accidents and injuries in Pakistan in males and females is approximately same as males are always more affected. The ratio of close fracture is greater in Pakistan in most of studies. The percentages of femur and tibia fracture was highest followed by fracture of hand, humerus and radius, ulna fractures mostly (8,9).

In a related study foreign country Barcelona, Spain; Antonia Placentia estimated that the incidence of morbidity due to injuries in population over the age of 14 years in Barcelona, Spain. Injury distribution according to sex, age, external causes, place of occurrence of injury and severity was also obtained. A one-year survey was conducted in emergency departments of six main hospitals in Barcelona, based on a multistage sampling. The incidence rate was 74.7 injury cases per 1000 person-year over 14 years of age, higher in males than females. According to this study in Barcelona the overall admissions in one year we saw 3.34 cases per 1000 inhabitants, the proportion of hospitalized cases was 45 per 1000 injury cases admitted to emergency rooms higher for males for traffic accidents and in elderly people (9,10).

So according to this study and a study performed in Barcelona the ratio of accidents in males was greater in males than in females and traffic accidents are the major causes of accidents and injuries in most of the countries. In my study the overall attendance to emergency department of orthopedics in one year (2008) was 1970. The patients which were treated and discharge were 1122 (57%), admitted in orthopedic ward were 774 (39.3%), admitted in ICU were 2 (0.1%), discharge on request were 36 (1.8%), lama were 27 (1.4%), referred in ICU were 2 (0.1%) and referred in other department were 9 (0.5%) (11).

A. oggero (July 2004) presented the study of 1932 accidents that occurred during the transport OD hazardous substances by road and rail from beginning of 20th century to July 2004 was carried out. The results obtained show an increase in frequency of accidents over time. More than half of accidents were releases (78%), followed by fires (28%), explosions (14%) and gas clouds (6%) (12). According to this study of one-year, data (2008) the frequencies of various injury types were RTA/ accidents was 1025 (52%), firearm was 72 (3.7%), blast was 3 (0.2%) and suicidal self-inflicted was 7 (0.45%).

On comparing with above reference article, it can be observed that the frequency of road traffic accidents is greater as compared to all other types of accidents and injuries in mot of countries.

Payne D.M. et al compares accidents injuries and fatalities occurring during a one year Michigan emergency response study (MERS) with figures for the state's general population accidents over three and five years. Find that significantly higher rates of accidents occur in pursuits than in the general population or in police non pursuit experience but that the MERS fatal accidents rate was not significantly higher than in the general population.

Suggests that this is partly explained by officers having the advantage of defensive driving training and by a Hawthorne effect; also alcohol consumption is a common factor in general accidents. Point out that non-fatal injuries were significantly higher than comparable groups. Advocates the establishment of a database built on a mandatory police pursuit reporting system (13).

The situation revealed in my study that the general population especially with lower socioeconomic status was most affected in whole population was compared to pursuit people.

The two most common incidents of the casualties were collision and deviation. 57/3211 (1.8%) victims died either immediately or during transportation to our hospital. from the victims 43 (75.44%) were males and 14 (24.56%) females. the mean age of victims was 54 years (range 18-82 years). the most frequent fatal accidents time were the hours between 14:00-24:00 (28 victims=49.12%). April and July were the most fatal months (8 victims each= 14%). the primary use of abbreviated injury scoring system (A.I.S) on those who reached the hospital alive classified 518 cases (16.13%) as having mild injuries and 2693 cases (83.87%) as having medium and/ or severe injuries. morbidity and mortality among the population of Greece were 33238 and 2139 respectively within the above period. (14)

In this study it was concluded the main cause of injuries in population was the road traffic accidents which were about 1025(52%) that is greater than all others.

CONCLUSION

Orthopedic injuries in males were more than females. People with age groups (20-30) were seen to be most affected by injuries which have occurred due to accidents. Poor class was seen to be most affected by the accidents. Most of the

patients coming to a & e department with injuries were illiterate. Most of the accidents were of accidents at work and domestic types of accidents were also common. Most of patients received no first aid before arriving at mayo hospital Lahore.

The percentage of close fracture was more than open fracture. Fresh fractures were common than the old fractures. The percentage of femur fracture was highest followed by fracture of tibia, hand, hummers and radius, ulna fractures. In most patients the fractures displacement was i.e. less than 50%. Most patients do not have any type of skin injury. Muscle and neurovascular injury was seen only in fewer patients. Blood

transfusion procedure was not done in most of the patients. Anesthesia was not given to most of the patients. Most of the patients were given black slab and traction in A & E department but many other treatments such as pop cast, polyslingcolley's DSP plating for radius and ulna were also applied.

SUGGESTIONS

This study may help to reduce the contributing factors leading to increased ratio of accidental injuries and trauma and can provide a baseline for further studies on issues related to different factors of accident and injury departments of Pakistan's various hospital settings, their facilities mode of transportation and treatments.

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Table 1: Frequency distribution with respect to gender.

Gender	Frequency	Percent (%)
Male	1511	76.7
Females	459	23.3
Total	1970	100

Table 2: Frequency distribution with respect to socioeconomic status.

Socioeconomic status	Frequency	Percent (%)
Poor	1176	59.7
Middle	756	38.4
High	38	1.9
Total	1970	100

Table 3: Frequency distribution with respect to Area.

Address	Frequency	Percent (%)
Urban	1683	85.4
Rural	287	14.6
Total	1970	100

Table 4: Frequency distribution with respect to systemic pre-existing illness.

Pre-existing illness	Frequency	Percent (%)	Valid percent	Cumulative percent
CNS	5	.3	.3	.3
Psychiatric	5	.3	.3	.3
G.I.T	3	.2	.2	.7
Respiratory	9	.5	.5	1.1
DM	34	1.7	1.7	2.8
Hypertension	40	2.0	2.0	4.9
I.H.D	15	.8	.8	5.6
None	1859	94.4	94.4	100.0
Total	1970	100.0	100.0	

Table 5: Frequency distribution with respect to local preexisting illness.

Pre-existing illness	Frequency	Percent (%)	Valid percent	Cumulative percent
Congenital	1	.1	.1	.1
RA	3	.2	.2	.2
DJD	1	.1	.1	.3
Osteoporosis	10	.5	.5	.8
Trauma	234	11.9	11.9	12.6
Infection	5	.3	.3	12.9
Previous Fx	2	.1	.1	13.0
Surgery	6	.3	.3	13.3

None	1708	86.7	86.7	100.0
Total	1970	100.0	100.0	

Table 6: Frequency distribution with respect to types of injuries.

Injury type	Frequency	Percent (%)	Valid percent	Cumulative percent
RTA/ Industrial	1025	52.0	52.0	52.0
Agricultural	108	5.5	5.5	57.5
Fall/sports	598	30.4	30.4	87.9
Domestic	125	6.3	6.3	94.2
Violence	32	1.6	1.6	95.8
Firearm	72	3.7	3.7	99.5
Blast	3	.2	.2	99.6
Suicidal self	7	.4	.4	100.0
Total	1970	100.0	100.0	

Table 7: Frequency distribution with respect to fracture type.

Growth place	Frequency	Percent (%)
Open	337	17.1
Close	1608	81.6
None	25	1.3
Total	1970	100.0

Table 8: Frequency distribution with respect to type of the bone.

Name of bone	Frequency	Percent (%)	Valid percent	Cumulative percent
Humerus	185	9.4	9.4	9.4
Femur	427	21.7	21.7	31.1
Scapula	26	1.3	1.3	32.4
Ankle	64	3.2	3.2	35.6
Clavicle	114	5.8	5.8	41.4
Ulna	134	6.8	6.8	48.2
Radius	164	8.3	8.3	56.5
Tibia	330	16.8	16.8	73.3
Hand	279	14.2	14.2	87.5
Foot	126	6.4	6.4	93.9
Pelvis	32	1.6	1.6	95.5
Patella	44	2.2	2.2	97.5
Vertebral location	16	.8	.8	98.5
Skull	1	.1	.1	98.6
Metacarpals	20	1.0	1.0	99.6
Elbow	5	.3	.3	99.8

Metatarsals	1	.1	.1	99.9
Cervical	2	.1	.1	100.0
Total	1970	100.0	100.0	

Table 9: Cross tabulation between socioeconomic status (SES) and accident information.

Socioeconomic status	Accident information Yes	Accident information No	Total
Poor (0-5000)	538	638	1176
Middle (5000-15000)	356	400	756
High (above 15000)	14	24	38
	908	1062	1970

Chi- square value= 1.667 P value= 0.434

Table 10: Cross tabulation between gender and injury type.

Injury type	Gender Male	Gender Female	Total
RTA/Industrial	868	157	1025
Agricultural	79	29	108
Fall/Sports	387	211	598
Domestic	71	54	125
Violence	29	3	32
Firearm	67	5	72
Blast	3	0	3
Suicidal self-inflicted	7	0	7
Total	1511	459	1970

Chi-Square value = 130.36, P value= 0.00

Table 11: Proportion of different types of fractures as a result of accidental injuries.

Fracture type	Observed N	Expected N	Residual
Fresh fracture	1909	394.0	1515.0
Old fracture	8	394.0	-386.0
Fatigue fracture	5	394.0	-389.0
Dislocation	45	394.0	-349.0
Traumatic amputation	3	394.0	-391.0
Total	1970		

Chi-square value= 7284.83, P value= 0.000