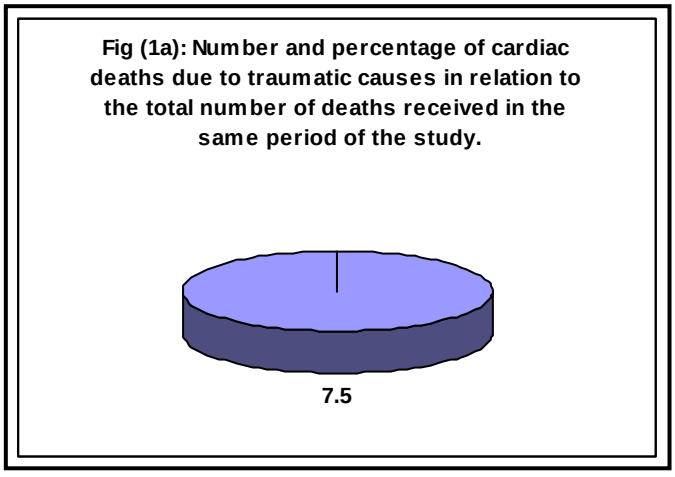
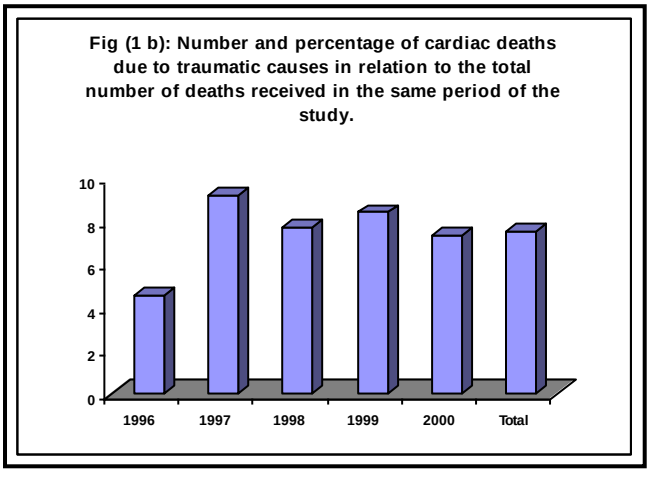
# RESULTS

**Table (1):** Number and percentage of cardiac deaths due to traumatic causes each year in relation to the total number of deaths received in the same period of the study per each year.

| Years | Death due to traumatic cardiac injury | Total number of deaths | % |
|---|---|---|---|
| 1996 | 10 | 221 | 4.5 |
| 1997 | 11 | 119 | 9.2 |
| 1998 | 41 | 520 | 7.7 |
| 1999 | 62 | 739 | 8.4 |
| 2000 | 59 | 811 | 7.3 |
| Total | 183 | 2410 | 7.5 |




This table and figure show the number and percentage of the cardiac deaths due to traumatic causes in relation to total deaths received through all the years of the study. The incidence of death due to traumatic cardiac injuries represent 183 (7.5 %) of all deaths during the studied

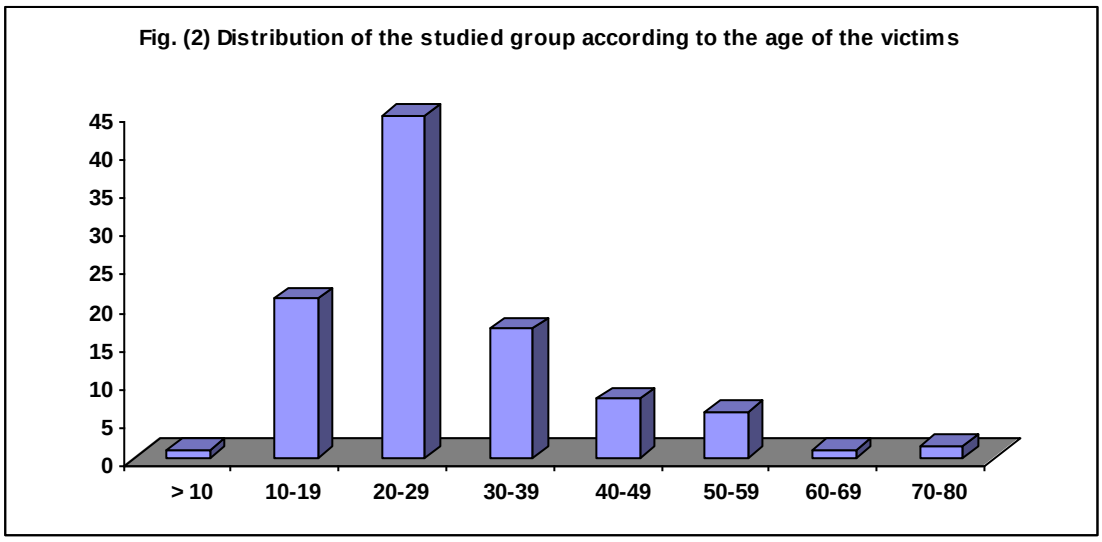
**Table (2):** Number and percentage of cardiac deaths due to traumatic causes each year in relation to the total number of traumatic cardiac deaths received in the same period of the study.

| Years | Death due to traumatic cardiac injury | % |
|---|---|---|
| 1996 | 10 | 5.5 |
| 1997 | 11 | 6.0 |
| 1998 | 41 | 22.4 |
| 1999 | 62 | 33.9 |
| 2000 | 59 | 32.2 |
| **Total** | **183** | **100.0** |

This table shows Number and percentage of cardiac deaths due to traumatic causes each year in relation to the total number of traumatic cardiac deaths (183 cases) received in the same period of the study. It clearly illustrates upward increasing in the number and percentage of the victims throughout all the years of the study.

**Table (3):** Distribution of the studied group according to the age of the victims.

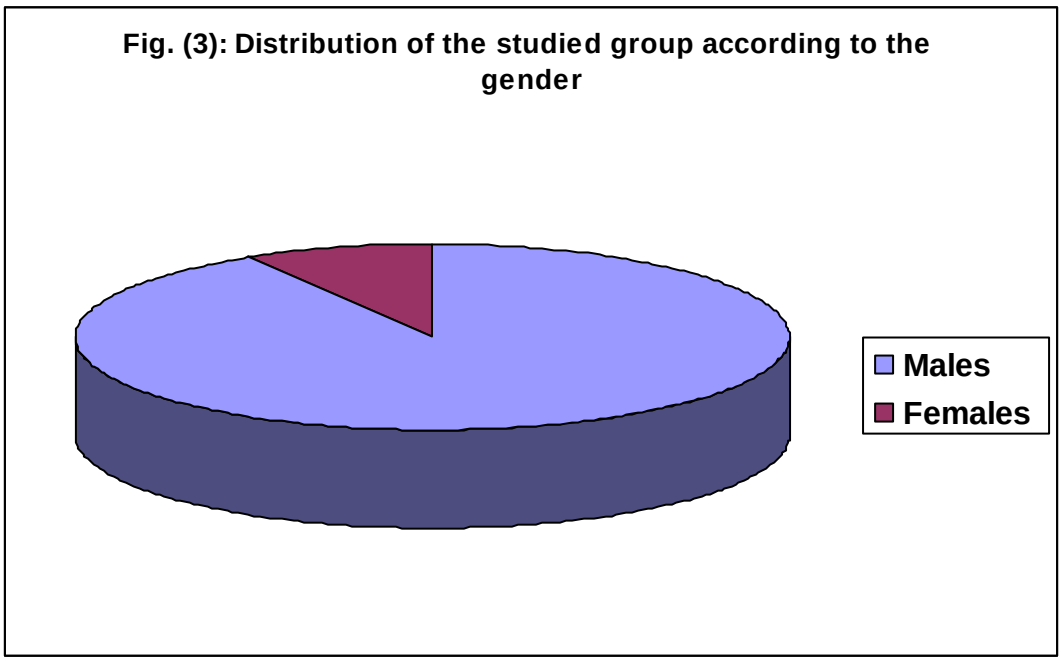
| Age \|Year | Number | % |
|---|---|---|
| < 10 | 2 | 1.1 |
| 10-19 | 38 | 20.8 |
| 20-29 | 82 | 44.8 |
| 30-39 | 31 | 16.9 |
| 40-49 | 14 | 7.7 |
| 50-59 | 11 | 6.0 |
| 60-69 | 2 | 1.1 |
| 70-80 | 3 | 1.6 |
| Total | 183 | 100.0 |




This table and figure clearly illustrate the high prevalence number and percentage of the victims in the middle age especially from (20-29) years old and clearly illustrates low number and percentage of the victims in extreme of age (<10 years old > 60 years old).

**Table (4):** Distribution of the studied group according to the gender of the victims.

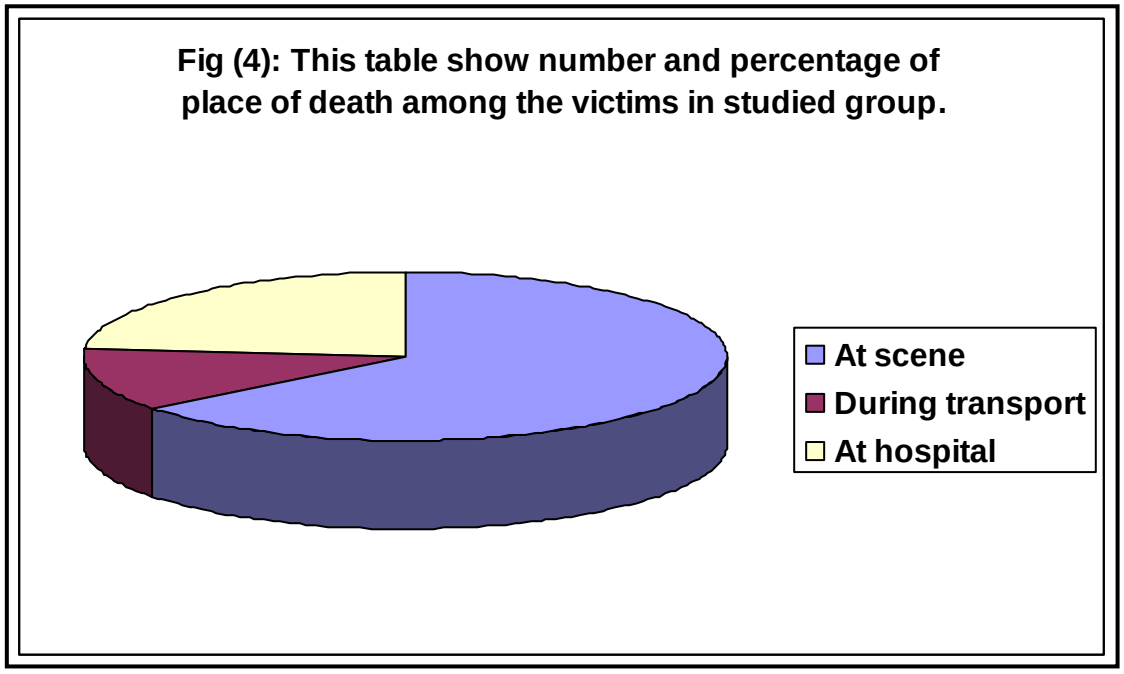
| Gender | Number | % |
|---|---|---|
| Males | 167 | 91.3 |
| Females | 16 | 8.6 |
| Total | 183 | 100.0 |




This table and figure clearly illustrate the high prevalence number and percentage of males than females.

**Table (5):** Distribution of the studied group according to the place of death of the victims.

| place of death | No. | % |
|---|---|---|
| At scene | 118 | 64.5 |
| During transportation | 22 | 12.0 |
| At hospital | 43 | 23.5 |
| **Total** | 183 | 100.0 |




This table and figure clearly illustrate that most of the victims with cardiac injury died scene.

**Table (6):** Distribution of the studied group according to the type of trauma.

| Type of trauma | No. | % |
|---|---|---|
| Penetrating | 171 | 93.4 |
| Blunt trauma | 12 | 6.6 |
| Total | 183 | 100.0 |

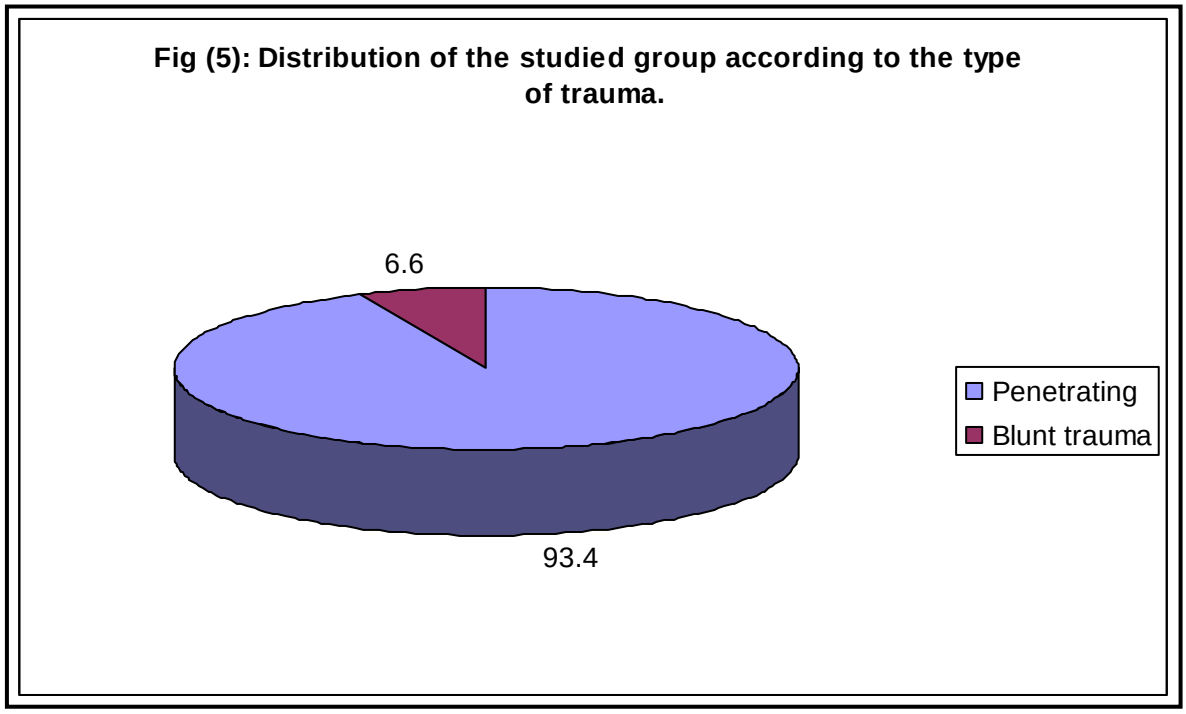


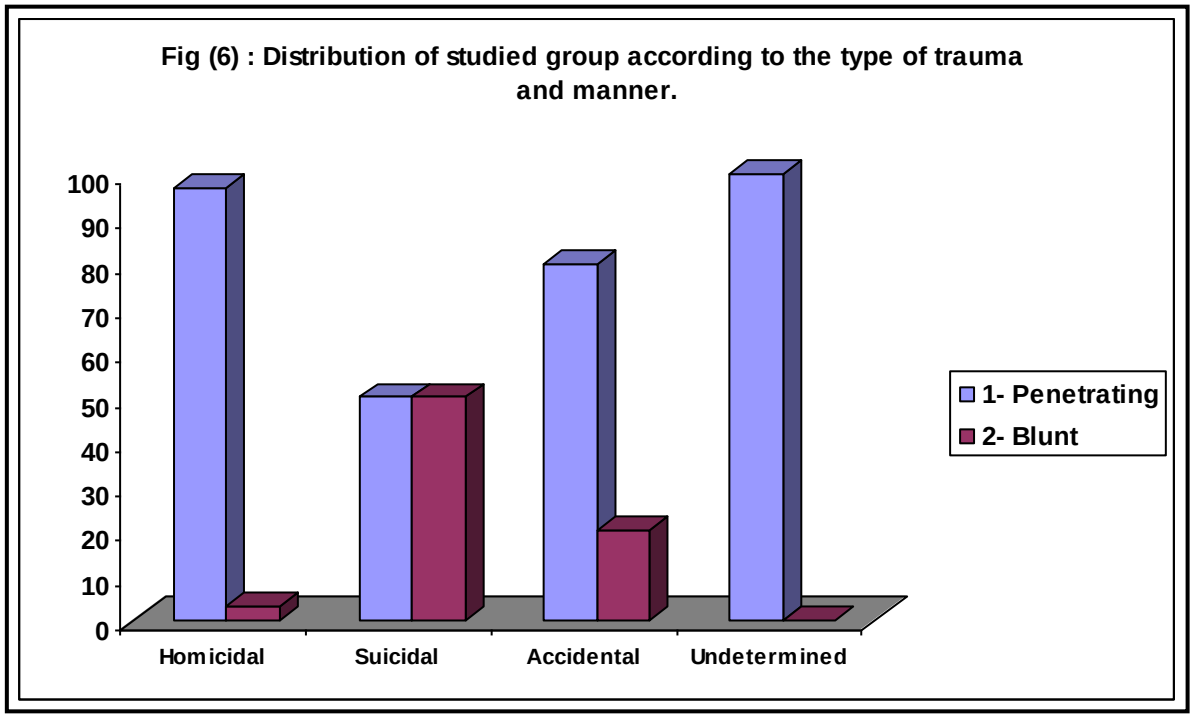

**Fig (5): Distribution of the studied group according to the type of trauma.**

This table and figure clearly illustrate the higher prevalence number and percentage of penetrating trauma as a type of traumatic cardiac injuries.

**Table (7):** Distribution of studied group according to the type of trauma and the manner of death.

| Manner of death / Type of trauma | Homicidal | | Suicidal | | Accidental | | Undetermined | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| 1- Penetrating | 154 | 96.9 | 4 | 50.0 | 12 | 80.0 | 1 | 100.0 | 171 | 93.4 |
| 2- Blunt | 5 | 3.1 | 4 | 50.0 | 3 | 20.0 | 0 | 0.0 | 12 | 6.6 |
| **Total** | **159** | **100.0** | **8** | **100.0** | **15** | **100.0** | **1** | **100.0** | **183** | **100.0** |

Adjusted $x^2$ =32.16 P < 0.001

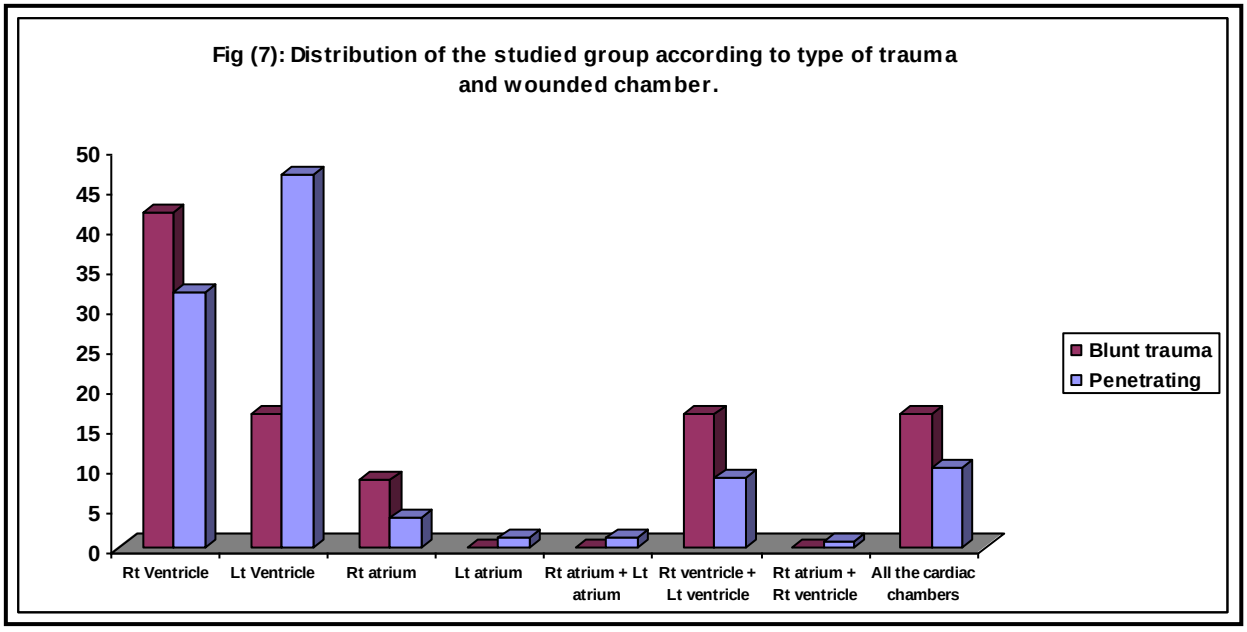



This table and figure show the higher number and percentage of penetrating trauma in homicidal and accidental cases compared to other type of trauma.The differences were found to be statistically significant.

**Table (8):** Distribution of the studied group according to type of trauma and wounded chamber.

| Type of trauma / Wounded chamber | Blunt trauma | | Penetrating | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Rt Ventricle | 5 | 41.97 | 55 | 32.1 | 60 | 32.8 |
| Lt Ventricle | 2 | 16.6 | 80 | 46.8 | 82 | 44.8 |
| Rt atrium | 1 | 8.3 | 6 | 3.6 | 7 | 3.1 |
| Lt atrium | 0 | 0.0 | 2 | 1.2 | 2 | 1.1 |
| Rt atrium + Lt atrium | 0 | 0.0 | 2 | 1.2 | 2 | 1.1 |
| Rt ventricle + Lt ventricle | 2 | 16.6 | 15 | 8.7 | 17 | 9.3 |
| Rt atrium + Rt ventricle | 0 | 0.0 | 1 | 0.6 | 1 | 0.5 |
| All the cardiac chambers | 2 | 16.6 | 10 | 9.8 | 12 | 6.6 |
| **Total** | **12** | **100.0** | **171** | **100.0** | **183** | **100.0** |

Adjusted $x^2 = 6.37$ $P > 0.05$




This table and figure show that the right ventricle was the most wounded chamber in blunt trauma and the left ventricle in penetrating trauma. It also show that the left ventricle was the most involved chamber in all cases followed by the right ventricle, the right atrium then the left atrium in descending manner. The difference between blunt and penetrating trauma in relation to the wounded chamber was found to be statistically insignificant.

**Table (9):** Distribution of the studied group according to type of trauma and Mechanism of death.

| Type of trauma / Mechanism of death | Blunt trauma | | Penetrating | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| 1- Haemorragic shock | 9 | 75.0 | 152 | 88.9 | 161 | 88 |
| 2- Cardiac Temponade | 3 | 25.0 | 19 | 11.1 | 22 | 12.0 |
| **Total** | 12 | 100.0 | 171 | 100.0 | 183 | 100.0 |

Adjusted $x^2 = 2.05$ $P > 0.05$

This table shows high prevalence of haemorragic shock as a mechanism of death in both type of trauma there is no significant differences observed in the mechanism of death between blunt and penetrating.

**Table (10):** Distribution of the studied group according to the mean age of victims and the type of trauma.

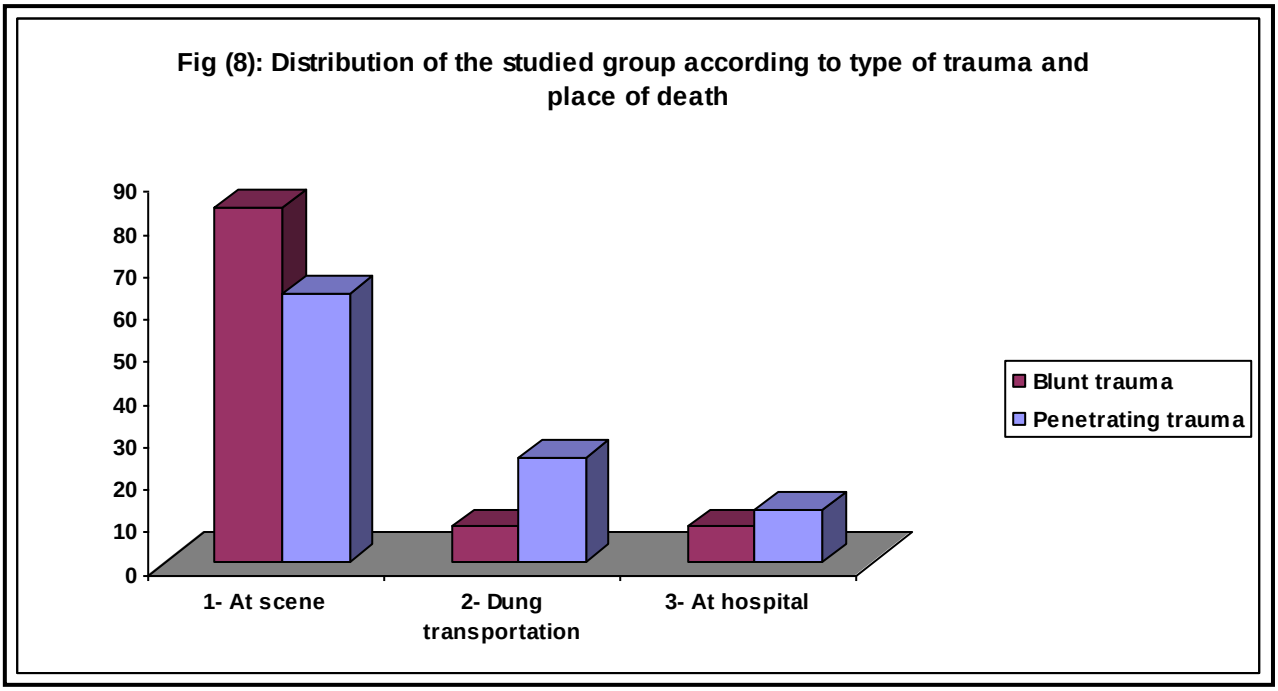
| Type of trauma / Age | Mean age | ± SD | t | P |
|---|---|---|---|---|
| **Blunt trauma** | **31.7** | **16.3** | **$t_1$=1.93** | **>0.05** |
| **Penetrating trauma** | **36.7** | **16.2** | **$t_1$=0.83** | **>0.05** |

This table shows low mean age of the victims among the studied group. No significant difference observed in the mean age of the victims between blunt and penetrating trauma.

**Table (11):** Distribution of the studied group according to type of trauma and place of death.

| Type of trauma / Place of death | Blunt trauma | | Penetrating trauma | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| 1- At scene | 10 | 83.4 | 108 | 63.1 | 118 | 64.5 |
| 2- Dung transportation | 1 | 8.3 | 42 | 24.6 | 43 | 23.5 |
| 3- At hospital | 1 | 8.3 | 21 | 12.3 | 22 | 12.0 |
| **Total** | 12 | 100.0 | 171 | 100.0 | 183 | 100.0 |

Adjusted $x^2$=2.11 - P > 0.05

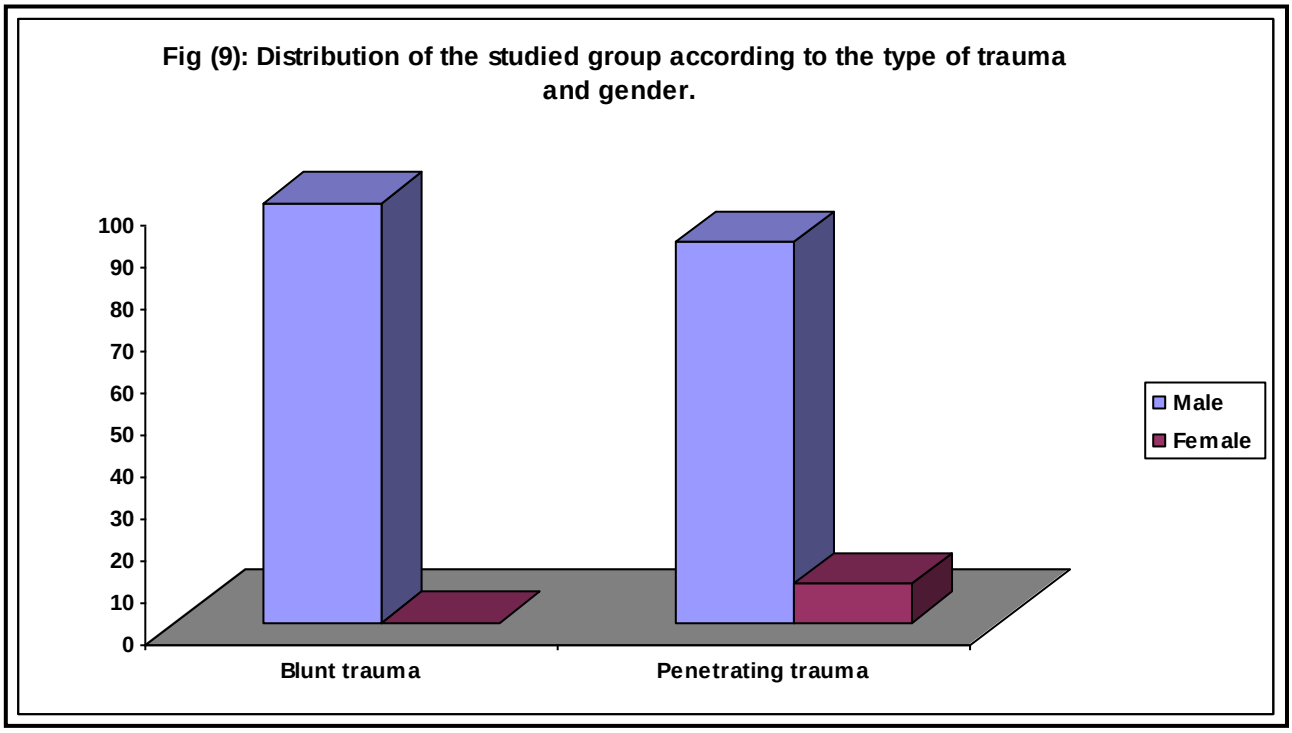



This table and figure clearly illustrate that most of the victims with cardiac injuries whether blunt or penetrating trauma died either at scene or during transportation.It also show that blunt trauma has prehospital mortality rate more than the penetrating trauma.This difference between blunt and penetrating trauma in relation to place of death was found to be statistically insignificant.

**Table (12):** Distribution of the studied group according to the type of trauma and gender.

| Type of trauma / Gender | Blunt trauma | | Penetrating trauma | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Male | 12 | 100.0 | 155 | 90.6 | 167 | 91.3 |
| Female | 0 | 0.0 | 16 | 9.4 | 16 | 8.7 |
| **Total** | 12 | 100.0 | 171 | 100.0 | 183 | 100.0 |

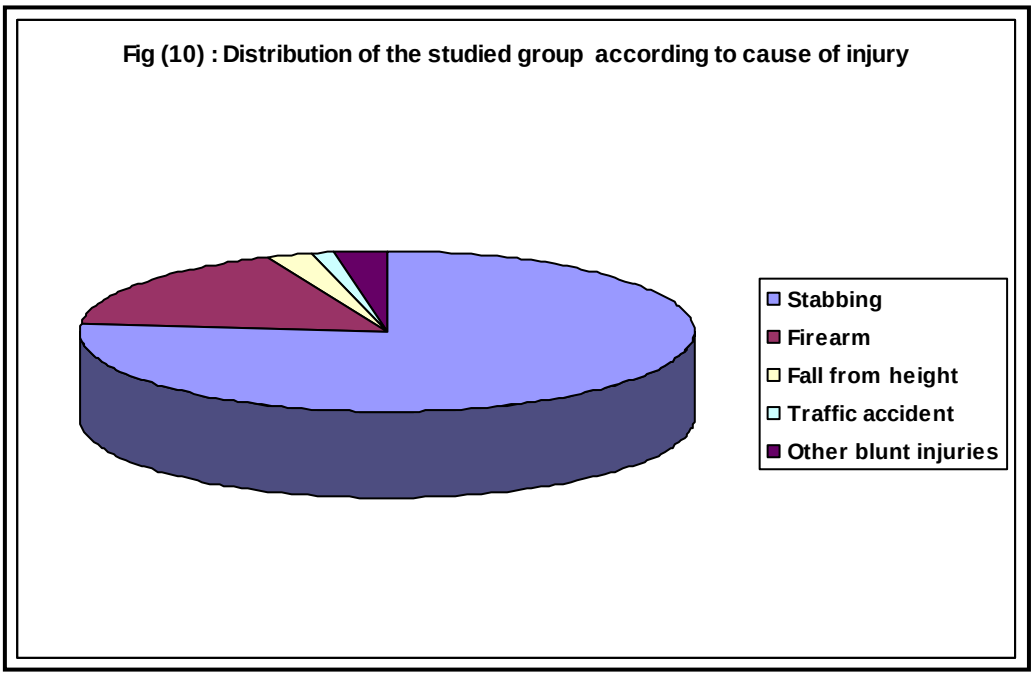
Adjustd x2 =0.34 P > 0.05




This table and figure clearly illustrate that penetrating trauma is the prevalent type of trauma in both gender. They also show statistically insignificant higher prevalence of males in relation to the type of trauma.

**Table (13):** Distribution of the studied group according to cause of injury.

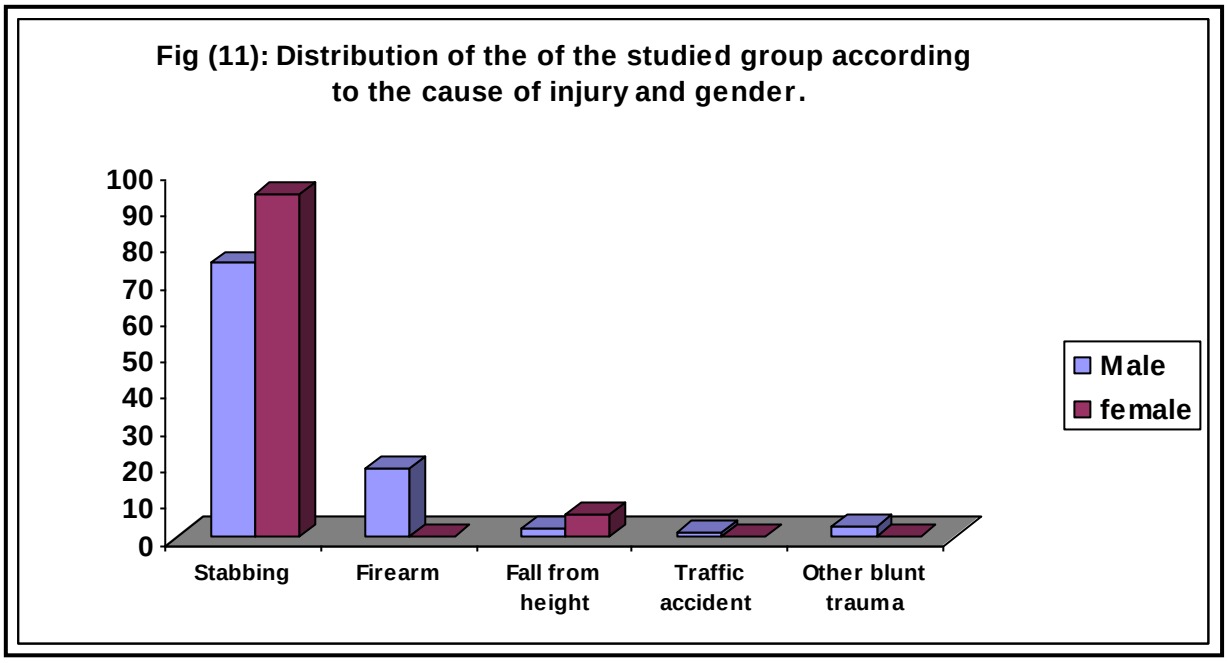
| Cause of injury | No. | % |
|---|---|---|
| Stabbing | 140 | 76.6 |
| Shooting | 31 | 16.9 |
| Fall from height | 5 | 2.7 |
| Traffic accident | 2 | 1.1 |
| Other blunt injuries | 5 | 2.7 |
| Total | 183 | 100.0 |




This table and figure show high number and percentage of stabbing as cause of cardiac injury in relation to other causes of cardiac injury.

**Table (14):** Distribution of the studied group according to the cause of injury and gender.

| Gender / Cause of injury | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Stabbing | 125 | 74.9 | 15 | 93.8 | 140 | 76.5 |
| Shooting | 31 | 18.6 | 0 | 0.0 | 31 | 16.9 |
| Fall from height | 4 | 2.4 | 1 | 6.2 | 5 | 2.7 |
| Traffic accident | 2 | 1.2 | 0 | 0.0 | 2 | 1.2 |
| Other blunt trauma | 5 | 2.9 | 0 | 0.0 | 5 | 2.7 |
| Total | 167 | 100.0 | 16 | 100.0 | 183 | 100.0 |

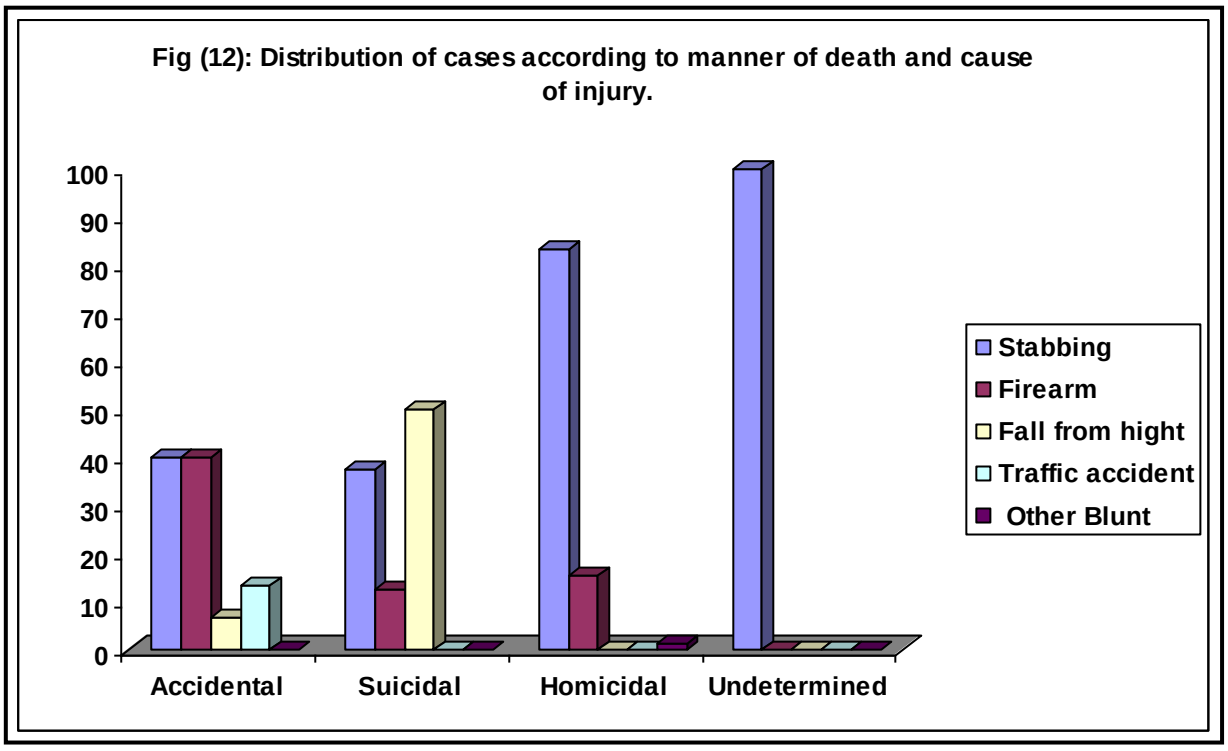



This table and figure show high prevalence of stabbing as a cause of injury in both gender and also show high number and percentage of firearm as a cause of injury in males.

**Table (15):** Distribution of the cases according to manner of death and cause of injury.

| Manner of death / Cause of injury | Accidental | | Suicidal | | Homicidal | | Undetermined | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| Stabbing | 6 | 40.0 | 3 | 37.5 | 130 | 83.3 | 1 | 100.00 | 140 | 76.5% |
| Shooting | 6 | 40.0 | 1 | 12.5 | 24 | 15.4 | 0 | 0.0 | 31 | 16.9% |
| Fall from hight | 1 | 6.7 | 4 | 50.0 | 0 | 0.0 | 0 | 0.0 | 5 | 2.7% |
| Traffic accident | 2 | 13.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.2% |
| Other Blunt | 0 | 0.0 | 0 | 0.0 | 5 | 1.3 | 0 | 0.0 | 5 | 2.7% |
| Total | 15 | 100.0 | 8 | 100.0 | 159 | 100.0 | 1 | 100.0 | 183 | 100.0 |

Adjusted $x^2$=84.86 P < 0.001

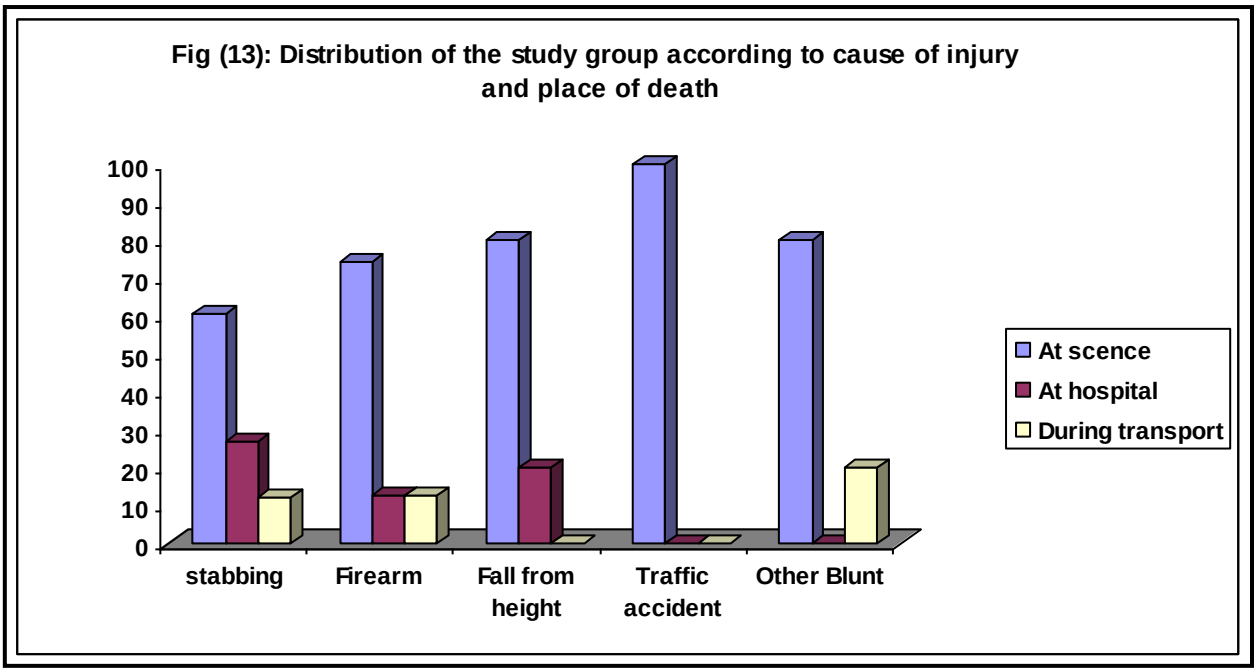



This table and figure show prevalence of stabbing as a cause of injury in homicidal cases followed by firearm then other blunt. It also show that fall from height was the most prevalence cause of injury in suicidal cases. This difference was found to be statistically significant.

**Table (16):** Distribution of the studied group according to the cause of injury and the place of death.

| Cause of injury / Place of death | stabbing | | Shooting | | Fall from height | | Traffic accident | | Other Blunt | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| At scence | 85 | 60.7 | 23 | 74.2 | 4 | 80.0 | 2 | 100.0 | 4 | 80.0 | 118 | 64.5 |
| At hospital | 38 | 27.1 | 4 | 12.9 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 43 | 23.5 |
| During transport | 17 | 12.2 | 4 | 12.9 | 0 | 0.0 | 0 | 0.0 | 1 | 20.0 | 22 | 12.0 |
| **Total** | 140 | 100.0 | 31 | 100.0 | 5 | 100.0 | 2 | 100.0 | 5 | 100.0 | 183 | 100.0 |

Adjusted $x^2$=6.03 P < 0.001




This table and figure show high number and percentage of the victims with firearm, fall from height, traffic accident and other blunt that die at scene compared to stabbing, it indicate that firearm, fall from height, traffic accident and other blunt injuries has higher prehospital mortality rate than stabbing. This difference was found to be statistically significant.

**Table (17):** Distribution of the studied group according to cause of injury and the wounded chamber.

| Cause of injury / Wounded chamber | Stabbing | | Shooting | | Fall from height | | Traffic accident | | Other Blunt | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| All the cardiac chamber | 0 | 0.0 | 10 | 32.3 | 1 | 20.0 | 1 | 50.0 | 0 | 0.0 | 12 | 6.6 |
| Rt ventricle | 53 | 37.9 | 2 | 6.5 | 0 | 0.0 | 0 | 0.0 | 5 | 100.0 | 60 | 32.8 |
| Lt ventricle | 71 | 50.7 | 9 | 20.0 | 1 | 20.0 | 1 | 50.0 | 0 | 0.0 | 82 | 44.8 |
| Rtventricle+Ltventricle | 10 | 7.1 | 5 | 16.1 | 2 | 40.0 | 0 | 0.0 | 0 | 0.0 | 17 | 9.3 |
| Rt atrium | 4 | 2.9 | 2 | 6.5 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 7 | 3.8 |
| Lt atrium | 1 | 0.7 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| Rtatrium + Lt atrium | 1 | 0.7 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| Rtventricle+Rt atrium | 0 | 0.0 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.5 |
| **Total** | 140 | 100.0 | 31 | 100.0 | 5 | 100.0 | 2 | 100.0 | 5 | 100.0 | 183 | 100.0 |

Adjusted $x^2$=**80.5** $P < 0.001$

This table shows statistically siginificant relation between the cause of injury and wounded chamber. It show that the firearm, fall from height and traffic accident are common associated with multiple chamber injuries. It also shows that stabbing most commonly occur in the left ventricle.

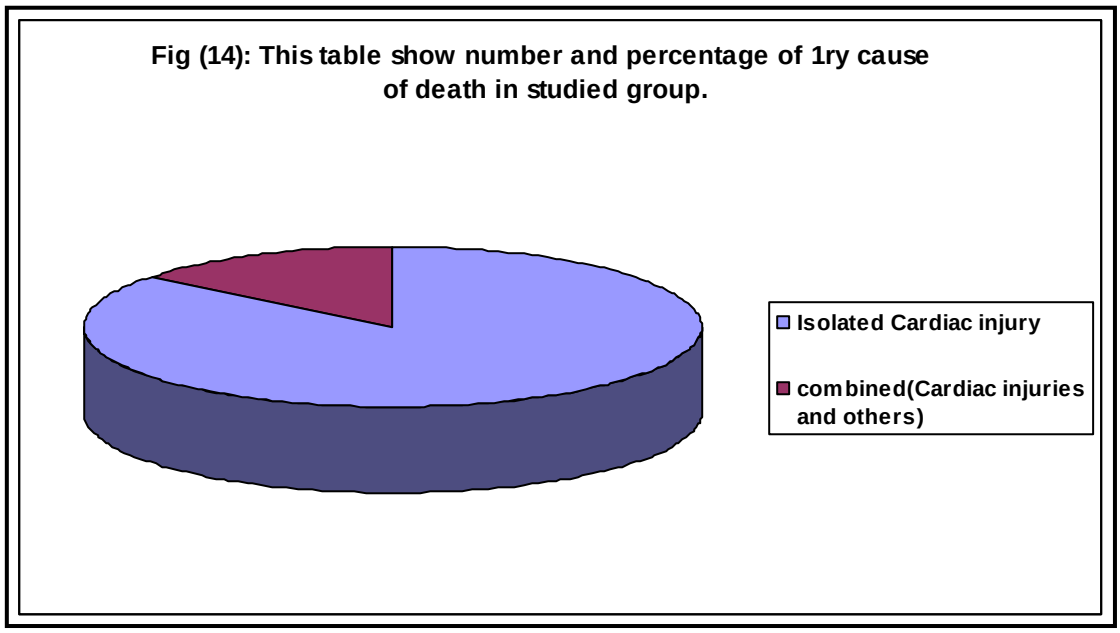
**Table (18):** Number and percentage of each cause of cardiac injury in relation to the years of the study.

| Year / Cause of injury | 1996 | | 1997 | | 1998 | | 1999 | | 2000 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| Stabbing | 6 | 60.0 | 8 | 72.7 | 32 | 78.1 | 48 | 77.5 | 46 | 78.0 | 140 | 76.5 |
| Shooting | 2 | 20.0 | 3 | 27.3 | 7 | 17.1 | 11 | 17.7 | 8 | 13.5 | 31 | 16.9 |
| Fall from height | 2 | 20.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.6 | 2 | 3.4 | 5 | 2.7 |
| Traffic accident | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.6 | 1 | 1.7 | 2 | 1.2 |
| Other blunt | 0 | 0.0 | 0 | 0.0 | 2 | 4.8 | 1 | 1.6 | 2 | 3.4 | 5 | 2.7 |
| **Total** | **10** | **100.0** | **11** | **100.0** | **41** | **100.0** | **62** | **100.0** | **59** | **100.0** | **183** | **100.0** |

This table shows prevalence of stabbing followed by firearm as a causes of cardiac injury throughout all the years of the study.

**Table (19):** Number and percentage of 1ry cause of death in the studied group.

| 1ry cause of death | No. | % |
|---|---|---|
| Isolated Cardiac injury | 157 | 85.8 |
| combined(Cardiac injuries and others) | 26 | 14.2 |
| **Total** | 183 | 100.0 |

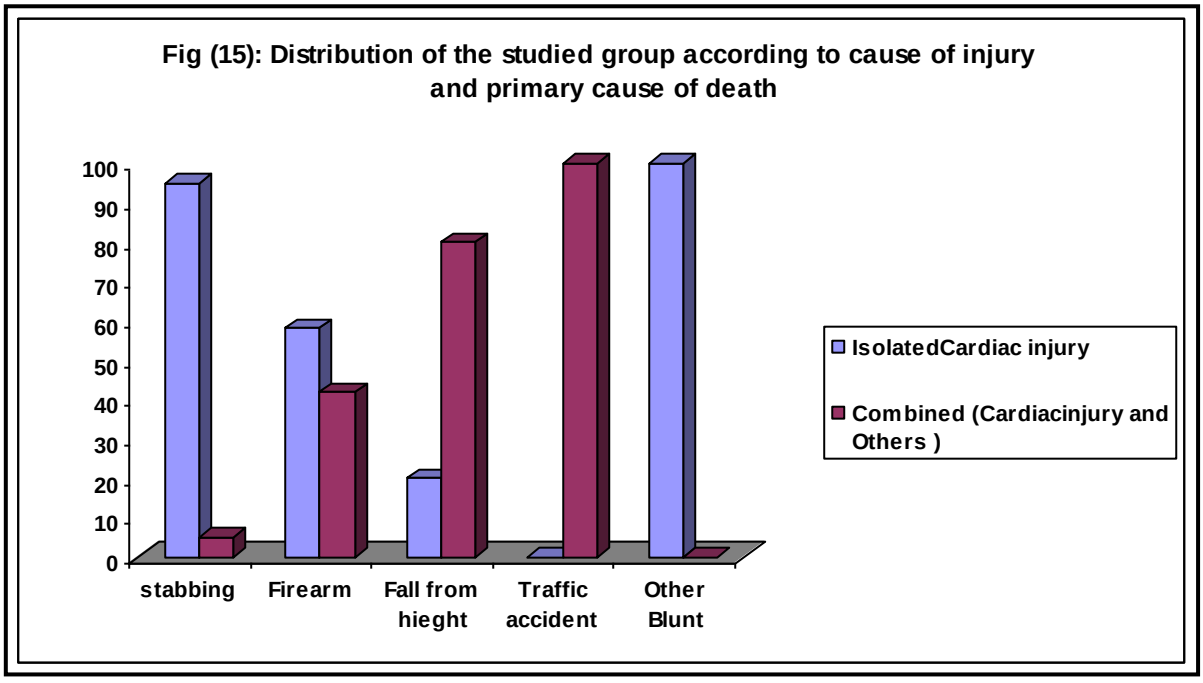



This table and figure show high no and percentage of isolated cardiac injuries as 1ry cause of death among the studied group.

**Table (20):** Distribution of the studied group according to cause of injury and primary cause of death.

| Cause of injury / 1ry cause of death | Stabbing | | Shooting | | Fall from hieght | | Traffic accident | | Other Blunt | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| IsolatedCardiac injury | 133 | 95.0 | 18 | 58.1 | 1 | 20.0 | 0 | 0.0 | 5 | 100.0 | 157 | 85.8 |
| Combined (Cardiacinjury and Others ) | 7 | 5.0 | 13 | 41.9 | 4 | 80.0 | 2 | 100.0 | 0 | 0.0 | 26 | 14.2 |
| **Total** | 140 | 100.0 | 31 | 100.0 | 5 | 100.0 | 2 | 100.0 | 5 | 100.0 | 183 | 100.0 |

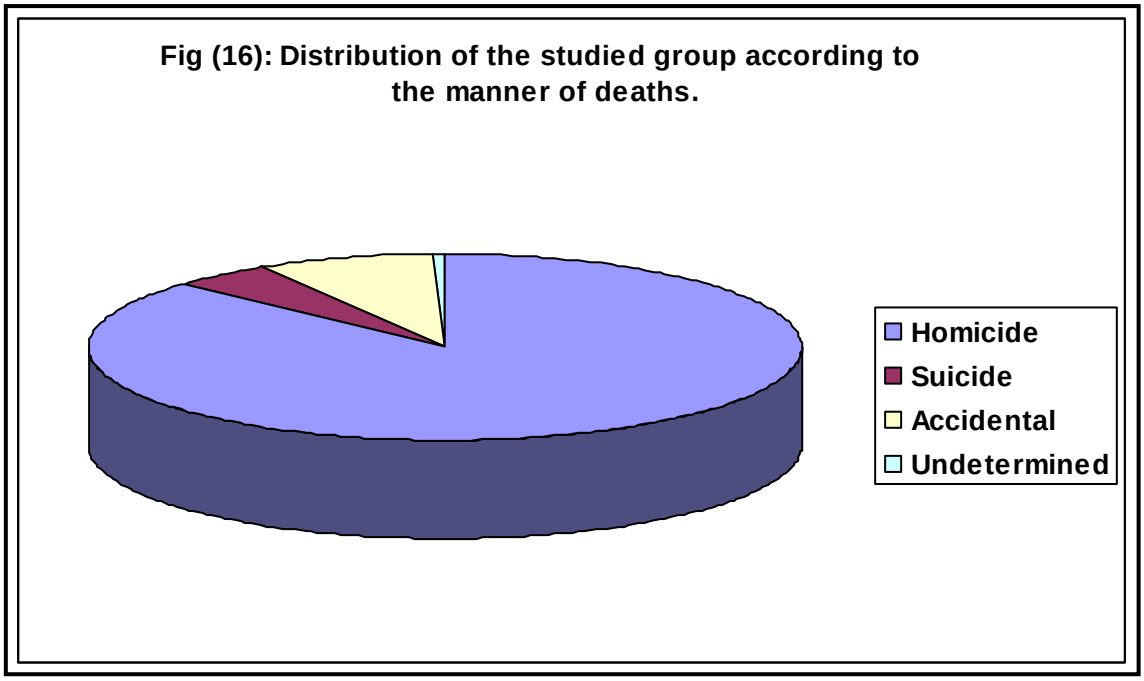
Adjusted $x^2$=48.2 P < 0.001




This table and figure show higher prevalence of isolated cardiac injury as a primary cause of death in stabbing, firearm and other blunt injury and as a contributing cause of death in traffic accident and fall from hieght among the studied group. The difference was found to be statistically significant.

**Table (21):** Distribution of the studied group according to the manner of deaths.

| Manner of death | No. | % |
|---|---|---|
| Homicide | 159 | 86.9 |
| Suicide | 8 | 4.4 |
| Accidental | 15 | 8.2 |
| Undetermined | 1 | 0.5 |
| Total | 183 | 100.0 |




This table and figure show higher prevalence of homicidal deaths in cardiac injuries among the studied group followed by accidental deaths and lastly suicidal deaths.It also show low number and percentage of suicidal cases as it represent only 8(4.4%) of total cases.

**Table (22):** Distribution of the studied group according to manner of death and age of the victims.

| Age / Manner | $\bar{x}$ (mean age ) | ±SD | t | p |
|---|---|---|---|---|
| -Accidental =15 | 37.7 | 14.9 | $t_1$=0.65 | >0.05 |
| - Suicide =8 | 43.8 | 24.2 | $t_2$=2.37 | <0.05 |
| - Homicide = 159 | 28.3 | 12.3 | $t_3$=5.9 | <0.001 |
| -Undetermined =1 | 15 | 0 | | |
| -All cases =183 | 29.7 | 13.7 | | |

This table shows low mean age of the victims among the studied group (29.7±13.7).It also show statistically significant relation between the mean age of the victims and the manner of death in suicidal and homicidal cases.

**Table (23):** Distribution of the studied group according to manner of death and wounded chamber.

| Manner of death / Wounded chamber | Accidental | | Suicidal | | Homicidal | | Undetermined | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| Allthecardiacchambers | 2 | 13.3 | 1 | 12.5 | 9 | 5.7 | 0 | 0.00 | 12 | 6.6 |
| Rt ventricle | 2 | 13.3 | 1 | 12.5 | 56 | 35.2 | 1 | 100.0 | 60 | 32.8 |
| Lt ventricle | 6 | 40.0 | 3 | 37.5 | 72 | 45.9 | 0 | 0.0 | 82 | 44.8 |
| Rtventricle+Ltventricle | 2 | 13.3 | 2 | 25.0 | 13 | 8.2 | 0 | 0.0 | 17 | 9.3 |
| Rt atrium | 2 | 13.3 | 1 | 12.5 | 4 | 2.6 | 0 | 0.0 | 7 | 3.8 |
| Lt atrium | 0 | 0.0 | 0 | 0.0 | 2 | 1.2 | 0 | 0.0 | 2 | 1.1 |
| Rt atrium+ Ltatrium | 0 | 0.0 | 0 | 0.0 | 2 | 1.2 | 0 | 0.0 | 2 | 1.1 |
| Rt atrium+ Rtventricle | 1 | 6.7 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 1 | 0.5 |
| Total | 15 | 100.0 | 8 | 100.0 | 159 | 100.0 | 1 | 0.0 | 183 | 100.0 |

Adjusted $x^2$=**27.18** P > 0.05

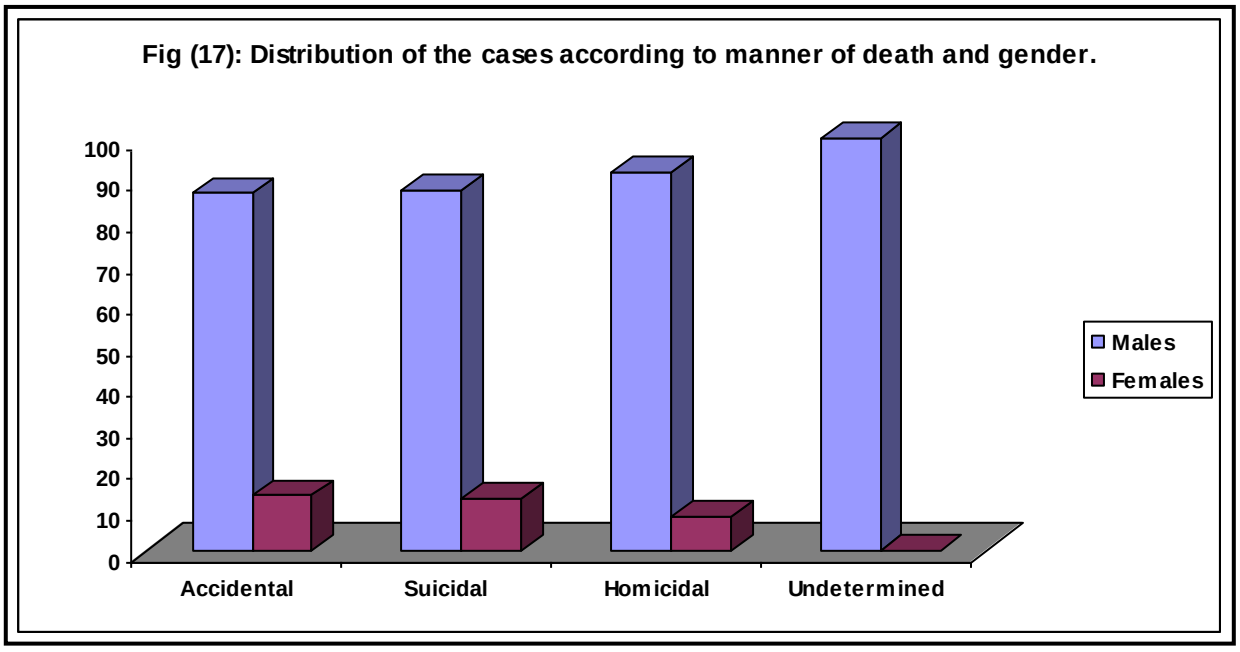
This table shows that homicidal cases are commonly associated with multiple chamber injury. It also shows that the left ventricle was the most wounded chamber. The difference between the wounded chambers

in relation to the manner of death was found to be statistically insignificant.

**Table (24):** Distribution of the cases according to manner of death and gender.

| Manner of death / gender | Accidental | | Suicidal | | Homicidal | | Undetermined | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| Males | 13 | 86.7 | 7 | 87.5 | 146 | 91.8 | 1 | 100.0 | 167 | 91.3 |
| Females | 2 | 13.3 | 1 | 12.5 | 13 | 8.2 | 0 | 0.0 | 16 | 8.7 |
| Total | 15 | 100.0 | 8 | 100.0 | 159 | 100.0 | 1 | 100.0 | 18.3 | 100.0 |

Adjusted $x^2$=**0.69** P > 0.05




This table and figure clearly illustrate higher number and percentage of homicidal cases and lower number and percentage of suicidal cases in relation to both gender among the studied group with statistically insignificant higher prevalence of males in relation to the manner of death.

**Table (25):** Distribution of the studied group according to manner of death and place of death.

| Mannerof death / Place of death | Accidental | | Suicidal | | Homicidal | | Undetermined | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % |
| At scene | 8 | 53.3 | 7 | 87.5 | 102 | 64.1 | 1 | 100.0 | 118 | 64.5 |
| At hospital | 5 | 33.4 | 1 | 12.5 | 37 | 23.3 | 0 | 0.0 | 43 | 23.5 |
| During transport | 2 | 13.3 | 0 | 0.0 | 20 | 12.6 | 0 | 0.0 | 22 | 12.0 |
| **Total** | 15 | 100.0 | 8 | 100.0 | 159 | 100.0 | 1 | 100.0 | 183 | 100.0 |

Adjusted $x^2$=**3.65** P > 0.05

This table shows that most of the victims die at scene. No statistically significant differenc was found between the manners of death in relation to place of death.

**Table (26):** Distribution of the studied group according to the causative agent and gender.

| Gender / Causative Agent | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Sharp edged weapon. | | | | | | |
| • Knife | 123 | 73.7 | 15 | 93.7 | 138 | 75.5 |
| • Dagger | 2 | 1.2 | 0 | 0.0 | 2 | 1.1 |
| Firearm | | | | | | |
| • Rifled weapon | 24 | 14.4 | 0 | 0.0 | 24 | 13.1 |
| • Non-rifled weapon | 7 | 4.2 | 0 | 0.0 | 7 | 3.8 |
| Fall from height | | | | | | |
| • Stricking the ground | 4 | 2.4 | 1 | 6.3 | 5 | 2.7 |
| Motor vehicle accident | 2 | 1.2 | 0 | 0.0 | 2 | 1.1 |
| Wooden Stick | 5 | 2.9 | 0 | 0.0 | 5 | 2.7 |
| Total | 167 | 100.0 | 16 | 100.0 | 183 | 100.0 |

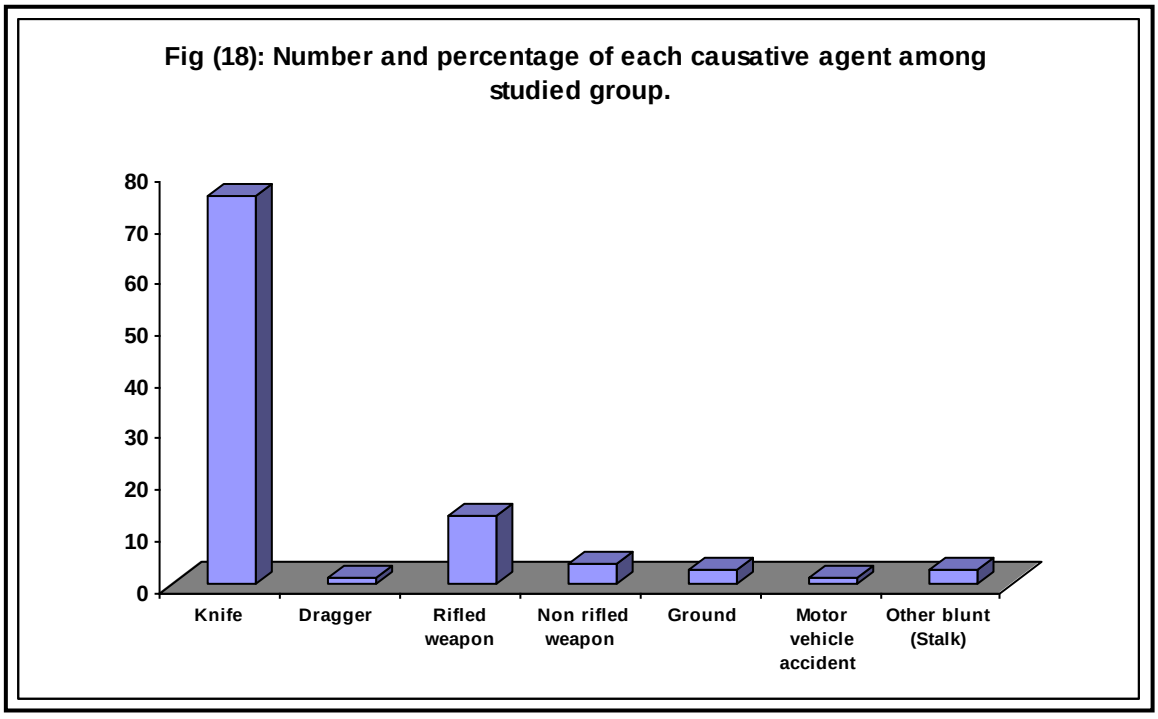
Adjusted$x^2$=5.4 P >0.05

This table shows the prevalence of knife as a causative agent of cardiac injuries in both gender and firearm (rifled and non rifled weapon)

in males only. The difference between males and females in relation to the causative were found to be statistically insignificant.

**Table (27):** Number and percentage of each causative agent among studied group.

| Causative agent(impalement) | No. | % |
|---|---|---|
| Pointed sharp edged weapon. | | |
| • Knife | 138 | 75.5 |
| • Dagger | 2 | 1.1 |
| Firearm | | |
| • Rifled weapon | 24 | 13.1 |
| • Non rifled weapon | 7 | 3.8 |
| Fall from height | | |
| • Ground | 5 | 2.7 |
| Motor vehicle accident | 2 | 1.1 |
| Wooden Stick | 5 | 2.7 |
| Total | 183 | 100.0 |




This table and figure illustrate that the knife was the most used weapn (causative agent) among the studied group followed by rifled weapon.

**Table (28):**Distribution of the studied group according to the causative agent and the manner of death.

| Manner of death / Causative agent | Suicide | | Homicide | | Accidental | | Un determined | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **No.** | **%** | **No.** | **%** | **No.** | **%** | **No.** | **%** | **No.** | **%** |
| Pointed Sharp edged weapon. | | | | | | | | | | |
| • Knife | 3 | 37.5 | 128 | 80.5 | 6 | 40.0 | 1 | 100.0 | 138 | 75.5 |
| • Dagger | 0 | 0.0 | 2 | 1.4 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| Firearm | | | | | | | | | | |
| • Rifled weapon | 1 | 12.5 | 19 | 11.9 | 4 | 26.5 | 0 | 0.0 | 24 | 13.1 |
| • Non-Rifled weapon | 0 | 0.0 | 5 | 3.1 | 2 | 13.4 | 0 | 0.0 | 7 | 3.8 |
| Fall from height striking the ground | 4 | 50.0 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 5 | 2.7 |
| Motor vehicle accident | 0 | 0.0 | 0 | 0.0 | 2 | 13.4 | 0 | 0.0 | 2 | 1.1 |
| Wooden Stick blunt | 0 | 0.0 | 5 | 3.1 | 0 | 0.0 | 0 | 0.0 | 5 | 2.7 |
| **Total** | **8** | **100.0** | **159** | **100.0** | **15** | **100.0** | **1** | **100.0** | **183** | **100.0** |

Adjusted $x^2$=105.22 P<0.001

This table shows that knife was the most used weapon in relation to the manner of death except in suicidal cases the fall from height was the prevalent.it also illustrate that rifled weapon was prevalent than non rifled in relation to the manner of death. These differences were found to be statistically significant.

**Table (29):** Distribution of the studied group according to the causative agent and place of death

| Place of death / Causative agent | At scene | | At hospital | | During transportation | | Total | |
|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % |
| Pointed Sharp edged weapon | | | | | | | | |
| • Knife | 84 | 71.2 | 37 | 86.1 | 17 | 77.3 | 138 | 75.5 |
| • Dagger | 1 | 0.8 | 1 | 2.3 | 0 | 0.0 | 2 | 1.1 |
| Firearm | | | | | | | | |
| • Rifled weapon | 20 | 16.9 | 3 | 7.0 | 1 | 4.5 | 24 | 13.1 |
| • Non-rifled weapon | 3 | 2.6 | 1 | 2.3 | 3 | 13.7 | 7 | 3.8 |
| Fall from height Striking ground | 4 | 3.4 | 1 | 2.3 | 0 | 0.0 | 5 | 2.7 |
| Traffic motor vehicle | 2 | 1.7 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| Wooden Stick | 4 | 3.4 | 0 | 0.0 | 1 | 4.5 | 5 | 2.7 |
| **Total** | **118** | **100.0** | **43** | **100.0** | **22** | **100.0** | **183** | **100.0** |

Adjusted $x^2$=15.47 P >0.05

This table shows that firearm injury wheather by rifled or non-rifled weapons, falling from hieght, motor vehicle accident and blunt trauma by stalk had higher mortality rate than stabbing. The difference was found to be statistically insignificant.

**Table (30):** Distribution of the studied group according to the causative agent and wounded chamber.

| Wounded Chamber / Causative agent | Rt atrium | | Rt ventricle | | Lt atrium | | Lt ventricle | | Rt atrium & Lt atrium | | Rt Atrium & Rt Ventricle | | Rt ventricle & Lt ventricle | | All the cardiac chambers | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No | % | No. | % | No | % | No. | % | No | % | No | % | No. | % | No. | % | No. | % |
| Pointed Sharp edged weapon | | | | | | | | | | | | | | | | | | |
| • Knife | 4 | 57.1 | 52 | 86.6 | 1 | 50.0 | 71 | 86.6 | 1 | 50.0 | 0 | 0.0 | 9 | 52.8 | 0 | 0.0 | 138 | 75.5 |
| • Dagger | 0 | 0.0 | 1 | 1.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 5.9 | 0 | 0.0 | 2 | 1.1 |
| Firearm | | | | | | | | | | | | | | | | | | |
| • Rifled weapon | 1 | 14.3 | 2 | 3.4 | 1 | 50.0 | 8 | 9.8 | 1 | 50.0 | 1 | 100.0 | 4 | 23.6 | 6 | 50.0 | 24 | 13.1 |
| • Non-rifled weapon | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 1 | 1.2 | 0 | 0.0 | 0 | 0.0 | 1 | 5.9 | 4 | 33.4 | 7 | 3.8 |
| Fall from height Striking ground | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 1 | 1.2 | 0 | 0.0 | 0 | 0.0 | 2 | 11.8 | 1 | 8.3 | 5 | 2.7 |
| Motor vehiclaccident | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 8.3 | 2 | 1.1 |
| Wooden Stick | 0 | 0.0 | 5 | 8.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 5 | 2.7 |
| **Total** | **7** | **100.0** | **60** | **100.0** | **2** | **100.0** | **82** | **100.0** | **2** | **100.0** | **1** | **100.0** | **17** | **100.0** | **12** | **100.0** | **183** | |

This table illustrates the Distribution of the studied group according to the causative agent and wounded chamber. It show that firearm whether rifled or non-rifled is common to be associated with multiple chamber injury. It also show that sharp edged weapon whether knife or dragger is common to poduce single chamber injury with prevalence of left ventricle injury in the injury with a knife.

**Table (31):** Distribution of the study group according to wounded chamber and place of death.

| Wounded chamber / Place of death | All Cardiac chsmber. | | Rt. Vent. | | Let Vent. | | Rt+Lt vent | | Rt atrium | | Lt atrium | | Rt+Lt atrium | | Rt vent Rt atrium | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No | % | No. | % | No | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| At scence | 8 | 66.7 | 42 | 70.0 | 48 | 58.5 | 12 | 70.6 | 5 | 71.4 | 2 | 100.0 | 1 | 50.0 | 0 | 0.0 | 118 | 64.5 |
| At hospital | 1 | 8.3 | 10 | 16.7 | 27 | 32.9 | 4 | 23.5 | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 43 | 23.5 |
| During transportation | 3 | 25.0 | 8 | 13.3 | 7 | 8.6 | 1 | 5.9 | 1 | 14.3 | 0 | 0.0 | 1 | 50.0 | 1 | 100.0 | 22 | 12.0 |
| **Total** | **12** | **100.0** | **60** | **100.0** | **82** | **100.0** | **17** | **100.0** | **7** | **100** | **2** | **100.0** | **2** | **100.0** | **1** | **100.0** | **183** | **1000** |

Adjusted $x^2$=**21.13** P > 0.05

This table shows that the atria has prehospital mortality rate more than the ventricles and also show that right ventricle has prehospital mortality rate more than the left ventricle. The differences in place of death between single and multiple chamber injuries were statistically insignificant.

**Table (32):** Number and percentage of each scene of crime among the Studied group.

| Scene of crime | No. | % |
|---|---|---|
| Indoor | | |
| *Own house | 32 | 17.5 |
| *Others | 18 | 9.7 |
| Outdoor | | |
| *Street | 102 | 55.7 |
| *Cars | 3 | 1.6 |
| *Garage | 5 | 2.9 |
| *Others | 23 | 12.6 |
| Total | 183 | 100.0 |

This table show high prevalence number of deaths that occurs outdoors especially on the street compared to the indoors.

**Table (33):** Distribution of the study group according to the manner of death and province.

| Manner / Province | Homicide | | Suicide | | Accidental | | Un-determined | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No | % | No | % | No | % | No. | % | No. | % |
| 1- Bolak | 14 | 8.9 | 1 | 12.5 | 2 | 13.0 | 0 | 0.0 | 17 | 9.3 |
| 2-Giza& Al-harm | 9 | 5.7 | 0 | 0.0 | 3 | 20.0 | 0 | 0.0 | 12 | 6.6 |
| 3- Nasr city | 3 | 1.9 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 4 | 2.2 |
| 4-Shebeen ElKnater | 2 | 1.2 | 1 | 12.5 | 0 | 0.0 | 0 | 0.0 | 3 | 1.65 |
| 5- El Nozha | 7 | 4.4 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 7 | 3.8 |
| 6-Darb Ahmer & Sharabia | 5 | 3.1 | 1 | 12.5 | 0 | 0.0 | 0 | 0.0 | 6 | 3.3 |
| 7- Tokh | 3 | 1.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 8- Shobra El-khima | 8 | 5.0 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 9 | 4.9 |
| 9- Knater Khireia | 5 | 3.1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 5 | 2.7 |
| 10- Al Ayat | 3 | 1.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 11- El Khanka | 11 | 6.9 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 12 | 6.6 |
| 12- Masr El-kadima | 4 | 2.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 4 | 2.2 |
| 13- El-doky | 2 | 1.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 14- El-Matareia | 10 | 6.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 10 | 5.5 |
| 15- Ain- Shams | 13 | 8.2 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 14 | 7.6 |
| 16- El-Maady | 2 | 1.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 17- Banha | 3 | 1.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 18- Embaba | 9 | 5.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 9 | 4.9 |
| 19- Elzyton | 3 | 1.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 20- Kafr Shokr | 1 | 0.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 21- El-Waily | 1 | 0.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 22- East Cairo | 7 | 4.4 | 1 | 12.5 | 1 | 6.7 | 0 | 0.0 | 9 | 4.9 |
| 23- El-Zaher | 1 | 0.6 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 2 | 1.1 |
| 24- Azbakeya | 1 | 0.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 25- Kalyoub | 3 | 1.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 26- Rod Elfarage | 1 | 0.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 27-SouthCairo | 0 | 0.0 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 1 | 0.6 |

| Manner / Province | Homicide | | Suicide | | Accidental | | Un-determined | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No | % | No | % | No | % | No. | % | No. | % |
| 28- El-Gamalia | 1 | 0.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 29- El-Salam | 2 | 1.2 | 1 | 12.5 | 1 | 6.7 | 0 | 0.0 | 4 | 2.2 |
| 30- El-Sahel | 2 | 1.3 | 1 | 12.5 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 31- Amn-Dawla | 3 | 1.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 32- El Khalifa | 1 | 0.6 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 2 | 1.1 |
| 33- Elsida Zienab | 2 | 1.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 34- El-Suize Madany | 7 | 4.4 | 1 | 12.5 | 0 | 0.0 | 0 | 0.0 | 8 | 4.4 |
| 35-NorthCairo | 4 | 2.6 | 1 | 12.5 | 0 | 0.0 | 0 | 100.0 | 6 | 3.2 |
| 36- Helwan | 3 | 1.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 37- Mokhtalita | 3 | 1.9 | 0 | 0.0 | 1 | 6.7 | 0 | 0.0 | 4 | 2.2 |
| Total cases | 159 | 100 | 8 | 100 | 15 | 100 | 1 | 100 | 183 | 100 |

This table shows prevalence of homicidal cases as a manner of death among the studied group throughout all the year of the study in relation to the province.

**Table (34):** Distribution of the study group according to Cause of injury and province.

| Cause of injury / province | Stabbing | | Shooting | | Fall from height | | Traffic accident | | Other blunt | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| 1- Bolak | 16 | 11.5 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 17 | 9.3 |
| 2-Giza& Al-harm | 10 | 7.3 | 1 | 3.2 | 0 | 0.0 | 1 | 50.0 | 0 | 0.0 | 12 | 6.6 |
| 3- Nasr city | 2 | 1.4 | 1 | 3.2 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 4 | 2.2 |
| 4- Shebeen El-Knater | 2 | 1.4 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.65 |
| 5- El Nozha | 6 | 4.3 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 7 | 3.8 |
| 6-Darb Ahmer& Sharabia | 4 | 2.8 | 1 | 3.2 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 6 | 3.3 |
| 7- Tokh | 3 | 2.1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 8- Shobra El-khima | 8 | 5.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 20.0 | 9 | 4.9 |
| 9- Knater Khireia | 4 | 2.8 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 5 | 2.7 |
| 10- Al Ayat | 2 | 1.4 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 11- El Khanka | 8 | 5.7 | 4 | 12.9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 12 | 6.6 |
| 12- Masr El-kadima | 2 | 1.4 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 4 | 2.2 |
| 13- El-doky | 1 | 0.7 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 14- El-Matareia | 10 | 7.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 10 | 5.5 |
| 15- Ain- Shams | 12 | 8.7 | 2 | 6.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 14 | 7.6 |
| 16- El-Maadiy | 1 | 0.7 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 17- Banha | 3 | 2.1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 18- Embaba | 7 | 5.00 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 9 | 4.9 |
| 19- Elzyton | 3 | 2.1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 20- Kafr Shokr | 0 | 0.0 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 21- El-Waily | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 22- EastCairo | 6 | 4.3 | 2 | 6.6 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 9 | 4.9 |
| 23- El-Zaher | 1 | 0.7 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 24- Azbakeya | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 25- Kalyoub | 3 | 2.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 26- Rod Elfarage | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 27- SouthCairo | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |

| Cause of injury / province | Stabbing | | Shooting | | Fall from height | | Traffic accident | | Other blunt | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| 28- El-Gamalia | 0 | 0.0 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 29- El-Salam | 2 | 1.4 | 1 | 3.2 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 4 | 2.2 |
| 30- El-Sahel | 2 | 1.4 | 0 | 0.0 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 31- Amn-Dawla | 0 | 0.0 | 3 | 9.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 32- El Khalifa | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 0 | 0.0 | 2 | 1.1 |
| 33- Elsida Zienab | 2 | 1.4 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 34- El-Suize Madany | 6 | 4.3 | 2 | 6.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 8 | 4.4 |
| 35-North Cairo | 4 | 2.8 | 1 | 3.2 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 6 | 3.2 |
| 36- Helwan | 3 | 2.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 37- Mokhtalita | 2 | 1.4 | 1 | 3.2 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 4 | 2.2 |
| Total cases | 140 | 100 | 31 | 100 | 5 | 100 | 2 | 100 | 5 | 100 | 183 | 100 |

This table shows the distribution of the studied group according to the cause of injury and province throughout all the years of the study. It illustrate the prevalence of stabbing as a cause of injury except forAmn-dwala the firearm was the most and only cause of injury.

**Table (35):** Distribution of the study group according to causative agent (impalement) and province.

| Causative agent / Province | Knife | | Dagger | | Rifled weapon | | Non-rifleed weapon | | Fall from height striking the ground | | Motor vehicle accident | | Stalk | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| 1- Bolak | 16 | 11.6 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 17 | 9.3 |
| 2-Giza& Al-harm | 10 | 7.3 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 0 | 0.0 | 12 | 6.6 |
| 3- Nasr city | 2 | 1.4 | 0 | 0.0 | 0.0 | 0.0 | 1 | 14.3 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 4 | 2.2 |
| 4-Shebeen El-Knater | 2 | 1.4 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.65 |
| 5- El Nozha | 6 | 4.3 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 7 | 3.8 |
| 6-Darb Ahmer& Sharabia | 4 | 2.8 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 6 | 3.3 |
| 7- Tokh | 3 | 2.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 8- Shobra El-khima | 8 | 5.8 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 20.0 | 9 | 4.9 |
| 9- Knater Khireia | 4 | 2.8 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 5 | 2.7 |
| 10- Al Ayat | 2 | 1.4 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 11- El Khanka | 7 | 5.1 | 1 | 50.0 | 3 | 12.6 | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 12 | 6.6 |
| 12-Masr El-kadima | 2 | 1.4 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 4 | 2.2 |
| 13- El-doky | 1 | 0.7 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 14- El-Matareia | 10 | 7.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 10 | 5.5 |
| 15- Ain- Shams | 12 | 8.8 | 0 | 0.0 | 1 | 4.2 | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 14 | 7.6 |
| 16- El-Maadiy | 1 | 0.7 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 17- Banha | 3 | 2.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 18- Embaba | 7 | 5.3 | 0 | 0.0 | 0 | 0.0 | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 9 | 4.9 |
| 19- Elzyton | 3 | 2.1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 20- Kafr Shokr | 0 | 0.0 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 21- El-Waily | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 22- EastCairo | 6 | 4.4 | 0 | 0.0 | 1 | 4.2 | 1 | 14.2 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 9 | 4.9 |
| 23- El-Zaher | 1 | 0.7 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |
| 24- Azbakeya | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 25- Kalyoub | 2 | 1.4 | 1 | 50.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 26- Rod Elfarage | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 27- SouthCairo | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 28- El-Gamalia | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.6 |
| 29- El-Salam | 2 | 1.4 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 4 | 2.2 |
| 30- El-Sahel | 2 | 1.4 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 31- Amn-Dawla | 0 | 0.0 | 0 | 0.0 | 3 | 12.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 32- El Khalifa | 1 | 0.7 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 0 | 0.0 | 2 | 1.1 |
| 33- Elsida Zienab | 2 | 1.4 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 1.1 |

| Causative agent / Province | Knife | | Dagger | | Rifled weapon | | Non-rifleed weapon | | Fall from height striking the ground | | Motor vehicle accident | | Stalk | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| 34- El-Suize Madany | 6 | 4.4 | 0 | 0.0 | 2 | 8.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 8 | 4.4 |
| 35-North Cairo | 4 | 2.8 | 0 | 0.0 | 1 | 4.2 | 0 | 0.0 | 1 | 20.0 | 0 | 0.0 | 0 | 0.0 | 6 | 3.2 |
| 36- Helwan | 3 | 2.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 3 | 1.6 |
| 37- Mokhtalita | 2 | 1.4 | 0 | 0.0 | 0 | 0.0 | 1 | 14.3 | 0 | 0.0 | 0 | 0.0 | 1 | 50.0 | 4 | 2.2 |
| Total cases | 138 | 100.0 | 2 | 100.0 | 24 | 100.0 | 7 | 100.0 | 5 | 100.0 | 2 | 100.0 | 5 | 100.0 | 183 | 100.0 |

This table shows the distribution of the studied group according to the causative agent (impalement) and resident through all the years of the study,it clearly illustrate the prevalence of knife as a causative agent among the studied group.