

**"EPIDEMIOLOGICAL PROFILE OF 100 PATIENTS  
VICTIMS OF NON-LETHAL WOUNDS BY SMALL ARMS  
ADMITTED DURING MAY 2003-MAY 2004 AND COSTS  
TO ROSALES HOSPITAL FOR THEIR MEDICAL  
ATTENTION"**



**Salvadoran Physicians for Social  
Responsibility**

**International Physicians for the Prevention  
of Nuclear War (IPPNW-EL SALVADOR)**

**&**

**Salvadoran Medical Students for Social  
Responsibility**

# EL SALVADOR

■ Location:  
Central America

■ Population:  
6.5 million

■ Geography:  
20,935 km<sup>2</sup>

■ Language:  
Spanish



# WHY WE DECIDED TO UNDERTAKE RESEARCH

- El Salvador has a lot of information about injury and mortality due to small arms.
- In 1999-2000 MESARES developed a research project investigating small arm injuries that included reviewing the patient records. We identified a deficiency in collecting data at the hospital, especially among physicians and medical students.
- Patient records do not include enough information

# WHY WE DECIDED TO UNDERTAKE THE RESEARCH

- Salvadoran Medical Students (EMESARES) branch of MESARES is a dynamic group.
- We decided to promote research to understand victims, and to allow us to design strategies to prevent violence, and provide appropriate treatment to victims and their families.







HOSPITAL  
ROSALES



# PROBLEM

- The greatest dangers from violence in Latin America came from guerrilla warfare and crime, mostly involving small arms.
- 450,000 guns are in civil hands.
- More than 2/3 of murders and almost 70% of robberies are armed robberies.



# PROBLEM

- High lethality.
- Victims of non-lethal injuries are a real public health problem.
- Lack of information about the event, economic effect, poverty, and human development.



# PROBLEM

The consequences of an injury:

- Problem for their families
- Society
- Social impact
- Disabled due to a non-lethal wound
- Unemployment
- Families have to support them to live
- Psychological effects
- Public hospitals bring medical attention, drugs, surgeries, etc.



# OBJECTIVES



## GENERAL OBJECTIVE:

To identify the epidemiological profile of 100 patients victims of non lethal injuries by small arms, and identify the costs to Rosales Hospital due to their medical attention during May 2003-May 2004.

# SPECIFIC OBJECTIVES

- A. To identify the patient's standard of living: social level, culture, economic status, personal details, in order to identify violence and non violence backgrounds of 100 patients victims of small arms injuries admitted to the Rosales Hospital.
- B. To determine the circumstances under which the injuries were received and the reasons for their admittance to the hospital.
- C. To establish the relationship between drug usage and victims of non-lethal injuries generated by small arms.

D. To establish the relationship between the carrying/possession of small arms and non-lethal injuries.

E. To establish the relationship between seriousness of non-lethal injuries and costs to the hospital.

F. To establish the costs to the Rosales Hospital due to the medical attention of patients with small arm wounds.





G. To establish the economic costs to the families of small arm injuries victims.

H. To promote the reflection and analyses of the issue through the disclosure of the research results among health workers, physicians, medical students, patients, people responsible of the law in order to regulate and control gun possession, and decision makers at national and international levels.

I. To discuss the implications of the findings on Public Health, and to design and explore the strategies to prevent violence in El Salvador.

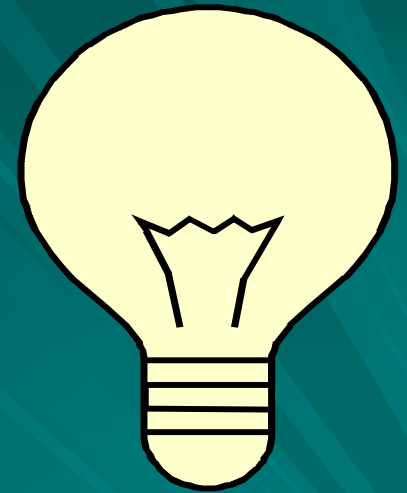
# METHODS

## Research Design:

The research is an epidemiological, observational descriptive and prospective study.

## Field of the Study:

Patients admitted to the Rosales National Hospital for small arms injuries during May 2003 to May 2004.



# METHODS

## Sample:

It is a non-probabilistic sample chosen by usefulness, structured by 100 patients present at the time of the researchers' visits during the period of May 2003-May 2004. The researchers will identify the patients admitted due to non-lethal injuries generated by small arms.



# The first part of the study includes:

Survey with the patient:

Trained field interviewers (Medical Students) collected data from the patient victims of non-lethal injuries who were interviewed in private through a survey, with special attention to determine the epidemiological profile.



# The second part of the study consists of:

Trained field researchers will revise the patient records in order to establish the seriousness of the injuries in order to establish hospital expenses.

Medical Students will collect data starting with the base of the physical examination, diagnostic, medical procedures, surgical procedures, laboratory tests and other analyses (x-ray, TAC, endoscopies, ECG, etc).



# Visit Sequence

OBSERVATION SURGERY SERVICE

Neurosurgical Trauma

5th. Female Surgery Service

6th. Female Surgery Service

2nd. Male Surgery Service

3rd. Male Surgery Service

1st. Male Surgery Service

4th. Male Surgery Service  
(patients in custody)



# Variables

- Social level
- Culture and economic status
- Age, Sex, origin, marital status, occupation, job, profession.
- Drug usage, crime history, economic costs for patient's families and hospital expenses.

# Instruments and Techniques to Obtain Data:

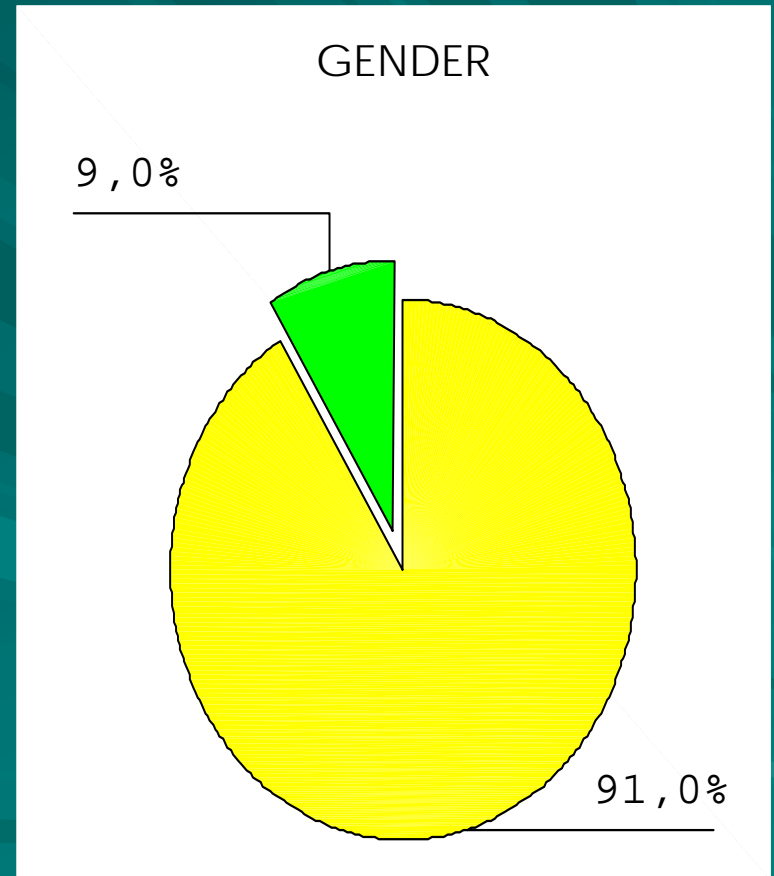
- Survey to identify the epidemiological profile and the circumstances under which the wounds were received. (For example: motive of the event, relationship between the victim and the aggressor, place where the event took place, etc.)
- Review of the records of patients who were interviewed in order to establish the injury seriousness and the medical attention, treatment, procedures to calculate the costs for the hospital due to their treatment.
- Survey to collect data from the records in order to establish the hospital expenses.

# PROCESSING

- Data collected was entered and analysis was conducted using SPSS 11.5 for Windows. The collecting data base at Rosales Hospital will be analysed by Salvadoran Physicians for Social Responsibility (MESARES) with Public Health Specialists.

# PRELIMINARY RESULTS

- 668 patients who attend in one year (from January 2003 to December 2003)
- The sample was 100 patients from May 2003 to May 2004
- 91% Male and 9% female.





# RESULTS

■ Average age : 25.19

■ The majority of patients were:

16- 26 years old: 70 (70%)

27-37 : 21(21%)

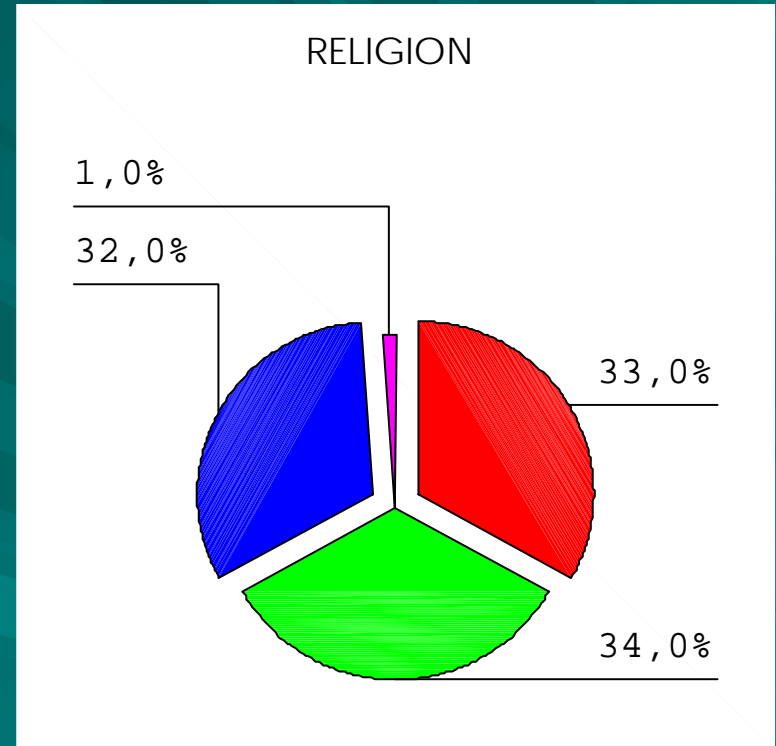
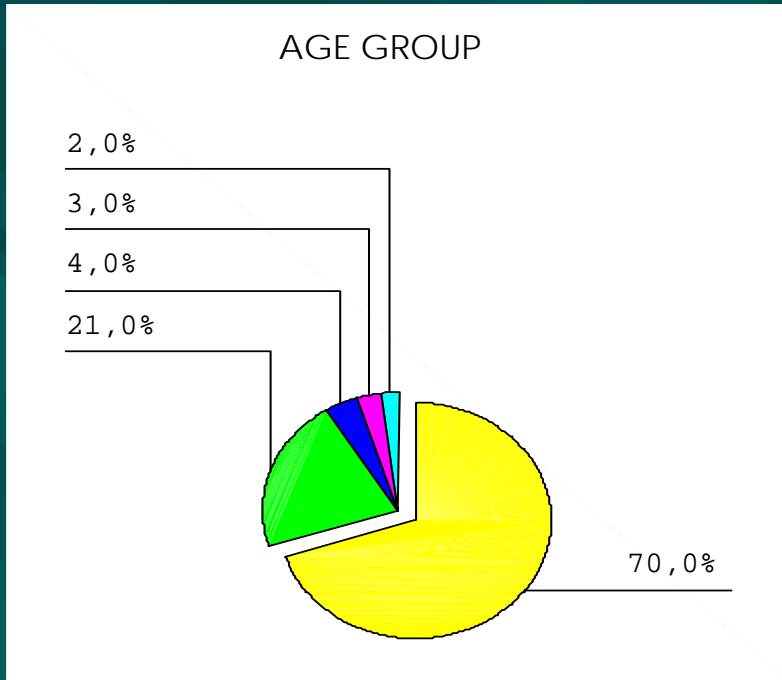
38-48:4 (4%)

49-59:3 (3%)

60 to the highest:2 (2%).

■ The origin : 67% urban, 33% rural.

# AGE & RELIGION



## Religion :

- 34% Catholic
- 33% non-religious
- 32% Protestant, 1% other.

# RESULTS

## Marital Status:

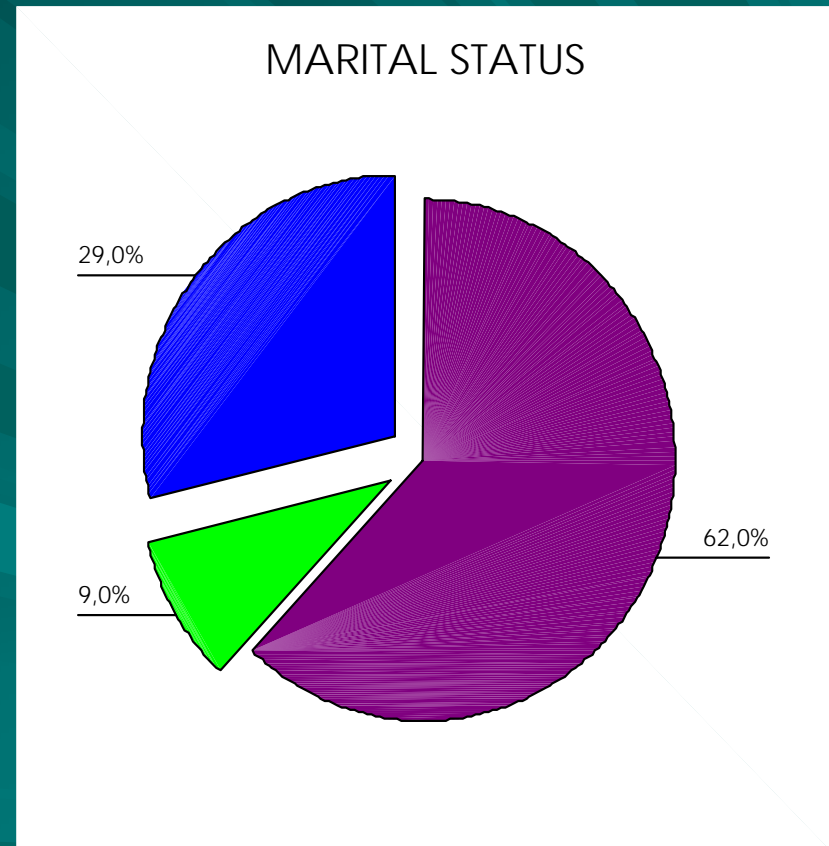
62% single

9% married

0% widow

29% cohabitation

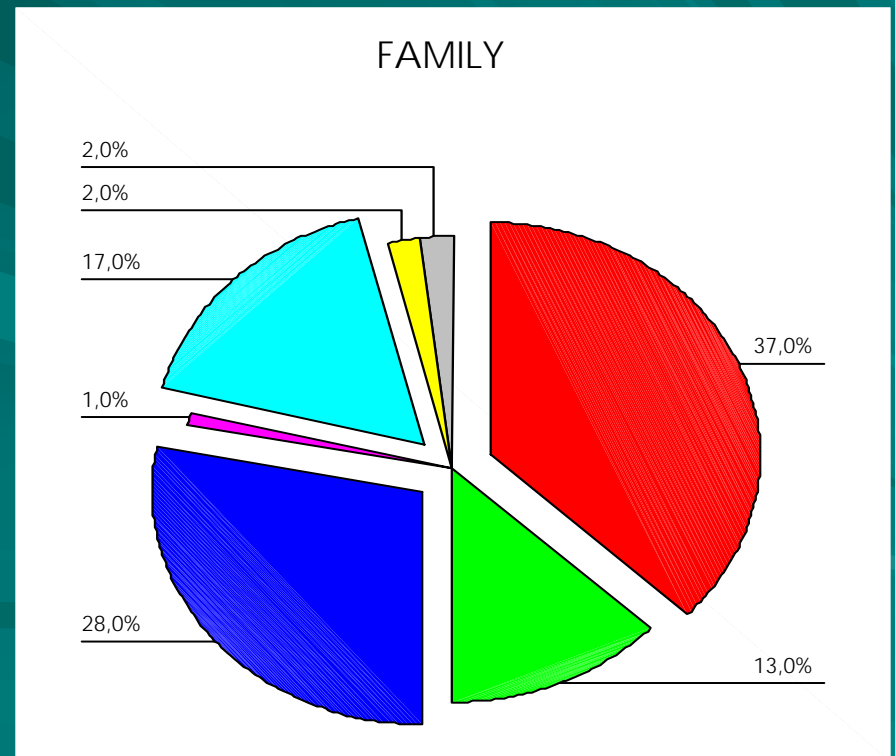
0% divorce.



# RESULTS : FAMILY

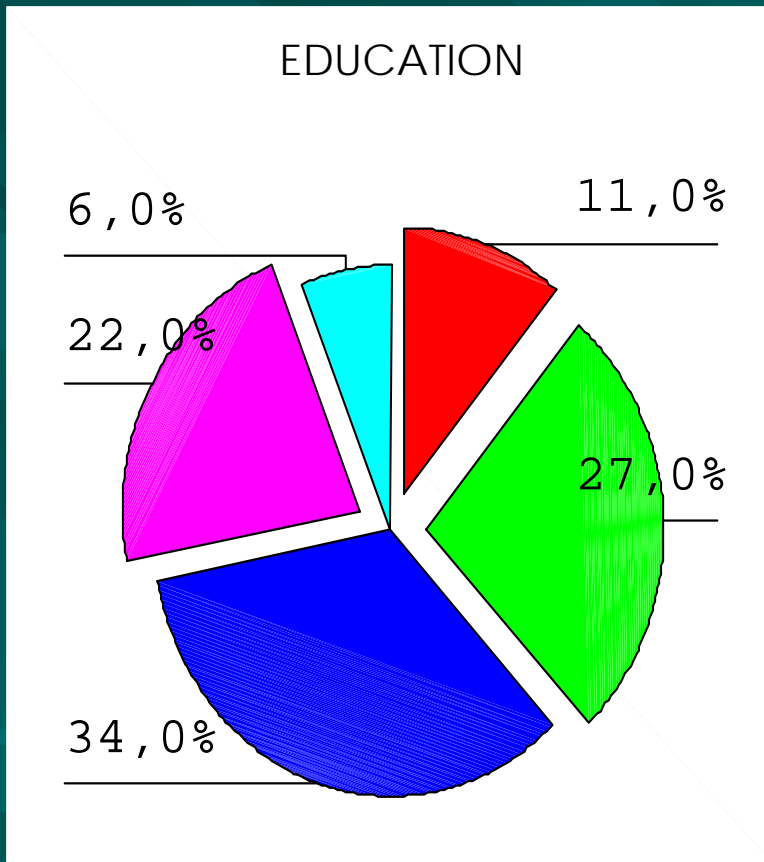
Lives with:

- 37% : steady family
- 28% : one of the parents
- 17% : relatives
- 13% : stepmother or stepfather and brothers
- 1% : brothers
- 2% : strangers
- 2% : alone





# RESULTS : EDUCATION

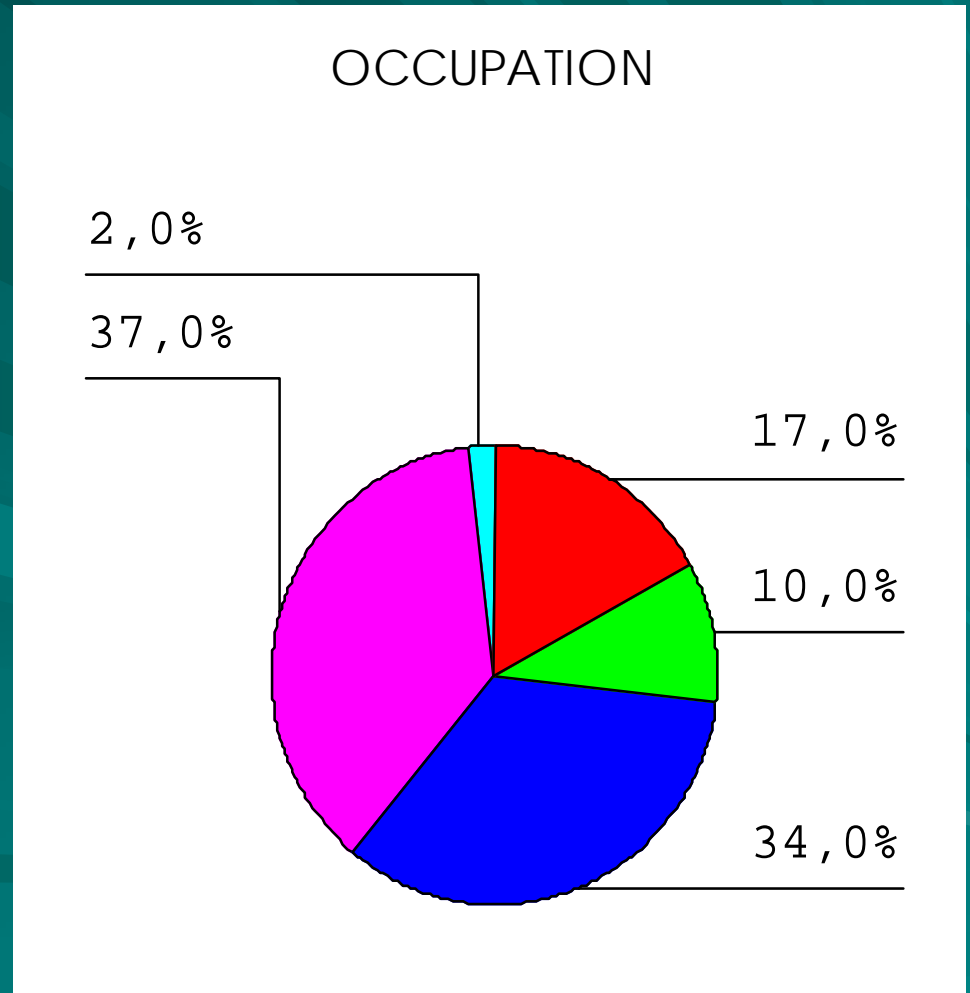


## Education:

- 11% none
- 27% elementary school
- 34% junior high school
- 22% high school
- 0% college
- 6% university

# RESULTS : OCCUPATION

- 17 % unemployed
- 10% student
- 34% employed
- 37% temporary work
- 2% homemaker



# Patients who have been exposed to:

- 67% armed robbery, 53% gang quarrels
- 54% police interventions
- 36% domestic violence
- 36% neighbor quarrel
- 18% murder
- 4% kidnapping
- 4% rape

## Patients who carry a gun:

16% YES

84% NO



Encidopedia Encarta, U.S. Army

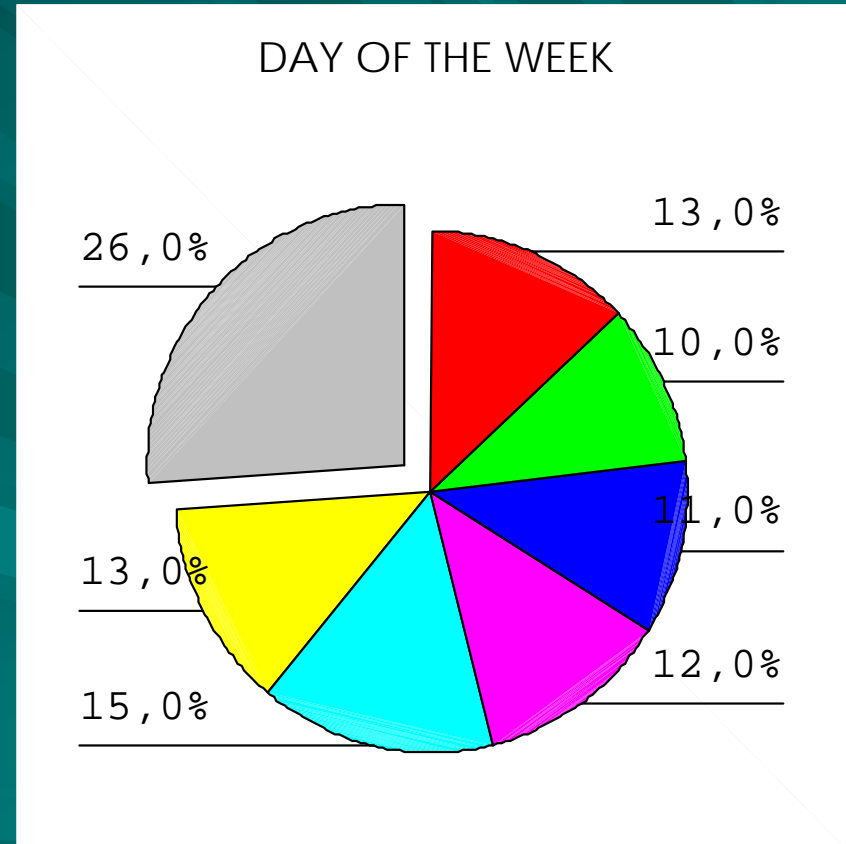
## Reasons to carry and possess a gun:

- Personal defense 10%, work 6%, 70% no response, non-applicable 13%, another purpose 1%.



# Context of the Event

- Type of area: Rural 24%, Urban 76%.
- Day of the week:
  - Sunday 13%
  - Monday 10%,
  - Tuesday 11%,
  - Wednesday 12%,
  - Thursday 15%,
  - Friday 13%
  - Saturday 26%.



■ **Relationship between the victim and the aggressor:**

22% well known, 78% unknown.

■ **How the injury occurred:**

7% accident or incidental

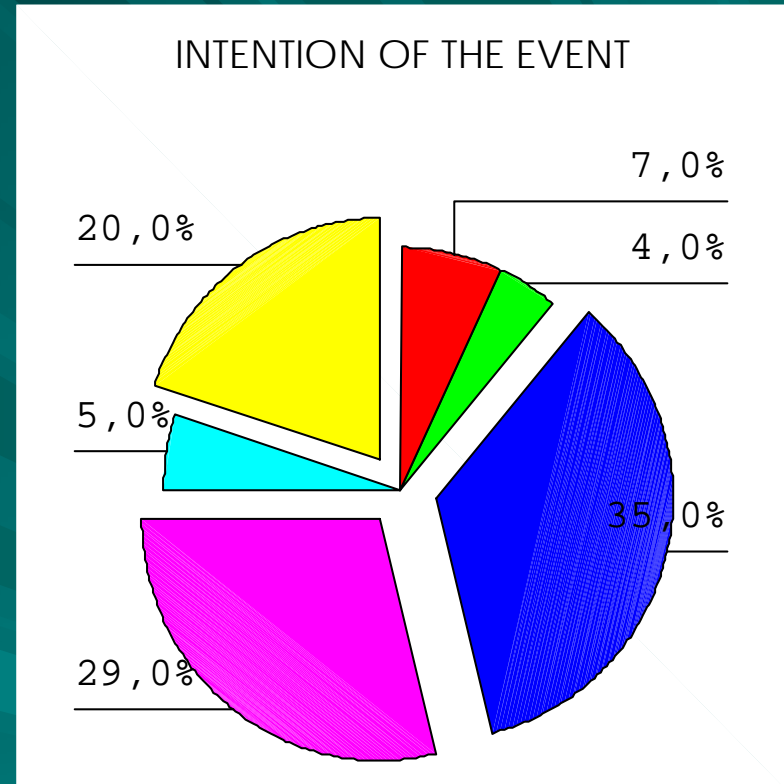
4% suicide

35% delinquency

29% conflicts

20% unknown

5% stray bullet



# CONCLUSIONS :

- The preliminary results suggest that a large number of patients are employed, and most of them support their families. The average age was 25.19. This suggests that the patients that are suffering small arm injuries are in a productive period of life.
- The majority of patients were male (91%) with an educational level between elementary school and junior high school (61%).

# CONCLUSIONS :

- Understanding the following can help us to develop intervention strategies, and help establish the costs of violence to society.
  - differences between background and gender
  - places frequented in leisure time
  - motivation of the injury
  - relationship between the victim and the aggressor
  - place where the injury took place
  - crime history
  - drug consumption