

Demographical and Epidemiological Aspects of Firearms Injuries and the Medical Care of Emergency in Emergency Clinic

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Abstract

Firearms injuries are a major public health problem in Kosovo. Injuries from firearms injuries are those caused by any firearm (cartridge, Cannonball) and from the special properties war, mine explosive grenades, and other subjects. Epidemiology of the use of firearms in males ranges corresponding 1.9 per 100,000 population, while for women 0.3 per 100,000 inhabitants. The most common injuries are caused by weapons fire, rarely with special tools of war. Causes with firearms injuries blamed mental health problems, domestic violence, disparities in family, social cases, use of drugs and alcohol. Preventing injuries and deaths by firearms is one of the most complex issues at the country in recent years. Management and Access Principles, Access, Evaluation of Emergency Medical Care at Three Levels of Care based on EMS Standard. It is important to take a step, contributing significantly to the reduction of premature deaths, diseases, and disability. Careful medical certificates should be given for carrying weapons, assessing the psychophysical and social aspects. The Kosovo Police should control nightclubs, schools and universities, respecting, implementing legal and institutional mechanisms, educating communities through brushes, lectures, media, and social networks, as well as international cooperation. The significant number of injuries with disabilities and deaths should be prevented through national preventive strategies and the need to provide emergency medical care for the rapid transport of firearm victims to the emergency clinic for definitive treatment. Educational efforts are trying to promote safer use of firearms, but they have not led to a significant reduction in the number of victims.

Key words: Firearms, demographic, casualties, wounds, EMS, medical care

Introduction

Injuries from firearms are those injuries that are caused by any kind of firearm (bullet, bullet) as well as by special means of warfare, mines, grenades and other explosives. The epidemiology of the use of firearms in men is 1.9 per 100,000 inhabitants, while for women it is 0.3 per 100,000 inhabitants. Epidemiology 100,000 / 10.6 deaths. In the

United States, gunshot wounds have been reported on a state-of-the-art basis, showing high levels of male casualties and a 34% overall mortality rate. In Canada, gunshot wounds are responsible for about 1,000 deaths a year, and for every person killed with a firearm, an estimated 2.6 others are injured. [2,4,9,13]. The nature of the deadly gunshot wounds, a large proportion of victims seek basic and advanced medical care. [2,18]. Also to the Canadian state that criminal offenses caused by firearms cost about \$ 6.6 billion a year. (Lawrence and Miller, 2014).

In Kosovo, according to a survey in 2019, there are about 260,000 illegal weapons, but representatives of the Kosovo police believe that this number has dropped significantly. According to official results released by Kosovo security institutions, Kosovo Police confiscate an average of 1,400 illegal weapons each year. The Ministry of Internal Affairs (MIA) and the United Nations Development Program in Kosovo (UNDP) organized a roundtable discussion on control over small arms and light weapons and opportunities to reduce illegal weapons in Kosovo. Causes of gunshot wounds include mental health problems, domestic violence, inequality in the family, socioeconomic

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cases, drug and alcohol use. In Kosovo, according to a survey in 2019, there are about 260,000 illegal weapons, but representatives of the Kosovo police believe that this number has dropped significantly. According to official results released by Kosovo security institutions, Kosovo police confiscate an average of 1,400 illegal weapons each year. Preventing gunshot wounds and deaths is one of the most complex issues in the country in recent years. Laws passed in Kosovo are controlling or discouraging private gun ownership, eliminating guns from the hands of children, adolescents and criminals, but the effects of the laws “which should affect crime reduction and related firearm injuries and injuries. are the main cause of death of victims. Efforts through educational campaigns in Kosovo are trying to make efforts to promote the safer use of firearms in a controlled manner, but this process is slowing down the use of weapons fire. Emergency medical care in pre-hospital and hospital settings for fire victims is an important component for the survival of victims and by reducing morbidity, disability and mortality. [5. 7. 11].

Purpose of the research

The main purpose of this research is to identify the causes of injuries caused by firearms, assessment of vital signs, severity of injuries at the system level, geographical distribution, emergency medical care in pre-hospital and hospital settings, increasing the survival of victims of transport, the accident site to the hospital and reducing the morbidity, disability and mortality of victims. [4, 7].

Material and Methods

The data were obtained from the protocols of the injured only with firearms in the Emergency clinic for the period 2005-2019. The research is retrospective. In this study, we evaluated the following elements of epidemiological, demographic data, emergency medical care, identification of the causes of injuries, age, gender, ethnic group, geographical extent, victims admitted, treated or dead and the duration of stay in Emergency clinic. As well as their connection with illness, disability and mortality in outpatient and inpatient settings.

In Kosovo, there is no internationally recognized system for assessing firearm injuries other than that the Kosovo police have accurate data at the national level. We are only presenting to firefighters with firearms accepted and treated, hospitalized and dead at the Emergency Clinic, accidental or unknown / other, as well as the analysis of vital parameters, GCS were elements that varied within minutes in firearms injured. Data were processed in Excel and the frequency and percentage of data was calculated and presented in the form of tables.

Results

The data are taken from the sources of the UCCK archive - Emergency clinic for the period 2005-2019. We are presenting them only to the firefighters accepted and treated, hospitalized and died in the Emergency Clinic, in the time frame of this research were 1175 injured with firearms. (Table. 1).

Table 1. Number of cases by gender in injured with firearms

Gender	N	%
F	88	7.48
M	1087	92.52
Total	1175	100.0

The number of cases by gender is dominated by males over 92.52% compared to females only 7.48% (Table 1).

Table 2. Number of cases by age group.

Year	N	%
0 - 4	0	0
5 - 10	1	0.8
15 - 20	287	24.05
35 - 40	240	20.12
45 - 55	582	49.5
60 - 65	47	4.0
70 - 80	12	1.02
Over 80 year	6	0.51
Total	1175	100.0

According to the regions with the highest number of injuries caused by firearms are registered in the Kosovo field region with 657 cases or 55.94%, Dugagjini 444 cases or 37.78 and Anamorava 77 cases or 6.28%. (Table 3.)

Table 3. Number of cases by Location.

Location	N	%
Home	331	28.17
Street	799	68.00
Industrial sports area	45	3.83
Total	1175	100

According to the location of the location with the largest number of injuries caused by firearms are registered Street 799 cases or 68% and in Home 331 cases or 28.17% and in Industrial sports area 45 cases or 3.83%. (Table 4.)

Table 4. Number of cases by years.

Year	Injury	Dead	Year	Injury	Dead
2005	136	5	2012	15	5
2006	45	5	2013	60	5
2007	137	7	2014	80	3
2008	84	1	2015	38	2
2009	82	4	2016	61	6
2010	109	7	2017	60	4
2011	143	4	2018	62	6
			2019	61	3

The number of cases of firearms injuries according to the years 2005 136 cases or and continuing in 2006, 2007 we have a decrease, while from 2008 to 2010 you have an increase, while in 2012 we have the smallest number of cases of recorded only 15 cases, but since 2013, 2014 we have an increase and in 2015 we have a rapid decline in firearms injuries, while since 2016 we have an increase of 53 cases and in 2017 we have an increase of over 50%, thus continued declining in 2018 with 82 cases and 2019 in 61 cases (Table 5.).

Table 5. Injuries caused by firearm per month 2005 – 2010.

Month	2005	2006	2007	2008	2009	2010
January	10	1	5	4	4	9
February	9	1	4	7	1	9
March	12	2	2	5	8	7
April	7	2	3	4	4	11
May	11	5	5	11	5	7
June	12	4	9	12	8	9
July	14	9	10	10	8	13
August	28	7	12	9	14	13
September	9	4	5	8	11	12
October	9	2	3	5	6	9
November	10	3	2	4	6	6
December	5	5	5	5	7	16
Total	136	45	65	84	82	121
Dead	5	5	1	1	4	11

The number of cases injured with firearms according to the months of 2005-2010; 2005 august were 28 cases, 2006 were July 9 cases, 2007 august were 12 cases, 2008 may were 12 cases, 2009 august were 14 cases and 2010 august were 13 cases (Table 6).

Table 6. Injuries caused by firearm per month 2011 – 2015.

Month	2011	2012	2013	2014	2015
January	15	9	6	12	6
February	3	4	7	10	5
March	3	17	7	6	6
April	8	7	9	3	1
May	11	3	8	3	/
June	11	8	0	8	/
July	15	12	10	12	/
August	5	19	8	11	/
September	10	8	4	4	/
October	4	6	4	8	/
November	9	7	7	3	/
December	16	5	0	3	/
Total	110	105	70	83	18
Dead	12	5	5	3	1

The number of cases injured with firearms according to the months of 2011-2015; 2011 December were 16 cases, 2012 were August 19 cases, 2013 July were 10 cases, 2014 January and July were 12 cases, 2015 January and march 6 cases and from May to December no case (Table 7).

Table 7. Injuries caused by firearm per month 2016 – 2019.

Month	2016	2017	2018	2019
January	3	4	3	7
February	4	6	4	10
March	3	9	8	3
April	4	6	4	3
May	5	4	9	3
June	8	7	4	5
July	7	10	9	9
August	7	11	6	6
September	6	7	5	5
October	2	6	4	6
November	4	7	8	2
December	4	3	2	3
Total	53	115	82	62
Dead	12	5	5	3

Number of cases of firearms injuries during the months of 2016-2019; 2016 June were 8 cases, 2017 were august 11 cases, 2018 may were 9 cases and 2019 February were 10 cases (Table 8.).

Table 8. The types of injuries caused by purposes.

The purpose of injuries by firearms	N	%
Intentionally	633	53.87
Unintentionally	57	4.87
Accidental	35	2.97
Unspecified	450	38.29
Total	1175	100

In terms of the number of injuries caused by firearms, according to the cause, they were 633 cases or 53.87%, without charge 57 cases or 4.87%, accidental 35 cases or 2.97% and not specified 450 cases or 38.29%. (Table 9.)

Table 9. The types of injuries caused by purposes.

Causes	N	%
Ownership problems	734	62.46
Family problems	213	18.12
Mental conditions	43	3.69
Psychotic drug abuse	62	5.27
Alcohol use	111	9.44
Criminal acts	12	1.02
Total	1175	100

According to the cause, the number of injuries caused by firearms was with Ownership problems 734 cases or 62.46%, Family problems 213 cases or 18.12%, Mental conditions 43 cases or 3.69%, Psychotic drug abuse 62 cases or 5.27%, Alcohol use 11 cases or 9.44%, Criminal acts 12 cases or 1.03% (Table 10.)

Table 10. Transportation of firearms.

Transportation of wounded with firearms	N	%
EMS ambulance	483	41.10
Private cars	692	58.90
Total	1175	100

The firearms transported by EMS ambulance was 483 cases or 41.10% and with private cars 692 cases or 58.90%. The question arises as to how much emergency medical care has been provided at the scene, during transport to the hospital on which survival also depends and most of my firearms injured come to the Emergency Clinic. puts in barrels and with emergency medical care transport to the

hospital. This principle should be basic and is the standard of EMS for the survival of victims. (Table 11.).

Table 11. Types of injuries according systems.

Types of injuries according systems	N	%
Head injuries	98	8.34
Chest injuries	88	7.48
Abdominal injuries	76	6.46
Pelvic injuries	68	5.78
Injuries of upper and lower limbs	742	63.23
Cord injuries	45	3.82
Combined injuries	58	4.93
Total	1175	100

Types of injuries according to systems Head injuries 98 cases or 8.34%, Chest injuries 66 cases or 7.48%, Abdominal injuries 76 cases or 6.46%, Pelvic injuries 68 cases or 68 cases or 5.78%, Injuries of upper and lower. limbs 742 cases or 63.23%, Cord injuries 45 cases or 3.82%, Combined injuries and to Combined injuries 58 cases or 4.93, from the table above it can be seen that the largest number of gunshot wounds were Musculoskeletal system injuries 742 cases or 63.23b % (Table 12.)

Table 12. Injured and hospitalized, treated and dead 2005-2019.

Injured and hospitalized, treated and dead 2005-2019	N	%
Hospitalized	450	38.29
Released treatment	661	56.25
Dead	64	5.46
Total	1175	100

Discussion

Epidemiological and demographic data in this study are related to the literature on firearm injuries. All research shows a high rate of male injury accounting for over 92.52% compared to females only 7.48% in line with world literature. The data from our research findings are similar to those found in the United States, Canada and Europe. [2, 15].

In Kosovo, the results of our investigation show that the phenomenon after the end of the war has begun to take on alarming proportions of murders, suicides and most people who commit suicide with firearms fail to survive to get to the hospital, and based on statistics. confirmed by our research are much more likely to die at the scene of a homicide or suicide. In the United States, a common problem many Americans may not realize is that over 60%

of all firearms deaths in the United States are suicides nearly double the number of gun deaths (Greenspan and Kellermann, 2002)). The death rate in Kosovo of firearms cases is increasing, while suicides or accidents are lower compared to the Balkan and European countries. [2. 10, 22].

The activation of psychosocial services and mental health (Kosovo police) has a great role to play in working with communities in order to avoid provocative causes that may directly or indirectly affect this phenomenon in Kosovo society. [1. 8].

Age affected by years with injuries caused by firearms from 0-4 years was not a case, 5 - 10 years 1 case or 0.8%, 15 - 20 years 287 cases or 24.05%, 35 - 40 years 240 cases or 20.12 %, 45 - 55 years 582 cases or 49.5%, 60 - 65 years 47 cases or 4.0%, 70 - 80 years 12 cases or 1.02% and over 80 years 6 cases or 0.51%. The age that dominates with the largest number of cases is the age of 45-55 years 582 cases or 49.5%, while other ages have a smaller number (Kochanek et al., 2013).

In Kosovo, according to a survey in 2019, there are about 260,000 illegal weapons, but representatives of the Kosovo police believe that this number has dropped significantly. According to official results released by Kosovo security institutions, Kosovo Police confiscate an average of 1,400 illegal weapons each year. Most firearms deaths occurred at the scene during transport, while hospital deaths occurred in the early hours or in the first 24 hours of the "first golden hour." Assessment of life parameters, GCS is a useful parameter in clinical, diagnostic and treatment evaluation.

Injuries by Head injuries 98 cases or 8.34%, Chest injuries 66 cases or 7.48%, Abdominal injuries 76 cases or 6.46%, Pelvic injuries 68 cases or 68 cases or 5.78%, Injuries of upper and lower limbs 742 cases or 63.23%, Cord injuries 45 cases or 3.82%, Combined injuries and to Combined injuries 58 cases or 4.93, from the table above it can be seen that the largest number of gunshot wounds were musculoskeletal system injuries 742 cases or 63.23 %

Important is how these victims come to the hospital, because the minutes are time for life, "Add life to the day, not the days in life", Wounds caused intentionally and suicidal, the speed of providing medical care in the scene, during transport and up to the hospital.

Mortality varies by severity but is high in those with severe injury and in the elderly. Kosovo Agency of Statistics (KAS) has published "Statistics of Deaths in Kosovo 2018". 129 or 72.9% misfortune, 27 or 15.3% suicide and 21 or 11.9% homicide. In accidents and murders, the age of 20-49 dominates in both men and women, while in suicides, the age of 50 years and more dominates both men and women. The source of the data in this publication are, Basic Registers of deaths based on the law on civil status no.04 / L-003. Based on the provision of urgent and emergency medical care is the small percentage at the scene of firearm injuries to receive proper care. Because some of the injured suffer very serious injuries due to the delays of EMS 112, the distance from the scene and most are brought to the hospital or unprofessional

transport, with or without medical care with private cars and persons injured by firearms events in this

Neither do they receive care from an emergency or emergency service unit, this component must be organized with an organized system of SHME 112, which can reduce the high rate of illness, disability and mortality. Another point that draws attention from our paper; according to the regions with the highest number of injuries caused by firearms are registered in the Kosovo field region with 657 cases or 55.94%. Dugagjini 444 cases or 37.78 and Anamorava 77 cases or 6.28%. The study by Maciel, which analyzed victims of firearms injuries who have been cared for at an emergency hospital in Goiânia, said the injuries were serious, with 42.0% of the chest attacked, 37.3% of the abdomen and 28.0. %. The authors in question emphasize by analyzing only firearm-inflicted injuries on targets. (Frattaroli et al., 2002). Injuries caused by accidental firearms were 35 cases or 2.97% and unintentional 57 cases or 4.87% and unspecified 450 cases or 38.29% but above all in the intentional and violent events the mortality rate was higher 633 cases or 53.87%. Which injuries, in addition to having expensive treatment costs, but also the appearance of complications and disability is significantly increasing. Providing medical care to firearms injuries remains one of the most important components and evaluating and stabilizing GCS vital signs in victims and educating and training emergency medical staff with courses is a legal obligation for every medical care professional to be familiar with the courses. BTLIS, PTLIS and ATLS, which will help in the survival of the victims. The victims with gunshot wounds after being treated in the Emergency Clinic, more than two-thirds of the injured were released from the hospital and the rest remain for further treatment in the hospital. Educational efforts are trying to promote safer use of firearms, but they have not led to a significant reduction in the number of victims. Firearms injuries are preventable, but the first step is to prevent this phenomenon by understanding the nature and extent of the problem - what it is, the impact, where the event occurs, how the patterns will change over time and the factors that contribute to these changes. During the examination of the factors that contribute to the destruction of firearms injuries, their institutional intervention may have a significant impact on reducing firearm injuries. [1.6.9,13].

Conclusion

Firearms injuries are a major public health problem in Kosovo as well. It is important to take a step forward, contributing significantly to reducing premature deaths, illness and disability. Finding ways to prevent such injuries remains one of the most important goals and challenges of public health nature and the impact of the problem is only a first step towards preventing gun violence, by anchoring all relevant mechanisms to prevent, understand risk factors, protect, identify approaches to effective solutions by reducing firearm injuries significantly. [4.9.13,18].

Respect the principles, approach, evaluation of emergency medical care at the three levels of care based on the EMS standard. Medical certificates for possession of weapons must be carefully given, assessing the psychophysical and social aspect. To control the nightclubs, schools and universities by the Kosovo Police, respecting, implementing legal, institutional mechanisms, educating communities through brushes, lectures, media and social networks and international cooperation. Survivors of firearms in rural areas transported to the Emergency Clinic are more stable, but the risk and their lives are complicated and they die during transport or lack of transportation. Creating mobile emergencies can have a significant impact on the survival of victims. [5.14.16].

A significant number of disability and death injuries should be prevented through national preventive strategies and the need to provide emergency medical care for the rapid transport of firearms to the emergency room for definitive treatment. [2.3.17].

The functionalization of the Centers for Disease Control and Prevention, the National Center for Injury Prevention and Control has a role in identifying the causes, preventing disease, disability and mortality is the center that will gather all the data on this troubling issue. [2.15].

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