

Safety in Road Communication and Role of pre –Hospital Emergency Service.

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Abstract

Background: Around 1.25 million people die each year due to traffic accidents. Traffic accident injuries are the leading cause of death in the most productive age group – 20-45 years old. If no preventive measures are taken, it is expected that in year 2030 traffic accidents will be the leading cause of death in general.

Aim of study: Gathering and comparing the statistics regarding traffic accidents to have a better overview of the problem. To identify the most common factors of traffic accidents. To compare the number of accidents and casualties at local, regional and global level. To evaluate the way traffic accidents are handled from urgent medicine services and the Centre of Urgent Medicine in particular. To improve the quality of handling traffic accident from medical teams.

Material and methods: data for this paper is extracted from QMU and archive protocols. We have cooperated with Emergency Centre of UCK, and Kosovo Police, Pristina regional unit. Retrospective method of research and afterwards descriptive and analytical method has been applied.

Results: Of 604 cases of traffic accidents that have been analyzed, 212 or 35.1 % included persons of age group 16-25. Of the total number, 411 or 68.04 % were males and 193 or 31.9 % were females. The average time of arriving at the scene of CEM teams was 7.65 minutes. 5150 patients were transported to Emergency Centre in UCK, 3158 of them or 61.32 % were transported with private vehicles and 1992 or 38.62 % were transported with ambulance.

Conclusions: The main factor of traffic accidents remains human factor. Traffic accidents increase the incidence of death and disability in general population. Laws and their obedience, technical condition of vehicles, road infrastructure are also factors that influence the number of traffic accidents. Enforcing Emergent Medical Services, promoting and educating the population, institutional cooperation, have positive impact in reducing the number of traffic accidents, decreasing mortality and disability caused by traffic accidents.

Keywords: traffic accident, medical urgency, fatality, security.

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Full Text

Introduction

Traffic accidents are leading cause of death in the most productive age group - 20-45 years of age. 20 - 50 million people in the world are left with injuries and disability caused by traffic accidents. Half of those who lose their life in traffic accidents are active participants - pedestrians, bicycle and motorcycle drivers. Unless preventive measures are taken, it is expected that by year 2030, traffic accidents will be the 7th leading cause of death in the world.

Large number of traffic accidents is caused by a variety of factors and the result is a relatively large number of victims left with disability and material loss. This number can be lowered with proper laws and practices.

Lack of strategic multisectorial plan

Kosovo should have a strategic plan dedicated to traffic safety in national level.

Experience from other countries in the region has shown that strategic plans regarding traffic safety have improved the efficacy of the institutions by improving cooperation between them. Traffic accidents are one of the leading causes of death and disability. Traffic safety is a serious problem especially in transitional countries such as Kosovo.

Aim of study

To gather and compare data from traffic accidents to have a better view on the problem.

To identify the most common causes of traffic accidents in Kosovo.

To compare the number of accidents and victims with other countries.

To evaluate the medical service of relevant institutions especially the Centre of Urgent Medicine in Pristina. To offer information and ideas on how to increase the quality in service by First Aid service teams

Material and methods

This research uses retrospective, descriptive and analytical method.

Cases of accidents from year 2002 to 2018 have been included.

The number of casualties from these years has been included.

The number of accidents in year 2017 and 2018 have been compared.

The number of accidents has been compared with data from other countries in the region.

Data from Centre of Urgent Medicine interventions in year 2018 has been presented in tables and graphics including the number of patients that have been transported to Emergency Centre of University Clinical Centre in Pristina.

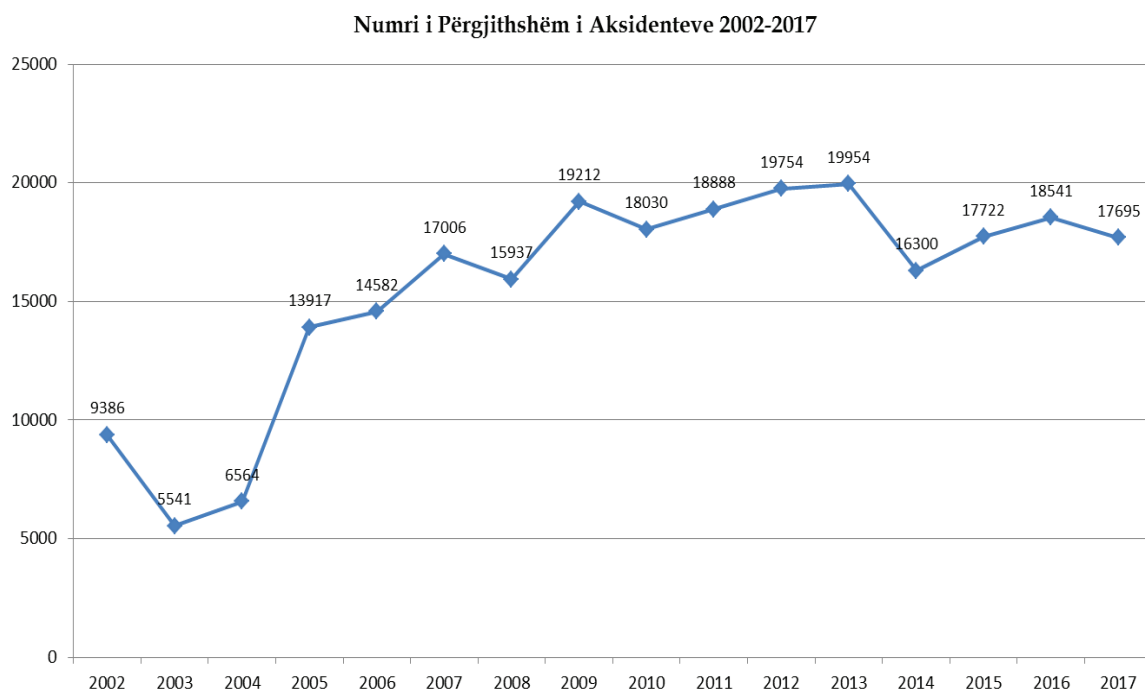
Results

Results from the research have been presented in tables and graphics.

Year	Nr. of accidents
2002	9386
2003	5541
2004	6564
2005	13917

2006	14582	2013	19954
2007	17006	2014	16300
2008	15932	2015	17722
2009	19212	2016	18541
2010	18030	2017	17795
2011	18888	Total	249524
2012	19754		

Table 1: Number of traffic accidents in Kosovo from year 2002 to 2017.
Average number 15564, lowest number in 2003 - largest number in 2013.



Graph 1: Traffic accidents in Kosovo in years.

Number of casualties in traffic accidents Kosovo in previous years.

Years	Number	%	2010	175	7.7
2002	132	5.8	2011	157	6.9
2003	130	5.7	2012	121	5.3
2004	170	7.5	2013	119	5.2
2005	155	6.8	2014	127	5.6
2006	178	7.8	2015	129	5.7
2007	138	6.1	2016	110	4.8
2008	133	5.9	2017	137	6.0
2009	176	7.8	Total	2265	100

Table 2: Number of traffic accidents with fatality from year 2002 to 2017.
The lowest number was in 2016 while the largest number was in 2006.
On average there are 143 people who lost their life in traffic accidents yearly.

The structure of traffic accidents in Kosovo in year 2017-2018.

	2017		2018			
Accidents	Nr	%	Nr	%	Total	%
Accidents with casualty	122	54	100	46	222	100
Dead persons	137	51	129	49	266	100
Accidents with injuries	6390	50.68	6217	49.32	12607	100
Injured persons	12645	50.57	12359	49.43	25004	100
Accidents with material damage	11183	54.27	9424	45.63	20607	100
Total accidents	17695	52.92	15741	47.08	33436	100

Table 3: Structure of accidents in Kosovo for the period of time between 2017 - 2018. The table shows decline in the number of accidents.

The same trend is seen in accidents with casualties and in accidents with material damage. The same is with the number of deceased and those injured.

Statistics for Prishtina region, year 2014 – 2018

Prishtinë										
Year	2014		2015		2016		2017		2018	
	Nr.	%	Nr.	%	Nr.	%	Nr.	%	Nr.	%
<i>Accidents with casualties</i>	34	0.45	31	0.38	33	0.40	31	0.40	34	0.52
<i>Number of deceased</i>	37	0.49	35	0.42	38	0.42	35	0.46	43	0.66
<i>Accidents with Injuries</i>	2012	27.05	2194	26.89	2262	27.72	2347	30.86	2185	33.65
<i>Number of injured persons</i>	3915	52.64	4383	53.73	4392	53.82	4604	60.54	4466	68.78
<i>Accidents with material damage</i>	4903	65.92	5361	65.72	5865	71.87	5226	68.72	4274	65.82
<i>Hit and run accidents</i>	488	6.56	571	7.0	/		/		/	
Total	7437		8157		8160		7604		6493	

Table 4: The table shows data with number and percentage of traffic accident from year 2014 to 2018. The largest number of accidents was in 2016 while the lowest was in 2018 with 1667 less accidents.

Number of deceased in traffic accidents in Kosovo and the region.

Country	Number of deceased in year 2017	Number of deceased in 100 000 inhabitants
<i>B & H</i>	633	12.65
<i>Albania</i>	395	12.32
<i>Montenegro</i>	-	9.01
<i>Turkey</i>	6954	8.85
<i>Croatia</i>	391	8.22
Kosovo	137	7.8
<i>N. Macedonia</i>	169	7.02
<i>Greece</i>	890	7.0

Serbia	-	6.38
Slovenia	-	5.75

Table 5: Number of deceased in traffic accidents in year 2017 for 100 000 inhabitants. Kosovo has 137 cases (7.8 %). Slovenia has the lowest percentage - 5.75 %, Serbia: 6.38 %, Greece with 890 cases or 7.0 %. It shows that Kosovo has an average index of mortality compared to the region.

Source of data: <http://www.worldlifeexpectancy.com/road-traffic-accidents>

Interventions by Centre of Urgent Medicine in traffic accidents by month 2018.

Mon.	Janar	Febru.	Mar.	Apr	Ma.	June	July	Aug.	Sep.	Oct	Nov.	Dec.	Total
Nr.	101	83	69	108	98	116	110	198	101	121	95	83	1283
%	7.9	6.4	5.4	8.4	7.6	9.1	8.6	15.4	7.9	9.4	7.4	6.5	100

Table 4: The number and percentage of interventions in traffic accidents by month 2018. The largest number is in August, the lowest number is in March.

Number of traffic accident interventions by age group and gender of victims

Age	Male		Female		Total	
	Nr.	%	Nr.	%	Nr	%
16 -25 years	147	35.8	65	33.7	212	35.1
26 -35 years	94	22.9	37	19.2	131	21.7
36-45 years	62	15.1	39	20.2	101	16.7
46-55 years	46	11.2	29	15.0	75	12.4
55-65 years	33	8.1	16	8.3	49	8.1
over 65 years	16	3.9	7	3.6	23	3.8
Total	411	68.04	193	31.9	604	100

Table 6: Number of traffic accident victims treated by QMU in year 2018 based on age group and gender. Of total 604 cases, the most common age group is 16-25 with 212 cases of 35.1 %.

Of the total number 604, male gender was more common with 411 cases or 68.04 % while females were 193 or 31.9 %.

Average time of intervention by QMU teams in traffic accidents measured from the moment of take to arrival at the scene in year 2018

Nr. of cases	Time of take off after call	Average time of reaction	Total
604	50 sek.	7.65 min	8.15 min

Table 6: Time of intervention in 604 cases of traffic accidents in year 2018.

Number of cases and type of transportation to the Emergency Centre.

Type of transport	Nr. of cases	%
With private vehicles	3158	61.32
With autoambulance	1992	38.68
Total	5150	100

Table 8: The table shows that the type of transportation for most of the injured in traffic accidents is not adequate.

Discussion

Traffic accidents are a serious problem in the world.

This problem is very complicated and the number of victims is large.

According to a WHO research undertaken in 2013, 1 240 000 people die each year on traffic accidents.

Our country is also part of this problem where on average 100 people lose their life on yearly basis on traffic accidents.

In year 2017, the number of deaths in 100 000 people in traffic accidents was 137, or 7.8 % of all traffic accident victims.

This percentage in other countries in the region is: Slovenia - 5.75 %, Serbia - 6.38 %, Greece - 7.0 %.

Kosovo has an average index of traffic accident mortality.

There are several factors that influence the number of traffic accidents.

Main risk factors according to WHO are driver's and pedestrian's fault.

In some cases interventions in traffic accidents are covered by Firemen and Police officers who offer technical support in the place of accident.

Centre of urgent medicine in Prishtina offers support in traffic accidents by responding to a call on 194 line.

After arriving at the scene, the team evaluates the danger, and offers treatment to the injured.

Stabilisation of the victim at the scene includes breathing, bleeding, immobilisation.

During transport, the team monitors vital signs, pulse, consciousness, blood pressure, breathing, SPO2, and based in indications administers Oxygen, fluids and medicaments.

During transport the teams informs the receiving centre for the incoming injured person.

Most common factors that cause accidents

- dangerous manipulation of the vehicle
- not keeping a safe distance
- driving above the speed limit
- unsafe entering in traffic etc.

Drivers responsibility:

- speed
- influence of alcohol

Alcohol is responsible for 3 million deaths yearly globally, more than AIDS, violence and accidents, according to WHO:

- not wearing helmet
- not putting the seat belt on
- lack of proper seating for children
- use of cell phone
- not respecting the traffic signs

Human factor: human psychophysical stance is an important factor that influence traffic accidents. If the vehicle driver is a bad physical or psychological condition, it will influence the reaction during driving.

Vehicle factor: a large number of vehicles that are present in traffic in our roads are in a bad technical condition.

The street: is another factor that plays an important role.

The increase in number of vehicles and inadequate infrastructure is another factor.

Conclusion

The main factor in traffic accidents is human factor. Traffic accidents increase mortality and disability in population. Traffic legislature, technical condition of vehicles, road infrastructure are also important factors that influence the rise in number of traffic accidents. Promoting and educating the population, institutional cooperation can prevent traffic accidents. The cooperation should include all relevant institutions and the community. Management of road accidents should be continuous. It will be effective by sharing the responsibilities and coordinating educative, legislative, supportive methods. Contemporary managerial policies can improve the prevention of this public health problem. This includes the necessity to have a national traffic safety strategy.

Prevention measures

National Strategy for prevention of road accidents in Kosovo.

This strategy should include contemporary management of traffic accidents through several phases:

Pre-accident: legislative improvements, educative programs, institutional coordination (police, healthcare, community) communication and transport equipment.

Higher fines which are regulated by the new legislature on road traffic have given the first results on lowering the number of accidents in Kosovo.

This phase should be continuous.

During the accident: providing first aid to the victims.

Quick and coordinated reaction by professional healthcare and police officers.

After the accident: offering support, social and health rehabilitations to victims of traffic accidents.

Higher commitment by legal institutions in solving traffic accident cases.

Continuous professional training of emergency service staff that offer medical support in traffic accidents.

Frequent campaigns by police and emergency services with the aim to educate population and promote health in the community with focus on traffic accidents.

Careful! Cherish life! Accidents don't just happen, they are caused!

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