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Mnogie obrażenia ciała w świetle danych z wyjazdów do wypadków zespołu specjalistycznego

Streszczenie

Wstęp. Zespoły specjalistyczne są kluczowym elementem systemu ratownictwa medycznego w Polsce.

Cel. Celem pracy była ocena udzielonej pomocy doraźnej przez zespół specjalistyczny przy wyjazdach do wypadków.

Materiał i metody. Przeprowadzono retrospektywną analizę statystyczną danych epidemiologicznych i wykonanych procedur medycznych przy wyjazdach do wypadków zespołu specjalistycznego dla dzielnic Łódź – Górna i Widzew w okresie czterech lat (2005 – 2008). Do oceny ciężkości urazu zastosowano Skróconą Skalę Urazów (AIS) i Wskaźnik Ciężkości Urazu (ISS) wyliczony dla każdego pacjenta.

Wyniki. Zespół specjalistyczny dokonał 11200 wyjazdów ratunkowych, w tej liczbie 1539 do wypadków (13,7%), 73,8% ofiar wymagało transportu do szpitala. Pomocy częściej udzielano mężczyznom (64,5%), średni wiek 43 lata. Ofiarami wypadków w grupie powyżej 65 roku życia częściej były kobiety. Największą liczbę wypadków stwierdzano w miesiącach czerwiec, wrzesień i listopad, a dniem tygodnia najczęściej był czwartek. Dominowali poszkodowani w wypadkach komunikacyjnych (41,6%). Czynności resuscytacyjne na miejscu zdarzenia podjęto u 3,4% ofiar. Zgon jako bezpośrednie następstwo urazu stwierdzano u 4,8% ofiar. Najczęściej rozpoznawano izolowane obrażenia ciała (73,6%), ISS wynosił 4,1. Urazy wielonarządowe stwierdzano u 3,8% ofiar, wskaźnik ISS wynosił 39,7, urazy wielomiejscowe u 17,7%, ISS wynosił 5,3.Mnogie obrażenia ciała rozpoznano u 4,9% ofiar, ISS wynosił 43,4, częściej wymagały podjęcia zaawansowanych czynności ratowniczych (57,4%), jak również były przyczyną ofiar śmiertelnych (36%). Szczegółowa analiza wykonanych procedur wykazała: założenie opatrunków – 54,3%, podanie leków – 53,1%, tlenu – 39,4%, płynów – 39%, unieruchomienie – 25,5%, monitorowanie – 11%. Stan po spożyciu alkoholu rozpoznano u 20% poszkodowanych.

Wnioski. Najczęściej zespół specjalistyczny udzielał pomocy ofiarom wypadków komunikacyjnych i pobić. Zaznacza się sezonowość miesięczna wezwań do wypadków, częściej w czerwcu, wrześniu i grudniu i tygodniowa - częściej w czwartek i w piątek. Wskaźnik wypadkowości był wysoki i wynosił 122,5 na 100 tysięcy na rok, a dla mnogich obrażeń ciała 6 na 100 tysięcy na rok. Mnogie obrażenia ciała ujawniono u 75 poszkodowanych, co stanowi 5% ogółu pacjentów, z tego 47 po przeprowadzeniu na miejscu odpowiednich procedur medycznych przewieziono do szpitala, a u 28 rozpoznano zgon. Poszkodowani z obrażeniami wielu okolic ciała zawsze wymagali wdrożenia złożonych i zaawansowanych procedur medycznych, co zapewniało bezpieczny transport do szpitala.

słowa kluczowe: mnogie obrażenia ciała, wypadki, zespół specjalistyczny.

Multiple body injuries in the data files of Emergency Actions of Specialist (ALS) teams

Abstract

Introduction. Multiple body injuries victims need professional medical aid in the place of accident and therefore resuscitation ambulances (with ALS teams) are essential to medical emergency service

Aim. The aim of the study was to assess the epidemiological data and procedures performed by the rescue team on-site of accidents.

Material and Methods. It was made the epidemiological analysis of protocols from actions took by rescue team during following years 2005 – 2008. The Abbreviated Injury Scale (AIS) and Injury Severity Score (ISS) were introduced to valuate injury grade.

Results. The rescue team took 11,200 actions including 1,539 accidents (13.7%), of which 73.8% patients were transported to hospital treatment. Males were more frequent (993 – 64.5%), average 43 years old. Women victims over 65 years of age more often need help. Accidents had happened more often in June, August and December, and on Thursdays and Fridays. Cardiopulmonary resuscitation has been introduced to 3.4% of victims; decease as a consequence of accident was found to 4.8%. Prevailing traffic accidents (41.1%). Isolated body injuries were recognized at 73.6% with ISS 4,1, multiple body injuries at 4.9% with ISS 43.3, multi organ injuries at 3.8% with ISS 39.7 and plurilocular injuries at 17.7% with ISS 5.2. Multiplied body injuries were diagnosed by 4.9%, ISS was 43,4, caused more often need of resuscitation (57.4%) and deaths (36%). Detailed analysis proved that undertaken procedures were: dressing – 54.3%, pain relieve drugs – 53.1%, oxygen – 39.4%, fluids – 39%, immobilizing – 25.5%, monitoring – 11%. Abuse was found to 20% of victims.

Conclusions. The study showed traffic and home accidents were the most frequent cause of injuries. The study marks the monthly temporariness of departures to incidents more often in June, August and December and week's more often on Thursdays and on Fridays. The coefficient of accident rate carried out 122.5 on hundred thousand per year and for multiple body injuries victims 6 on hundred thousand per year. Multiple body injuries were recognized to 75 accidents victims, that was 5% of all patients, 47 of them were transported to hospital after introducing medical procedures on field, but 28 died. The victims with multiply body injuries always needed folded medical procedures including advanced live support that was introduced more often and were sufficient for save transportation to hospital.

Key words: multiple body injuries, accidents, emergency actions of specialist (ALS).

Voivodeship Medical Rescue Station, Łódź

INTRODUCTION

An imminent danger of life that may have followed an injury requires urgent granting medical aid. Medical staff on-site of the event has to make the necessary assessment to choose which the victims require urgent and safe transport to hospital. Specialist ALS teams (formerly called rescue teams) have suitable equipment and medicines to carry out these tasks according to the so-called conceptions of survival chain by F.W. Ahnefeld and golden hour period by R.A. Cowley [1-8].

AIM

The objective of the work was a study on medical aid given by the staff of specialist team to victims, particularly those with multiple body injuries that were result of accidents.

MATERIAL AND METHODS

Eleven thousand and two hundred (11,200) emergency–call cards of the selected ALS S-6 team within a period of 48 months from 1st November 2004 to 31st December 2008 were evaluated. In the absence of comprehensive data two months (January and February 2008) were omitted in the analysis. Epidemiological information and performed medical procedures concerning emergency interventions were collected. The data obtained from emergency-call cards were moved to the prepared questionnaire in the Microsoft Office Excel 2007 spreadsheet for statistical analysis.

Epidemiological analysis was conducted on the basis of the settled diagnoses applying International Statistical Classification of Diseases and Health Problems the tenth revision (ICD-10) by the World Health Organization 1992.

The injuries were divided according to the types of injuries and body regions they occurred; isolated, plurilocular, multi-organ and multiple body injuries. The Abbreviated Injury Scale (AIS) and Injury Severity Score (ISS) were introduced to valuate injury grade. ISS was calculated for each victim and value of 15 points was used as borderline to distinguish heavy injury [9].

The performed medical procedures were divided into the following groups: 1. medical examination and advice; 2. application of medicine (oxygen, analgesic, fluids or together) – local procedure regardless of medicine administra-tion; 3. dressing of wounds; 4. immobilizing; 5. advanced rescue procedures.

The statistical analysis was executed using Microsoft Office 2007 tools (percentage, average, median and standard deviation for continuous data and test $\chi 2$ was applied to estimate statistic difference of the calculated data with a significance level at $p=0.05$).

The ALS team S–6 covers two districts of Łódź: Górna and Widzew. For this part of the city round-the-clock duty is performed by 4 ALS teams and 5 paramedic teams (BLS); the whole city has 10 ALS teams and 16 BLS teams. The population of the districts in the period of the study had a tendency to diminish while maintaining the proportion of sex and age group and during the final period it was 313,969 persons (170,249 were women – 54.2%). On average, one ALS team served 78,462 inhabitants living on the area of 40.7 square kilometers [10, 11].

During the study all the emergency teams of the Voivodeship Medical Rescue Station in Łódź (WSRM) were called for 439,968 times altogether; out of this number 125,602 emergency actions (28%) were performed by ALS teams. The teams were summoned to 65,845 accidents (15%). The specialist S-6 team performed 11,200 emergency actions (8.9%) and 1,539 times (13.7%) helped the victims of accidents.

RESULTS

The emergency calls to accidents were more frequent in June, September and December and less numerous in February and October (difference statistically significant). The accidents significantly more often happened on Thursdays and Fridays. On working days rescuers were summoned to 1,080 accidents (71%) and to 459 accidents during holidays (28%); during the day they were called for 962 times (62.5%) and 577 times at night (37.5%) (Table 1, 2).

Medical aid was given to 640 victims of traffic accidents (41.6%), to 334 beaten victims (21.7%), to 319 persons wounded after tumbling (20.7%), to 111 victims of fire (7.2%), to 48 persons who fell down (3.1%), to 35 scalded persons (2.3%), to 29 hanged persons (1.9%) and to 23 persons who got choked (1.5%) (Table 3).

The ALS S-6 team helped 620 victims of events on the street (40.3%), 474 victims of accidents in flats (30.8%), 352 victims of accidents in other public places (22.9%) (in this number there were 104 transports to hospitals (6.7%)) and 93 injured persons in their workplace (6%) (Table 4).

Medical aid was given to 546 women (35.5%) and 993 men (64.5%). The women dominated in the group over 65 years of age (59.6%), while men prevailed in younger age groups (69%) (Table 5). As regards emergency calls, in the group of the youngest as well as the middle-aged the gender ratio was statistically significant. One thousand, one hundred and thirty six (1,136) victims (73.8%) were directed to hospital for further treatment and 403 persons (26.2%) did not require further treatment after receiving first-aid help. One should notice that 185 people (12%) have not expressed their consent to be taken to hospital (Table 6). Death on the place of the event was stated in 74 victims (4.8%), there were 16 women (21.6%) and 58 men (78.4%). Among the victims transported to hospital, 8 persons died (0.5%) in the admission room.

All the injured underwent medical examination. The analysis of medical procedures comprised necessary steps pursuant to main diagnosis. Medical advice was given only to 669 persons (43.5%), remedies were given to 200 injured persons (13%), a dressing was applied on 413 wounds (26.8%), transport immobilizing was applied in 205 cases (13.3%) and advanced life support was performed for 52 victims (3.4%) (Table 7).

Drinking alcohol was stated in group of 307 persons (19.9%).

The isolated body injuries were recognized in 1,132 persons (73.6%), the mean ISS rate was 4.1 ± 10, median 1.

Table 1. Frequency of incident emergency actions in the year.

Year	2004	2005	2006	2007	2008	Total	Mean per month		Difference
Month	n	n	n	n	n		X	%	p
January		37	38	24		99	33	8.6	Yes
February		20	23	30		73	24.33	6.4	Yes
March		27	47	27	18	119	29.75	7.8	No
April		37	35	30	26	128	32	8.4	No
May		42	32	26	32	132	33	8.6	No
June		44	42	33	33	152	38	9.9	No
July		35	28	42	29	134	33.5	8.8	No
August		37	27	27	31	122	30.5	8	No
September		34	50	27	34	145	36.25	9.4	No
October		22	17	36	30	105	26.25	6.9	Yes
November	17	48	35	28	27	155	31	8.1	No
December	36	29	37	38	35	175	35	9.1	Yes
Total	53	412	411	368	295	1539	382.58	100	
Mean						128.25	32		

TABLE 2. Frequency of incident emergency actions in the week.

Day of the week	Workday		Day off		Total		Difference p
	n	%	n	%	n	%	
Monday	147	94.2	9	5.8	156	10.1	<0.05
Tuesday	209	95.4	10	4.6	219	14.2	>0.05
Wednesday	233	98.3	4	1.7	237	15.4	>0.05
Thursday	245	97.6	6	2.4	251	16.3	>0.05
Friday	246	94.3	15	5.7	261	17	>0.05
Saturday			235	100	235	15.3	>0.05
Sunday			180	100	180	11.7	<0.05
Total	1080	70.2	459	29.8	1539	100	
Day per Calendar	996	68.1	466	31.9	1462	100	

Forty-six (64) victims had the ISS rate over 15 (4%). The most numerous recognized injuries were those of the lining of the body in the 561 injured persons (49.6%), cranial-cerebral in 310 persons (27.4%), limbs in 122 victims (10.8%), chest in 123 persons (10.9%) (in this number – inhalation (carbon monoxide poisoning) in 88 persons (71.5%)) and injuries in the abdominal cavity in 16 victims (1.4%). Eighteen (18) victims (1.6%) required advanced life support, and in 20 cases (1.8%) a death was stated before the arrival of the team (Table 8, 9).

Medical examination followed by advice only was performed on 500 persons (44.2%), medicines were administered to 151 patients (13.3%), dressing was put on 341wounds (30.1%), immobilization applied in 122 cases (10.8%) and advanced life support was applied in 18 victims (1.6%). Eight hundred and thirty seven (837) injured persons

TABLE 3. Causes of injury in the respective groups of patients.

Kind of injury	IBI*		PI*		MOI*		MBI*		Total	
Cause of injury	n	%	n	%	n	%	n	%	n	%
Traffic accidents	413	36.5	177	64.8	17	28.8	33	44	640	41.6
Falling	290	25.6	26	9.5	0	0	3	4	319	20.7
Battery	262	23.1	39	14.3	10	16.9	23	30.6	334	21.7
Fire	96	8.5	7	2.6	0	0	8	10.7	111	7.2
Scald	25	2.2	10	3.7	0	0	0	0	35	2.3
Choking	23	2.1	0	0	0	0	0	0	23	1.5
Fall down	22	1.9	14	5.1	4	6.8	8	10.7	48	3.1
Hanging	1	0.1	0	0	28	47.5	0	0	29	1.9
Total	1132	100	273	100	59	100	75	100	1539	100

*IBI – Isolated body injuries; *PI – Plurilocular injuries
*MOI – Multi organ injuries; *MBI – Multiple body injuries

TABLE 4. Place of accident.

Place of accident	Number of actions	
	n	%
Street accidents	620	40.3
Accidents at home	474	30.8
Other public place	352	22.9
Accidents at work	93	6
Total	1539	100

TABLE 5. Number of emergency actions in relation to patients' sex and age.

Age/Sex	Women		Men		Total		Difference p
Years	n	%	n	%	n	%	
under 20	49	31.4	107	68.6	156	10.1	>0.05
from 20 to 64	351	30.8	787	69.1	1138	73.9	0.001
over 65	146	59.6	99	40.4	245	15.9	>0.05
Total	546	35.5	993	64.5	1539	100	

TABLE 6. The vicissitudes of patients after emergency care supply.

Victims' fate	n	%	including:	n	%
Home/Place	403	26.2	disagreement	185	12
Hospital	1,136	73.8	death on scene	74	4.8
Total	1,539	100	death at admission	8	0.5

The main causes of plurilocular injuries were: traffic accidents – 177 patients (64.8%); beating – 39 persons (14.3%) and falling – 26 persons (9.5%). Amongst the performed first-aid activities putting a dressing on the wound (66 victims (24.2%)), immobilizing (57 victims (21%)) and administering medicines (35 (12.8%)) predominated; only 2 severely injured persons (0.7%) required advanced life support.

TABLE 7. Main procedures dependency on kind of injury.

Procedure	Advice		Pharmacology		Dressing		Immobilizing		Resuscitation		Total	
Injury type	n	%	n	%	n	%	n	%	n	%	n	%
IBI*	500	44.2	151	13.3	341	30.1	122	10.8	18	1.6	1132	73.6
PI*	113	41.4	35	12.8	66	24.2	57	20.9	2	0.7	273	17.7
MOI*	29	48.3	7	12.7	5	8.5	13	22	5	8.5	59	3.8
MBI*	27	36	7	9.3	1	1.3	13	17.3	27	36	75	4.9
Total	669	43.4	201	13	413	26.8	205	13.3	52	3.4	1539	100

*IBI –Isolated body injuries *PI –Plurilocular injuries *MOI –Multi organ injuries *MBI –Multiple body injuries

TABLE 8. The body regions affected by trauma.

Kind of Injury	IBI*		PI*		MOI*		MBI*		Total	
Body region	n	%	n	%	n	%	n	%	n	%
Head and neck	310	27.4	64	17.1	49	61.3	60	23.6	483	26.3
Extremities	122	10.8	52	13.9	17	21.3	35	13.8	226	12.3
Chest	123	10.9	3	0.8	8	10	61	24	195	10.6
Abdomen and Pelvis	16	1.4	0	0	3	3.7	29	11.4	48	2.6
Skin	561	49.6	255	68.2	3	3.7	69	27.2	888	48.3
Number of body regions	1,132	100	364	100	80	100	254	100	1840	100
Number of victims	1,132		273		59		75		1539	100

TABLE 9. The amount of body regions affected by trauma.

Kind of Injury	IBI*		PI*		MOI*		MBI*		Total	
Amount of body region	n	%	n	%	n	%	n	%	n	%
One	1,132	100	172	63	38	64.4			1344	87.3
Two			101	34	21	35.6	20	26.7	140	9.1
Three							46	61.3	46	3
Four							9	12	9	0.6
Total	1132		273		59		75		1539	100

(73.9%) were transported to hospital for further treatment, on the place of event there were left 142 persons (12.5%) and 153 victims (13.5%) did not agree to be taken to hospital (Table 7).

The detailed analysis of the performed procedures in each group is presented in Table 10.

Plurilocular body injuries were recognized in 273 victims (17.7%) of the accidents, the average ISS rate was 5.3 ± 3.9, median 3, and in 13 injured persons it exceeded 15 points (4.8%). Two hundred and twenty (220) victims (80.6%) were taken for further hospital treatment, remaining 22 people (8%) stayed at home or at the place of the accident and 31 persons (11.4%) did not agree to be given further help. Injuries concerned the lining of the body in 255 victims (93.4%), injuries of the head and neck were stated in 64 persons (23.4%) and injuries of the limbs in 52 victims (19%). Two body regions were recognized in 101 victims (37%), of head/neck and lining of the body in 64 persons (63.4%), of the limbs and lining of the body in 34 (33.7%) persons and chest and lining of the body in 3 victims (3%). Death was not stated in this group.

The multi-organ injuries were recognized in 59 victims (3.8%), average ISS rate was 39.7 ± 31.8, median 16, the ISS rate exceeded 15 points in 34 persons (57.6%). After receiving first-aid, 32 injured persons were directed to hospital treatment (54.2%), one refused further therapy, and death was stated in 26 persons (44%) (as a result of hanging). Injuries affected one body region in 38 patients (64.4%) and two regions in 21 patients (35.6%), mainly the head/neck and limbs – 15 victims (71.4%).

Medical aid was limited to giving advice to 29 victims (49.2%), immobilizing – 13 injured persons (22%), giving medicines to 7 persons (11.9%) and putting a dressing on the wound – 5 victims (8%). Advanced life support was performed in 5 cases; three (3) persons were transported to hospital.

Multiple body injuries were recognized in 75 victims (4.9%), the average ISS rate was 43.4 ± 26.6, median 32, the ISS rate exceeded 15 points in 62 persons (82.7%). Injuries of three body regions were recognized in 46 victims (61.3%), of two regions in 20 victims (26.7%) and of four regions in 9 victims (12%) (Table 9). Twenty-three (23) injured

TABLE 10. Percy procedures introduced to victims.

Kind of Injury	IBI* n=1132		PI* n=273		MOI* n=59		MBI* n=75		Total n=1539	
Introduced Procedures	n	%	n	%	n	%	n	%	n	%
Advice	500	74.7	113	17	29	4.3	27	4	669	43.5
Treated	632	72.6	160	18.4	30	3.5	48	5.5	870	56.5
Pharmacotherapy	288	45.6	104	65	23	76.7	47	97.9	462	53.1
Oxygen	104	36.1	22	21.2	15	65.2	41	87.2	182	39.4
Drugs	212	73.6	88	84.6	17	73.9	44	93.6	361	78.1
Fluids	76	26.4	53	51	14	60.9	37	78.7	180	39
Mixed	50	17.4	41	39.4	11	47.8	35	74.5	137	29.7
Dressing	356	56.3	95	59.4	9	30	12	25	472	54.3
Dressing (only)	290	81.5	39	41.1	0		0		329	69.7
Mixed	66	18.5	56	58.9	9	100	12	100	143	30.3
Dressing + Pharmacotherapy	54	81.8	29	51.8	6	66.7	3	25	92	19.5
Dress. + Phar. + Imm.**	12	18.2	22	39.3	3	33.3	9	75	46	9.7
Dressing + Immobilizing	0		5	8.9	0		0		5	1.1
Immobilizing	123	19.5	57	35.6	15	50	27	56.3	222	25,5
Immobilizing (only)	54	43.9	12	21.1	7	46.7	1	3.7	74	33.3
Orthopedic board	15	12.2	19	33.3	3	20	11	40.7	48	21.6
Collar	18	14.6	6	10.5	10	66.7	5	18.5	39	17.6
Mixed	69	56.1	45	78.9	8	53.3	26	96.3	148	66.7
Imm. + Phar.**	57	82.6	18	40	5	62.5	17	65.4	97	43.7
Dress. + Imm. + Phar.**	12	17.4	22	48.9	3	37.5	9	36.6	46	20.7
Immobilizing + Dressing	0		5	11.1	0		0		5	2.3
Advanced	18	2.9	2	1.5	5	16.7	27	56.3	52	6
Bag ventilation	15	83.3	2	100	5	100	27	100	49	94.2
Tracheal Tube Insertion	18	100	2	100	5	100	26	96.3	51	98.1
Respirator	25	100	3	100	5	100	25	92.6	58	100
Chest pressing	8	44.4	1	50	3	60	12	44.4	24	46.2
Defibrillation	1	5.6	0		0		3	11.1	4	7.7
Monitoring	46	100	8	100	8	100	34	100	96	100
Aspiration	11	61.1	0		1	20	7	25.9	19	36.5
Total	1,680	59.7	586	20.8	154	5.5	395	14	2,815	100

*IBI - Isolated body injuries;
*PI - Plurilocular injuries;
*MOI - Multi organ injuries;
*MBI - Multiple body injuries;
** Dress. - Dressing
** Phar. - Pharmacotherapy
** Imm. - Immobilizing

persons (30.7%) died at the place of accident. According to body regions, injuries predominantly affected the lining – 69 victims (27.1%), chest – 61 (24%), head and neck n 60 victims (23.6%) and abdomen and pelvis in 29 victims (11.4%).

Traffic accidents were the cause of incidents in 33 cases (44%), beating – 23 cases (30.7%), fire and jump from a height – 8 cases each (10.7%).

Forty-seven (47) patients were transported from the place of event to hospital for further treatment (62.7%). There were 28 casualties (37.3%): in medical examination of 23 victims (82.1%) death was stated before the rescue team arrived and 5 victims (17.9%) died during resuscitation (11 women (31.4%) and 17 men (48.6%)). Further 7 persons (9.3%) died in hospital admission rooms.

Medical procedures were limited to examination and providing medical advice in case of 28 victims with multiple body injuries (37.3%), 6 victims (8%) were given medicines, 1 person (1.3%) had a wound dressed, 13 person (17.3%) were immobilized and in 27 victims (36%) resuscitation was applied.

Medical and emergency procedures were applied in 52 victims with multiple body injuries (69.3%). Analgesics and circulatory drugs were administered to 44 (84.6%) victims, oxygen to 41 (78.8%), liquids to 37 (71.2%), dressings were put in 12 persons (23.1%), 27 persons were immobilized (51.9%), a stretcher was used in 11 persons (21.2%), a neck support was used in 5 patients (9.6%), blood circulation was monitored in 34 persons (65.4%), advanced life support was necessary in 27 victims (51.9%), substitute breath with using respirator – 25 victims (48.1%). As many as 39 victims (75%) required complex assistance which included numerous medical procedures.

Resuscitation was required in 27 patients (51.9%). All the victims were given circulation medicines, oxygen and liquids and the cardiovascular system was monitored. Patients' breath was initially supported with the AMBU-bag in 27 victims (100%). The tube into the trachea was used

in 26 patients (96.3%), the respirator was applied in 23 patients (85.2%), 3 victims (5.8%) had defibrillation performed and the indirect heart massage was performed in 12 patients (44.4%). In addition, 8 victims had their wounds dressed (29.6%), in 14 patients fractures were immobilized (51.9%) and in 7 victims the respiratory tract suction was performed using the aspirator (25.9%). The stable circulation was obtained in 22 patients who were taken to hospital (81.5%). Six (6) victims died in hospitals admission rooms (22.2%). The resuscitation conducted in 5 victims was ineffective and death was stated on the place of the event (18.5%) (Table 7, 8). The victims with multiple body injuries required complex medical procedures which included administering oxygen, medicines and liquids, cardiovascular monitoring, dressing of the wounds and/or immobilizing before transportation to hospital (Table10).

DISCUSSION

During the four-year work there were altogether 439,968 rescue calls including 65,845 calls for accidents (15%). The selected ALS S-6 team provided help to 11,200 patients (in 1,539 cases – accident victims (13.7%)), which is over twice as many as in other areas [5,12-14].

Men were given help more often (64.5% vs. 35.4%), which is in accordance with the data of other authors (65.9% vs. 34.1%; 64.2% vs. 35.8%; 71.7% vs. 28.9%) [7,12,15]. Patients under 65 years of age prevailed in accidents, which other authors confirmed [12-14,16,17].

Isolated body injuries have been identified most often – 96.5% cases in accordance to the findings of other authors (Raniszewska – 93.5%; Lasek – 95.8%; Korecka – 60.1%) [7,12,15] The authors stated that cranial-cerebral injuries were dominating [12-14, 16-18].

Seventy-three point eight (73.8) % of patients were directed to hospital for further treatment, which is similar to the data from Raniszewska – 75.5% [7].

According to Raniszewska [7] dressing the wounds was necessary in 43.7% of victims, immobilizing – in 30% of victims, giving oxygen – 22.2%, analgesic drugs – 8.2%, liquids – 6.9% whereas Pamerneckas [16] evaluates the giving liquids to 18.8% of patients and medicines to 12.9% of patients. Our own research has shown the need to put dressing on wounds in 30.7% of victims, immobilizing – 14.4% of victims, giving drugs – 23.5% of victims and oxygen – 11.8% of victims.

Resuscitation was required in 3.8% of victims, which is similar to the data from Raniszewska – 1.1%, Korecka – 6.2% and Pamerneckas – 4.3% [7,15,16].

The authors estimate the occurrence frequency of multiple body injuries in 4.2 % – 6.6% of victims, which is similar to our own observation (4.9%) [7,12,14-16].

Death as a direct complication of injury was stated in 4.9% of victims, which is similar to the results in the studies of Lasek – 3.3%, Korecka – 3.7% and Gonzales – 1.9% . Death among the victims of multiple body injuries was stated in 48.3% of victims, Lasek reports 31.5% of victims and Pamerneckas – 22.8% of victims [12,15-18].

An unanimity of the achieved results is stated as regards age, gender and time of the events with the data published by Polish Police Headquarters on their website [19].

Alcohol abuse contributing to accidents is stated in 14% – 24% of victims whereas according to our own research – 20% [16].

CONCLUSIONS

1. The specialist team has most often given aid to victims of traffic accidents and battery.
2. A seasonal character of calls to accidents is more often noticeable in June, September and December and on Thursdays and Fridays.
3. The rate of accidents was high and amounted to 122.5 in 100 thousand per year and for multiple body injuries – 6 in 100 thousand per year.
4. Multiple body injuries were recognized in 75 victims, which represents 5% of all the patients; 47 of them were transported to hospital after proper medical procedures were performed on the scene of an emergency, but 28 victims died.
5. The patients with multiple body injuries always required complex advanced medical procedures, which secured safe transportation to hospital.

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