

Traumatic profile of Afghan citizens hospitalized in the Combat Support Hospital in Bagram Airfield (Afghanistan)

Profil urazowy ludności afgańskiej hospitalizowanej w Combat Support Hospital w Bagram Airfield (Afganistan)

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Abstract. Aim: The article presents the results of own studies concerning the incidence of injuries among citizens inhabiting Northeast Afghanistan. Material and methods: The retrospective analysis was based on medical records of 1,761 patients of Afghan nationality hospitalized in the Combat Support Hospital (CSH, level 3) in Bagram Airfield (the main medical facility of the U.S. and Coalition Forces involved in Operation Enduring Freedom) in the period July 2002 – September 2005. Results: Inpatient treatment of Afghan citizens was part of the humanitarian assistance provided by the Coalition Forces. Afghan people were mainly hospitalized due to injuries caused by land mines (LMI), improvised explosive devices (IED) or artillery shells explosions. A large number of the Afghans were also hospitalized due to road accidents and small arms injuries. Conclusions: Afghanistan is one of the countries where the risk of death or health damage is particularly high. The incidence rates of battle injuries and injuries suffered in road accidents are among the highest in the world.

Key words: Afghanistan, civilians, injuries

Streszczenie. Cel pracy: W pracy przedstawiono wyniki badań własnych, dotyczących występowania obrażeń ciała wśród ludności zamieszkującej północno-wschodni Afganistan. Materiał i metody: Analiza retrospektywna została oparta na dokumentacji medycznej 1761 pacjentów narodowości afgańskiej hospitalizowanych w Combat Support Hospital (CSH, poziom 3.) w Bagram Airfield (główny ośrodek medyczny Sił Zbrojnych USA oraz Sił Koalicyjnych w operacji Enduring Freedom) w okresie lipiec 2002 – wrzesień 2005. Wyniki: Ludność afgańska była hospitalizowana w ramach pomocy humanitarnej głównie z powodu obrażeń ciała będących efektem eksplozji min przeciwpiechotnych, improwizowanych ładunków wybuchowych i pocisków artyleryjskich, a także z powodu wypadków komunikacyjnych oraz postrzałów z broni strzeleckiej. Wnioski: Afganistan jest jednym z tych krajów, gdzie ryzyko utraty zdrowia lub życia jest szczególnie wysokie. Wskaźniki urazowości spowodowanej działaniami wojennymi i wypadkami komunikacyjnymi należą do najwyższych na świecie.

Słowa kluczowe: Afganistan, ludność cywilna, obrażenia ciała

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Introduction

Following over 30 years of warfare, the economic situation in Afghanistan as well as health situation of its citizens is in a terrible condition. The majority of the Afghan people live in poverty. Malnutrition is commonplace and the access to uncontaminated drinking water is limited.

A catastrophic position of Afghanistan in the international arena is additionally worsened by a low number of medical facilities employing qualified personnel and having access to diagnostic equipment as well as commonly occurring natural disasters, mainly droughts and floods. To make matters worse, Afghanistan is one of those countries where the risk of terrorist or criminal

attacks is particularly high. Bombing attacks are commonplace (planting IED, artillery shelling). Remnants of wars, of which the biggest threat are landmines and unexploded ordnance, can be found in the territory of the whole country. Another serious threat is travelling around Afghanistan; this is mainly due to poor road conditions and careless driving. Owing to all this, the incidence rates of injuries reported among the Afghans are among the highest in the world [1-3].

Aim

The aim of the article was to present the results of the study concerning the incidence of injuries among Afghan citizens inhabiting Northeast Afghanistan, who were hospitalized in the Combat Support Hospital (CSH) in Bagram Airfield, the main medical facility of the U.S. and Coalition Forces involved in Operation Enduring Freedom. The CSH was tasked with providing medical assistance to the local population as part of the humanitarian aid.

Material and methods

The retrospective analysis was conducted on the basis of medical records of 1,761 patients of Afghan nationality who were hospitalized in the CSH (Level 3.) in Bagram Airfield (the main medical facility of the U.S. and Coalition Forces involved in Operation Enduring Freedom) from July 2002 to September 2005. At that time, the population of Northeast Afghanistan was estimated at approximately 5–8 million people. Medical services involved in Operation Enduring Freedom provided Afghan citizens with medical care in life-threatening emergencies. A total of 1,761 Afghan citizens were hospitalized in the CSH within the given period. 252 patients were women (14.3%) and 1,509 were men (85.7%); 540 inpatients were children aged 0–15 (30.7%) and 1,221 were adults (69.3%); 219 of the hospitalized patients were soldiers of the Afghan National Army (12.4%) and 1,542 were civilians (87.6%). The study population was of accidental composition (no choice). The analysis was carried out based on the structure rate. STATISTICA PL software was used to calculate the final scores. The data, which have been collected, were then presented in the form of tables. The analysis of all medical records was carried out by consent of the Command of Health Services supporting Operation Enduring Freedom in Afghanistan (Combined Joint Task Force-76 Surgeon, Commander 249th U.S. Army General Hospital, Bagram Airfield).

Table 1. Incidence of diseases and injuries in the population of Afghan citizens hospitalized in the Combat Support Hospital in Bagram Airfield (Afghanistan) from July 2002 to September 2005 (n = 1,761)

Tabela 1. Występowanie chorób i obrażeń ciała u ludności afgańskiej hospitalizowanej w Combat Support Hospital w Bagram Airfield (Afghanistan) w okresie lipiec 2002 – wrzesień 2005 (n = 1761)

Diseases and injuries	Afghan citizens. Hospital treatment (number of patients n = 1,761)	
	number of cases	structure rate (%)
injuries	1,447	82.2
eye	78	4.4
gastrointestinal	68	3.9
respiratory	29	1.7
genitourinary	25	1.4
other	25	1.4
circulatory	22	1.3
musculoskeletal	20	1.1
nervous	19	1.1
skin	16	0.9
contagious & parasitic	8	0.4
psychiatric	4	0.2
total	1,761	100.0

Source: Enduring Freedom. Own studies

Results

Injuries (1,447 cases) accounted for 82.2% of all hospitalizations of Afghan citizens in the CSH in Bagram Airfield in the period July 2002 – September 2005 (Table 1).

The most common types of traumas reported within the given period included injuries caused by landmine explosions (LMI), unexploded ordnance explosions (UXO), improvised explosive device explosions (IED) and artillery shells explosions (576 cases). They also included small arms injuries (327 cases) and traffic accidents (135 cases). A number of injuries were skin burns (129 cases) caused by the explosion of a gas/kerosene lamp or hot water spill (Table 2).

The most common effects of explosions were fractures, shrapnel wounds and post-traumatic amputations (Table 3).

235 civilians and 92 soldiers of the Afghan National Army were hospitalized for gunshot wounds. Location of the most common injuries sustained from an explosion or from small arms shot is presented in Table 4.

119 civilians (94 adults and 25 children) as well as 16 soldiers serving in the Afghan National Army were

Table 2. Causes of injuries in the population of Afghan citizens hospitalized in the Combat Support Hospital in Bagram Airfield (Afghanistan) from July 2002 to September 2005 (n = 1,447)
Tabela 2. Przyczyny obrażeń ciała występujących u ludności afgańskiej hospitalizowanej w Combat Support Hospital w Bagram Airfield (Afganistan) w okresie lipiec 2002 – wrzesień 2005 (n = 1447)

Cause of injury	Afghan citizens. Hospital treatment (number of patients n = 1,447)	
	number of cases	structure rate (%)
LMI, UXO, IED, shells explosions	576	39.8
small arms injuries	327	22.6
traffic accidents	135	9.3
skin burns	129	8.9
other	280	19.4
total	1,447	100.0

Source: Enduring Freedom. Own studies

hospitalized due to road accidents. The most common types of injuries, which were the result of traffic accidents, included multiorgan injuries (46 cases), fractures (34 cases) and craniocerebral injuries (32 cases). 67 adults and 62 children were hospitalized due to skin burns; 44 of the patients suffered extensive burns >30% (28 of the patients died).

Discussion

Injuries remain a major health threat and are one of the most common causes of death in the Afghan population. Majority of the reported injuries were the result of road accidents, mainly car crashes. Afghan people, like other Muslims, either take traffic rules lightly,

Table 3. Injuries suffered in explosions in the population of Afghan citizens hospitalized in the Combat Support Hospital in Bagram Airfield (Afghanistan) from July 2002 to September 2005 (n = 576)

Tabela 3. Obrażenia ciała spowodowane eksplozją ładunków wybuchowych występujące u ludności afgańskiej hospitalizowanej w Combat Support Hospital w Bagram Airfield (Afganistan) w okresie lipiec 2002 – wrzesień 2005 (n = 576)

Injuries	Afghan citizens. Hospital treatment (number of patients n = 576)	
	number of cases	structure rate (%)
fracture	225	39.1
shrapnel wound	148	25.7
post-traumatic amputation	144	25.0
multiorgan injury	34	5.9
musculoskeletal contusion	14	2.4
skin burn	11	1.9
total	576	100.0

Source: Enduring Freedom. Own studies

or demonstrate complete ignorance of road regulations. The roads in Afghanistan had been seriously damaged during the past wars and thus, they are in a terrible condition. In addition to this, the technical condition of most motor vehicles on Afghan roads leaves a lot to be desired. Therefore, a road journey in Afghanistan (there is no railway in the country) is on the one hand an unforgettable experience, which presents an excellent opportunity to learn a lot, but on the other hand, such a journey poses a serious health threat. The common use of gas and oil lamps in Afghan homes creates yet another major health threat. Such lamps are used due to frequent power outages in cities or a complete lack of electricity in rural areas. The lamps that are used by Afghans are

Table 4. Location of the most commonly reported injuries in the population of Afghan citizens hospitalized in the Combat Support Hospital in Bagram Airfield (Afghanistan) from July 2002 to September 2005 (n = 1,018)

Tabela 4. Lokalizacja najczęstszych obrażeń ciała występujących u ludności afgańskiej hospitalizowanej w Combat Support Hospital w Bagram Airfield (Afganistan) w okresie lipiec 2002 – wrzesień 2005 (n = 1018)

Location Type of injury	Upper extremity	Lower extremity	Trunk, pelvis, spine	Head/ skull	Multifocal injury	Total
fracture	42	100	28	41	48	259
post-traumatic amputation	28	116	–	–	–	144
fragment wound	13	55	34	18	28	148
gunshot wound	36	86	134	38	33	327
skin burn	4	9	1	6	120	140
total	123	366	197	103	229	1,018

Source: Enduring Freedom. Own studies

usually old and damaged; as a result, igniting material inside the lamps often explodes, which leads to a large number of skin burns in the Afghan population [4].

However, the major threats to life or health of Afghan people are landmines and improvised explosive devices. Afghanistan is one of the most heavily mined countries in the world. Approximately 7 million anti-personnel and anti-tank mines can still be found there [5]. In addition to this, a huge number of unexploded ordnance (including different types of bombs, artillery shells and grenades) had been left in Afghanistan. The most heavily mined provinces are Herat and Kandahar, albeit, large numbers of landmines can be found almost everywhere, especially along the borders with Pakistan and Iran as well as in the country's capital, Kabul.

It has been estimated that most of the landmines are found on pastures (61%), cropland (26%), in the vicinity of roads (7%), places of residence (4%) and irrigation systems (1%). Approximately 50 different types of landmines manufactured in the former Soviet Union, China, former Yugoslavia, former Czechoslovakia and in many other countries, had been left in the whole territory of Afghanistan [6]. Afghanistan has the highest number of casualties who had suffered in the explosion of landmines, unexploded ordnance or improvised explosive devices [7]. In 1993, each month as many as 600 Afghan citizens were either killed or wounded in a landmine, UXO or IED explosion [8]. In its reports issued in the period 1997–2002 and based on medical records kept in Afghan hospitals, UNMACA (United Nations Mine Action Center for Afghanistan) informed of 6,114 civilians injured by a landmine or UXO explosion [9]. Currently it is estimated that every month more than 100 people are killed or wounded by a mine explosion. The exact figures as to the number of landmine victims cannot be given, because a large number of incidents have never been reported. In 1999, the number of disabled Afghans was estimated at 3–4% of the country's population. Most of them had limited access to health care. Unfortunately, the situation has deteriorated. There are now new victims of the civil war that escalated during the Taliban regime [10]. The effects of landmines and UXO explosions are usually deaths or injuries, including extremity amputation or multiple organ injury [11–14]. The research conducted in Afghanistan demonstrated that the mortality due to landmine and UXO explosions reaches 50–55% [15].

Conclusions

Afghanistan is one of the countries where the risk of death or health damage is particularly high. The incidence rate of battle injuries (land mines, unexploded ordnance, improvised explosive device or artillery shells explosions, small arms injuries) as well as the incidence rate of traffic accidents is among the highest in the world.

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