

A REVIEW OF THE INJURIES IN A WAR BETWEEN IRAN AND IRAQ

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ABSTRACT: The war between Iran and Iraq began on September 22nd, 1980. It stood second to Vietnam's war as the most long-lasting war of the history in the 20th century and it have more side effects on both countries. The goal of this research was a review of studies focused on the physical side effects of the 8-year war between Iran and Iraq, This review study was conducted in 2014 Databases which were accessible in Iran, SID, IranMedex and Medible as well as Google Scholar were searched. Key words that were searched for included: war, at war, injury, disabled, Iran and Iraq. All studies investigating the physical damages induced by war in the 8-year war of Iran and Iraq entered the study. Those which did not explicitly present the results or just stated the overall results were omitted from the study. Healthcare is influenced by various factors. War is one such factor which lowers health state, mortality and long-term physical and mental side effects among both the military and civil forces, Generally speaking, trauma caused the most injuries of all. In the body of research dealing with trauma, the majority of studies considered lower body limb as the most frequently injured. physical injuries lower the quality of life. Therefore, there is a need for providing more extensive welfare facilities for these people so that both they and their families are helped and their misery is reduced.

Keywords: War, Wounds and Injuries, Iran, Iraq

INTRODUCTION

The war between Iran and Iraq began on September 22nd, 1980. It stood second to Vietnam's war as the most long-lasting war of the history in the 20th century (1). The Greek term 'trauma' means physical injury. The Greek word 'iatros' (healer) was first used in Homer's Iliad and Odyssey and referred to a shooter of an arrow. The first trauma centers were also used to take care of Napoleon's wounded soldiers. The war between Korea and Vietnam proved the importance of minimizing the time interval between the occurrence of injury and the provision of definitive care services. Trauma-related fatal injuries is a common cause of respiratory deflection in different systems which requires special care service provision and in war and trauma the patient's airway, respiration, blood circulation and neurological status is immediately assessed (2-5)

Abdominal traumas are among the most prevalent and dangerous traumas which face physicians in military operations and are accompanied by a myriad of morbidities and mortalities. Advancements in medical facilities and surgical

techniques have led to a decreased mortality rate induced by such traumas. However, a lack of diagnostic and medical facilities at the battle field and delayed prioritization and patient transfer have added to the importance of mortality caused by abdominal trauma among medics. Factors leading to abdominal traumas at war are primarily bullets, machine guns, shells, mines and ammunitions. Size, caliber, speed, quantity and the interval between the shots are among factors involved in the amount of energy wasted and the severity of injury. In war-induced abdominal traumas the most prevalent visceral injuries are those in: small intestine (50%), colon (33%) and liver (35%). In 15 to 25% of cases, abdominal trauma is accompanied by damages to thorax, and in 10% of cases it is accompanied by pelvic injuries. In 10% of cases it is accompanied by retroperitoneal injuries (3, 4, 6, 7).

Fractures to bones at war as well as injuries to body limbs have also led to many disabilities. In the first world war, mortalities induced by multiple fractures to thigh bone which caused bleeding, hematoma and osteomyelitis reached 80%. It appears that the process of wars is on progress and in the second world war 30% of the

disabled at war have died. In Vietnam 24% and in Iraq 10% of the injured lost their lives (8). another injury that we can speak about it is post-traumatic epilepsy (PTE) is among other consequences of war-induced traumas. Epilepsy is a disorder in neural functioning and reveals itself in the form of an unnatural outburst (9). The goal of this research was a review of studies focused on the physical side effects of the 8-year war between Iran and Iraq.

METHODS

This review study was conducted in 2014 Databases which were accessible in Iran, SID, IranMedex and Medible as well as Google Scholar were searched. Key words that were searched for included: war, at war, injury, disabled, Iran and Iraq. All studies investigating the physical damages induced by war in the 8-year war of Iran and Iraq entered the study. Those which did not explicitly present the results or just stated the overall results were omitted from the study.

RESULTS

Biochemical indices and Anthropometry: In an investigation, after 12 years of being intoxicated with sulfur mustard in chemical warfare victims, an increase was observed in victims' serum IgG as well as a decrease in the intensity of serum IgM. A rise was witnessed in the intensity of TT3 as well as a decrease in TT4. Serum T3 Resin Uptake and FT3I were also raised. A high probability of disorder in the production of hypothyroidism was found to be correlated with Euthyroid Sick Syndrome (10). The mean of all war veterans' blood indices was within the normal range and showed to have no change after several years of exposure to chemical gases (11). Concerning monocyte cells, no problem was observed in the production process of monocyte cells of bone marrow. Only the cellular functioning in terms of its total activity was disordered. The findings of this study also revealed that the number of white globules is increased among warfare veterans if the severity of patient's disease rises (12). Moreover, the late-coming effects of sulfur mustard (10 years after the injury) has no effect on the health of neutrophils either qualitatively or quantitatively. The existence of leukocytosis in chemical veterans can be due to their recurrent infections (13).

Abdominal trauma: while the majority of abdominal injuries require immediate diagnosis

and treatment (14) there are injuries induced by the remaining ammunitions and warfare of the old war time which are perceived as areas with high degrees of injury (15) (16). Some studies have indicated that injuries made to colon and rectum as well as those in small intestine and liver have been the most prevalent while injuries made to pancreas are the rarest types of abdominal injuries (17). With regard to injuries made to pancreas, fistula and abscess, bleeding, peritonitis, ascitis and pancreatitis have respectively had the highest degrees of injury (18).

Limb trauma: Some research considered the extent of trauma in the lower body limb higher than other limbs (17). Yet in some others, the highest anatomic distribution of warfare injuries were respectively in lower body limbs, upper body limbs and head/neck (15). Moreover, in injuries caused by the explosion of remaining war weapons, the most frequent injuries were made to upper body, lower body, abdomen, chest, and head/neck respectively (16). The highest degree of injury induced by ammunition has been in lower body limbs, pelvis and upper body limbs (19). Meanwhile, the highest degree of lower body limb amputation has been caused by mines and explosive traps. The most prevalent amputation level belonged to the area below the knee (20). In the disabled population, pain is a very common symptom. Sore knee and shoulder and pain in joints have been the most disturbing. Lumbosacral pain is common among the majority of war veterans. Tendinitis and bursitis are among other side effects of injuries made to body limbs (13). The highest discomfort is witnessed among individuals suffering from amputation of lower body limbs. The next rankings belonged to phantom pain, pain in the remaining limbs, anterior limbs, backache and phantom pain (21). The danger of the occurrence of carpal tunnel syndrome is significantly increased in a disabled veteran on a wheelchair (22).

Chest trauma: chest is another part of body which is in a severe danger of injuries induced by ammunitions and warfare (15, 16). The occurrence of chylothorax among the injured has been reported in some investigations (20). Chest penetrating injuries stand first while fractures to ribs stand second in rating the prevalence of war-induced chest injuries. These injuries lead to a wide range of injuries such as hemothorax, pneumothorax and a combination of these two (17).

Cardiovascular trauma: in a research, the percentage of cardiovascular injury to that of

other limbs in all the injured was found to be 4.6%. Moreover, the highest degree of vascular injury belonged to pseudoaneurysm, arteriovenous connection, amputation and vessel occlusion. The arteries which are mostly involved have been reported to be femoral arteries, popliteal and brachial (23).

Head and Neck trauma: in some other research, injuries made to head and neck along with limb injuries have had the highest degrees of body injuries among disabled veterans (15). Moreover, in injuries induced by ammunitions and warfare from the time of war, head and neck are body organs which are highly at risk (16, 19). In a study, while all participants suffered from spinal cord injury in their C4-T1 vertebrae, their most frequent complaint was targeted at radicular pain. Movement limitation (especially in shoulders), muscular spasm and contracture stood next as the topic of complaints (24).

Neural trauma: the highest degree of environmental neural injuries is induced by ammunitions (25). The highest degrees of injury caused to environmental nerves belonged to both tibialis and frontotemporal nerves (22). These individuals often suffer from such symptoms as pain and pricking (25). One side effect of a trauma caused to head is epilepsy which is of a mild, moderate or severe type (9). Moreover, the occurrence of brain injuries is common after exposure to explosive wave shocks. In chronic cases it can lead to cognitive problems too (26). Another important issue is that, as revealed in a study, almost all visitors of a neurological research center had medical interventions of varying degrees (27).

Skin: skin-related side-effects are highly more prevalent among chemical patients than the nonchemical. Some chemically disabled individuals had problems other than skin types in other body systems too. They included (in the order of frequency) those induced by: ammunition, wave shock, chronic lung blockage, chronic eye problem, hearing loss, bullets, epilepsy, problems in urinary track and stomach as well as chronic blood problem (28). The highest rate of complaints among the patients were made by patients suffering from such skin diseases as itchiness and pricking. The most common types of skin damages were erythema and papule. The most common body part has been the frontier limb (29). Furthermore, cutaneous leishmaniasis is considered as a health problem in the years of war. Healthcare services were not adequate or not practical in controlling the disease (30).

Respiratory system: in chemical patients intoxicated with sulfur mustard and the tracheomalacia induced by that, sleep apnea is highly prevalent (31). The most frequent respiratory symptoms in chemical patients are respectively: cyanosis, crackles and vizing. Generally, lung injuries are on progress among these patients (32). Since chemical injuries lead to side effects in lungs, the use of protective appliances seems to be essential (33).

Eye and ear: a number of studies have revealed that the prevalence of ear problems in the disabled veterans is 21.5%. The highest rate of complaints has also belonged to hearing loss (often unilateral and sensory-neural) as well as tinnitus (34). Some other research have reported a 15.2% prevalence of hearing loss, and also found sensory-neural hearing loss to be the most dominant type of these injuries (35). Moreover, sulfur mustard causes delayed side effects in eyes. To mild degrees it is more prevalent than other delayed optical side effects (36).

Infectious diseases: a number of studies have revealed that war-induced injuries rise the risk of affliction with the virus of hepatitis B (37). Moreover, some other research has revealed that a history of warfare injuries can be a risk factor of affliction with hepatitis D (38). Nevertheless, using the key approaches, the epidemic of malaria was prevented in war-struck regions (39).

Genetics and cancer: genetic modification in B helper cells, after exposure to sulfur mustard, can lead to the occurrence of chronic respiratory infections (40). Some studies have witnessed no significant divergence in DNA content and the stages of cellular cycle among the wartime disabled and the healthy (41). Some studies have witnessed no correlation between the occurrence of cancer and the acute exposure to sulfur mustard (42).

Other cases: there is evidence that in Iraq and Iran war, similar to other wars, some unrecognized diseases (e.g. Persian Gulf syndrome) occurred and in the majority of cases the type of their disease was not identified (43). Epilepsy induced by animal bites and tetanus was among cases reported at the time of war (44) (9). One study indicated that along with an increase in the intensity of injuries there is a concomitant rise in the frequency of abortion, LBW and premature delivery among the wives of chemically injured war veterans' (45).

DISCUSSION

Healthcare is influenced by various factors. War is one such factor which lowers health state, mortality and long-term physical and mental side effects among both the military and civil forces (46). The goal of this research was a review of studies focused on the physical side effects of the 8-year war between Iran and Iraq.

The body of research investigating war-induced injuries, as expected, has dealt more with the damages caused by trauma. Chemical injuries are among other negative effects which have been investigated. On the whole, these studies more addressed the acute side effects rather than the chronic.

Generally speaking, trauma caused the most injuries of all, in the body of research dealing with trauma, the majority of studies considered lower body limb as the most frequently injured (17) (19). Among other body organs frequently injured are head and neck as well as chest. Trauma can cause many disabilities in the natural process of people's lives (24). The prevalence of injuries in body limbs provides for a more fruitful use of protective tools at the time of war (15).

Chemical injuries to skin and airway are the most manifest types (31) (28). Biochemical indices such as thyroid function test (10), as well as blood indices (10), at the time of war, are also influenced by chemical injuries. Such injuries also attest to the significance of using protective devices against the destructive effects of chemical devices (47).

In a study which attempted to investigate the correlation of the occurrence of cancer and acute exposure to sulfur mustard, no significant correlation was found (42). There is a great need of both short and long term research concerning this issue.

War-induced physical injuries lower the quality of life. Therefore, there is a need for providing more extensive welfare facilities for these people so that both they and their families are helped and their misery is reduced. Moreover, it is recommended to conduct research into mental side effects of war.

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