

Noncombat injury top reason for pediatric care by military surgeons in Afghanistan, Iraq

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Chicago (May 1, 2014): Noncombat-related injury—caused by regular car accidents, falls and burns—is the most common reason for pediatric admissions to U.S. military combat hospitals in both Iraq and Afghanistan reveals new study findings published in the May issue of the *Journal of the American College of Surgeons*.

In recent years, research has shown that Army hospitals treat a significant number of wounded and sick children in Iraq and Afghanistan. But the new analysis explores the nature of that care, determining how many children were treated for combat-related injuries versus noncombat-related injuries and illnesses (such as infections or elective operations).

"Many people are not aware of how many children we took care of in theater. But having seen war firsthand, I wanted to know the magnitude of what we had done over the last 12 years," said lead study author Lt. Col. Mary Edwards, MD, FACS, a surgeon in the department of surgery at the San Antonio Military Medical Center in Texas. "We have to realize that this type of care is a big part of our mission, and so we have to figure out a way to do it in the best way possible."

The primary role of a combat military hospital is to care for all sick and wounded soldiers during wartime. However, the Geneva Convention specifies that an occupying force must ensure, to the greatest extent

possible, the public health of the civilian population.

For the study, Dr. Edwards and her colleagues searched records from the U.S. Army's Patient Administration Systems and Biostatistics Activity (PASBA) database for all admissions in combat operations in Iraq and Afghanistan for the years 2002 through 2012.

This hospital database is unique in that aside from codes for admission, it includes codes for injury cause, such as gunshot wound or fire, and whether or not the injury was combat-related. It also gives detailed information on the weapon system that injured the patient.

After analyzing data collected on 6,273 children 14 years of age or younger, the researchers discovered that the majority of children were admitted to Army support hospitals for noncombat-related reasons such as falls, burns, or non-traumatic illnesses such as a congenital or acquired illness.

In Afghanistan, noncombat-related admissions were over twice the number of combat-related admissions (2,197 vs. 1,095). In Iraq, it was almost equal (1,391 vs. 1,590). "In Afghanistan, the difference was pretty striking," Dr. Edwards said. "Every single year it was mostly noncombat-related diagnoses that brought these kids in."

The study found that older children were more likely to be combat victims, and the death rate was highest for children admitted for combat-related trauma in Iraq (11 percent) and noncombat-related trauma in Afghanistan (8 percent). The in-hospital mortality rate in both Iraq and Afghanistan was 5 percent for admissions unrelated to trauma.

"When we looked at the surgical admissions of the non-trauma patients, for instance having an appendix out, the mortality was less than 1 percent. But mortality for the medical admissions, such as pneumonia or

seizures, for example, was 10 percent," Dr. Edwards said. "So the kids who came in with just medical problems are the ones who needed a lot of resources and really didn't fare as well."

Although Iraq had a robust medical structure in place prior to the conflict, the system fell apart during wartime. "When the conflict arose, hospitals were looted and care was disrupted," Dr. Edwards said. In Afghanistan, medical resources were lacking. "I took care of kids whose families walked days just to get a chance to be seen at the military hospital."

Dr. Edwards hopes that these findings will help health care workers worldwide better prepare—with training, equipment and medical teams with pediatric specialists—to treat injured and sick children—patients who might otherwise die in these war zones.

"It's important to have some appreciation of the fact that many of the trauma patients were injured by blunt mechanisms, and that many of the kids were admitted for diseases like pneumonia and neonatal sepsis," Dr. Edwards said. "Understanding that a significant number of patients have those problems will help us get ready for the next time we have to do this, knowing that we need to have pediatricians in the mix of combat operations for medical response."

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