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Syria: rise in aerial bombings fatal for children according to University of Louvain researchers

In 2016, one in four civilians killed in the Syrian conflict was a child. A team of researchers at the [UCL Centre for Research on the Epidemiology of Disasters](#) analyzed data about more than 140,000 violent deaths between 2011 and 2016 in areas not controlled by the Bashar al-Assad regime. Their findings were published today, 6 December 2017, in *The Lancet Global Health* journal.

The UCL research team's conclusions? On the one hand, a disparity between the number of civilians and combatants killed (Chart One) and, on the other, a significant increase in the number of deaths of women and children during those six years (Chart Two). The cause? Weapons mostly used in populated areas—air bombardment and shelling—not very effective against opposition fighters, but destructive for civilian populations, especially children. Researchers believe that fighters get warnings about impending bombings and have time to change their location, unlike civilians.

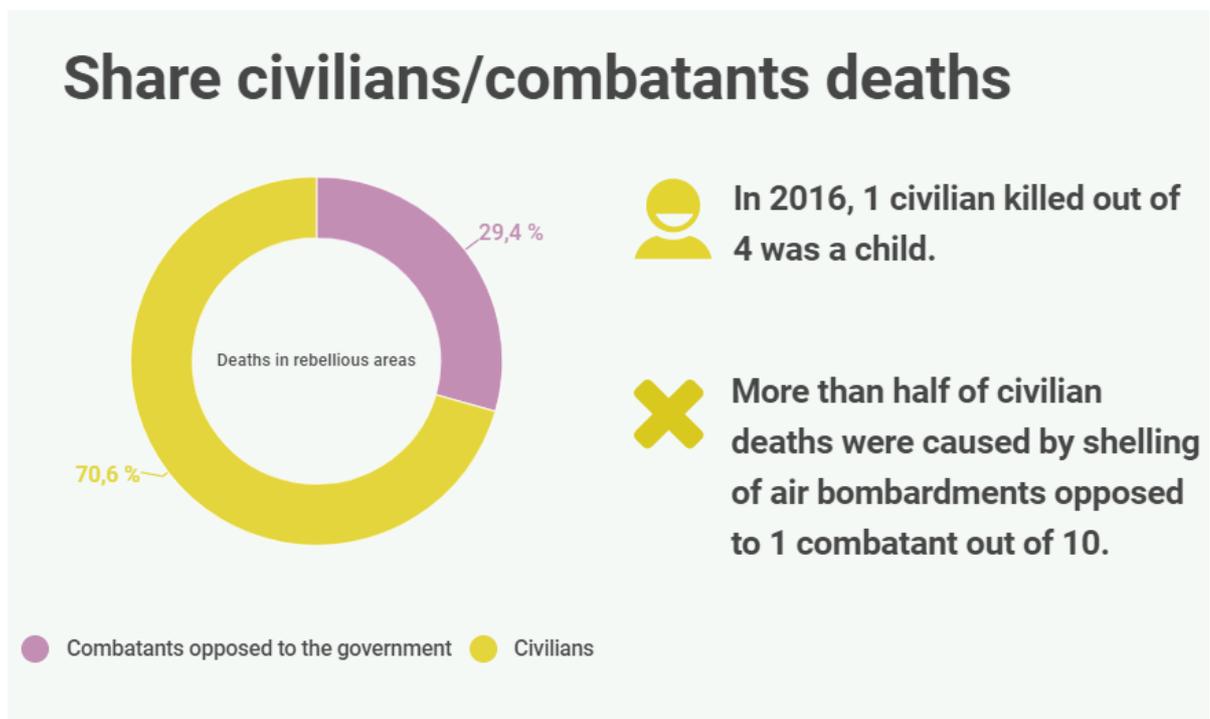
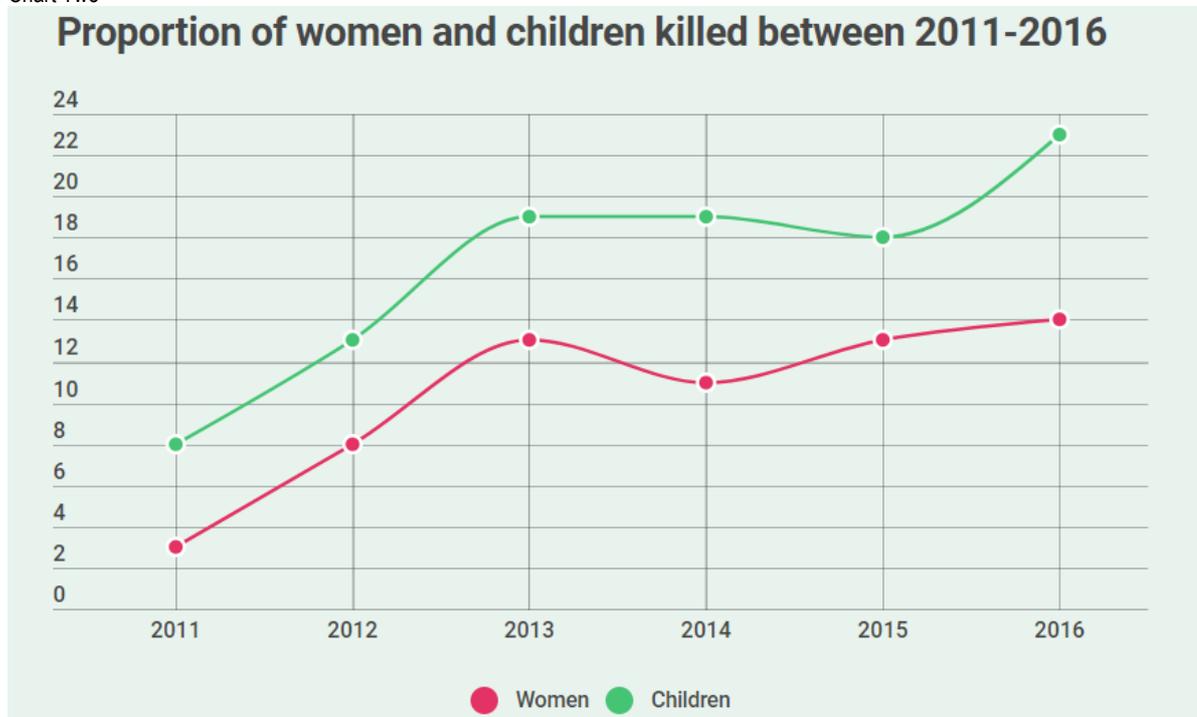


Chart One

“Our findings underscore the highly limited efficacy of shelling and aerial bombing against opposition fighters, and the disproportionate lethal impact on civilians, particularly children. These findings call into question the use of these weapons in populated urban areas and suggest possible indiscriminate weapons use contrary to international humanitarian law.” says lead author **Professor Debarati Guha-Sapir, Université catholique de Louvain**



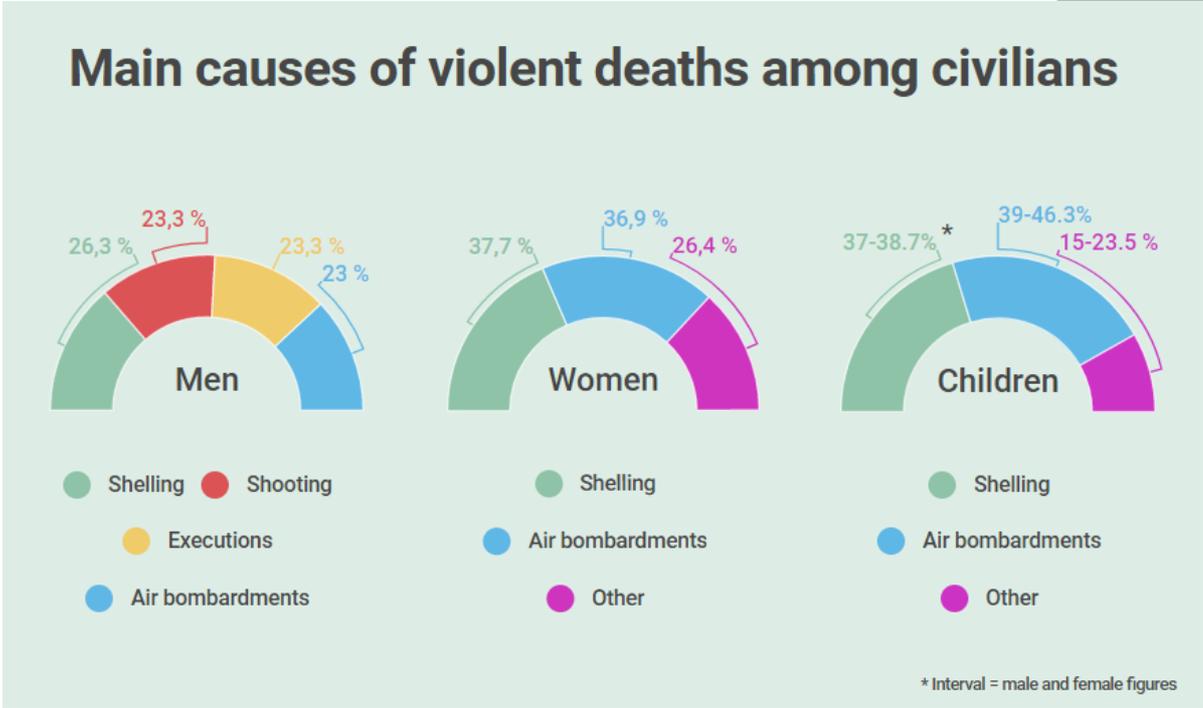
Chart Two



While the total number of deaths due to the conflict has declined between 2011 and 2016—and men make up the largest number of victims—the **proportion of women and children killed has increased dramatically** (Chart Two). At the beginning of the conflict, children accounted for **8.9%** of all civilian deaths (388/4254). In 2013, this figure rose to **19%** (4,927/25,972), reaching **23.3%** on 31 December 2016 (2,662/11,444). The proportion of adult women more than quadrupled during the period between 2011 and 2016, rising **from 3.4% to 13.8%**. During those six years, the proportion of deaths amongst children was higher than the proportion of deaths amongst women, exceeding it by 10% at the end of 2016.

How can we explain these figures? Starting in 2012, **the use of bombing increased**, particularly after **the intervention by international coalition forces**, which had a direct impact on civilian populations, with those attacks on populated areas killing **five times more civilians than combatants**.

While the first cause of death among civilians was targeted **fire during the first two years of the conflict**, **shelling quickly became the leading cause of death**. At the end of 2016, it was estimated that **aerial bombardment had become the second most common cause of death amongst civilians**. In total, **52.7% of adult deaths resulted from large-scale explosive bombs**, of which **27.8% were caused by shelling and 24.8% by aerial bombardment**. Charts Four and Five show that aerial bombardment and shelling are the **leading causes of death amongst women and children**.



Charts Three, Four, and Five

Aerial bombardment means barrel bombs (Chart Six). These explosive bombs are widely used in the Syrian conflict. More than **a quarter of the civilians killed in these attacks are children**. The proportion of children killed by a barrel bomb was twice as high as the percentage of men. Barrel bombs account for 5.8% of deaths amongst men, 9.8% of deaths amongst women, 10.9% of deaths amongst boys, and 12.9% of deaths amongst girls.

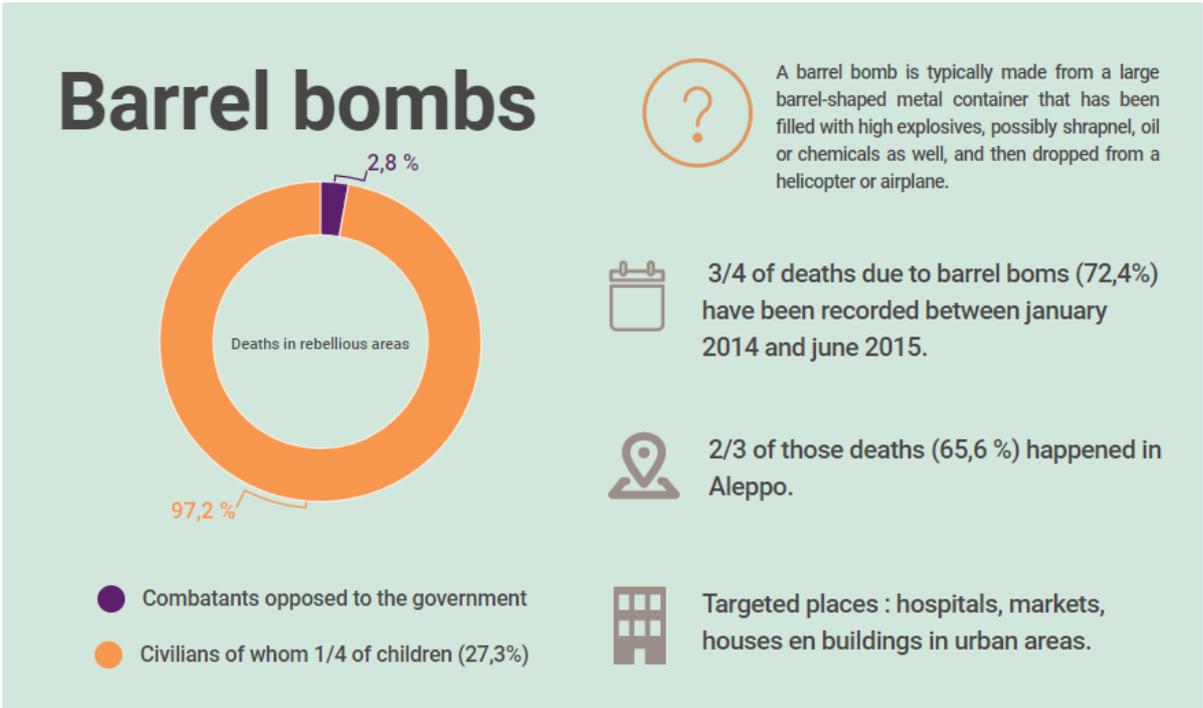


Chart Six

It appears that the "double-strike" strategy has been used in some cases—that is, dropping a barrel bomb after the first to eliminate first responders and medical teams or dropping a bomb on medical centers to eliminate both medical teams and wounded people from the first attack.

Conclusions ”

- *The efficiency of the air bombardments towards combatants is very limited in comparison to the disproportionate impact on civilians and particularly children.*
- *The share of women and children killed between 2011 and 2016 has significantly risen due to the increase of bombardments, especially since international parties have joined the conflict. These attacks kill 5 times more civilians than combatants.*
- *About ¾ of bomb barrels have been dropped on densely populated areas, which suggests either civilians are directly targeted or possible indiscriminate weapons use contrary to international humanitarian law.*

Methodology

This study, by researchers at UCL's Centre for Research on the Epidemiology of Disasters, uses data collected by the Violence Documentation Center (VDC), an independent group with a network of 30-35 field investigators in Syria covering each province. Since the areas controlled by the regime are too dangerous for VDC staff, the study does not include data from these areas and focuses on rebel-held areas. This study consequently shows trends and does not give a picture of the entire conflict.

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