

# Israel rocket attacks increase miscarriage likelihood, research shows

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Rocket attacks in Sderot, Israel significantly increase the likelihood of miscarriages, according to a new study by Ben-Gurion University of the Negev (BGU) researchers.

The study, published in the January issue of [Psychosomatic Medicine](#) *Journal of Bio-behavioral Medicine*, compared 1,341 pregnancies of women (exposed group) who resided in Sderot, an area exposed to frequent rocket fire, with 2,143 pregnancies of women who lived in Kiryat Gat (unexposed group), which is out of range of missiles. Among women residing in the exposed town, the number of weekly alarms during the 6 months preconception was 2.2 with a range of 0 to 15.3. During pregnancy, the mean weekly alarm rate was 3.5 with a range of 0 to 31.

The study found that exposure to rocket attacks increased [miscarriages](#) (also known as [Spontaneous Abortion](#)) (SA) risk by 59 percent, as compared to women not experiencing this stress during or before pregnancy (in Sderot 6 percent compared with 4.7 percent in Kiryat Gat).

The Israeli southern town of Sderot has been a constant target of rocket firing from the Gaza Strip since 2001. The rocket attacks are preceded by a warning alarm that informs residents to seek shelter. These alarms are loud, sudden as well as stress inducing because they are sounded only few seconds before the rocket hits the town. Between April 2001 and December 2008, more than 1000 alarms have been sounded in or near

Sderot—500 during 2008 alone. Rockets have fallen and exploded within the town, killing residents and causing property damage.

The researchers also found that among the residents of Sderot those with both the lowest and highest level of exposure to rocket alarms during pregnancy had higher risk for SA than those with intermediate exposure. Researchers suggested that this finding may be explained by [dysregulation](#) of cortisol, a known stress hormone, explain Tamar Wainstock, Ph.D candidate and Professor Ilana Shoham-Vardi at BGU's Department of Public Health, Faculty of Health Sciences. "However, as the number of alarms intensified, the risk was elevated again possibly with increased cortisol level, or alternatively, with reduced cortisol level, as found in Post Traumatic Stress Disorders, which itself may increase the risk for adverse pregnancy outcomes."

Provided by American Associates, Ben-Gurion University of the Negev

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