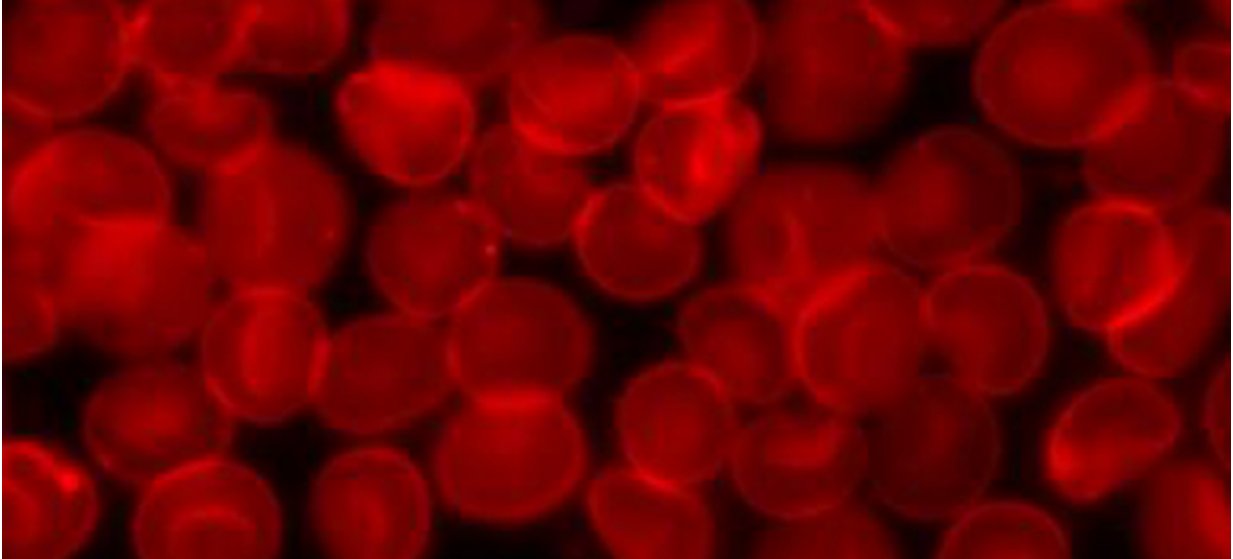


Scary movies can curdle blood

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Credit: Wikimedia Commons

Watching horror, or 'bloodcurdling,' movies is associated with an increase in the clotting protein, blood coagulant factor VIII, finds a small study in *The BMJ* Christmas issue this week.

The results suggest that using the term 'bloodcurdling' to describe feeling extreme [fear](#) is justified, say the researchers.

The term dates back to medieval times and is based on the concept that fear or horror would 'run the [blood](#) cold' or 'curdle' (congeal) blood, but the validity of this theory has never been studied.

So researchers in The Netherlands set out to assess whether acute fear can curdle blood, which they say poses an important evolutionary benefit, by preparing the body for blood loss during life threatening situations.

The study involved 24 healthy volunteers aged 30 years or younger recruited among students, alumni, and employees of the Leiden University Medical Center. Fourteen were assigned to watch a frightening (horror) movie followed by a non-threatening (educational) movie and 10 to watch the movies in reverse order.

The movies were viewed more than a week apart at the same time of day and in a comfortable and relaxed environment. Both lasted approximately 90 minutes.

Before and after each movie (within 15 minutes), blood samples were taken and analysed for markers or 'fear factors' of clotting activity. After each movie, participants also rated the fear they experienced using a visual analogue fear scale ranging from 0 (no fear at all) to 10 (worst fear imaginable).

Participants also reported whether they had already seen the movie and completed a general questionnaire on lifestyle and favourite movie genre.

The horror movie was perceived to be more frightening than the educational movie, with a 5.4 mean difference in fear rating scores.

The difference in coagulant factor VIII levels before and after watching the movies was higher for the horror movie than for the educational movie.

Levels increased in 12 (57%) participants during the horror movie, but

only in 3 (14%) during the educational movie. Levels decreased in 18 (86%) participants during the educational movie, but only in 9 (43%) during the horror movie.

However, the researchers found no effect of either movie on levels of other clot-forming proteins, suggesting that although coagulation is triggered by acute fear, this does not lead to actual clot formation.

They point out some study limitations, but conclude that, in young and healthy adults, "watching bloodcurdling [movies](#) is associated with an increase in blood coagulant factor VIII without actual thrombin formation."

More information: Bloodcurdling movies and measures of coagulation: Fear Factor crossover trial, The *BMJ*, www.bmj.com/cgi/doi/10.1136/bmj.h6367

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