Objective: In this study, we investigated the pro-and antioxidant status of patients with Crimean-Congo hemorrhagic fever (CCHF) in terms of their role in the pathogenesis of the disorder.

Methods: Between April 2010 and September 2011 with a diagnosis of 34 children and 41 adults were diagnosed with CCHF during the study period. The control group consisted of healthy children and adults matched for age and gender. Serum levels of total antioxidant capacity (TAC), total oxidant status (TOS), oxidative stress index (OSI) and plasma total thiol (TTL) were evaluated and compared between groups.

Results: The difference between CCHF patients and healthy controls in terms of mean TAC value was not statistically significant (p>0.05). Mean values for TOS, OSI and TTL were significantly lower in CCHF patients compared to healthy controls (p< 0.001 for all). Following two-group comparisons, no difference in TAC was observed between groups (p>0.05), whereas mean TOS and OSI values were significantly lower in adults with CCHF compared to their healthy counterparts (p< 0.001 for both comparisons). Similarly, mean TTL levels were lower in both children and adults with CCHF when compared separately with healthy controls (p< 0.05 for both comparisons). There was no difference between children and adults with CCHF with regard to mean TTL levels (p>0.05).

Conclusions: Our study results suggest that TTL may play a more important role in the pathogenesis of CCHF than the other parameters investigated. As a surprising finding in this study, mean TOS and OSI values were higher in the control group compared to CCHF patients.