



Letter to the Editor

Household animals and the risk of hepatitis E for pregnant women

Dear Editor,

Hepatitis E Virus (HEV) is an emerging pathogen with significant implications for public health, particularly for pregnant women. The virus, which primarily infects the liver, poses a severe risk during pregnancy, leading to severe complications such as fulminant hepatic failure, maternal death, and adverse fetal outcomes, including preterm birth and low birth weight.

Pregnant women, especially in their third trimester, are at increased risk for severe manifestations of HEV infection. Studies have shown that HEV infection during pregnancy can lead to a range of severe outcomes. For instance, a study conducted in the Indian subcontinent reported that HEV infection during pregnancy resulted in a mortality rate of 20–40 % in affected women, compared to less than 1–4% in non-pregnant individuals with HEV infection. The increased susceptibility during pregnancy is attributed to physiological changes in the immune system and liver function. These changes may impair the body's ability to effectively respond to HEV, exacerbating the impact of the infection [1].

HEV is classified into several genotypes, with genotypes 1 and 2 primarily affecting humans, while genotypes 3 and 4 are known for their zoonotic potential. Genotypes 3 and 4 have been detected in various animal species, including pigs, deer, and domestic pets such as dogs and cats. The presence of these genotypes in animals suggests that pets could potentially act as reservoirs for HEV and pose a risk of transmission to humans. Studies conducted in different countries detected antibodies against HEV in the blood samples raising concerns about the potential for these animals to contribute to HEV transmission to humans. For example, in southern Spain 9.9 % of dogs and 2.8 % of cats both strays and pets, in Türkiye 5.4 % of household cats, Italy 3.1 % of household cats, in the Netherlands 18.52 % of pet dogs, and 14.89 % of cats [2], in Switzerland 38 % of dogs [3], in southern Italy 8.2 % of dogs [4], in Namibia 10.43 % of dogs and 5.88 % of cats, in South Korea 28.2 % of dogs and in Bulgaria, 21.1 % of dogs and 17.7 % of cats [5] reported HEV antibodies.

Given these findings, it is crucial to implement comprehensive public health strategies to mitigate the risk of HEV transmission, especially to pregnant women. While the development and production of vaccines for pets could be beneficial, a more immediate and practical approach might involve requiring women who have pets and are planning to get pregnant to have their pets tested for HEV using PCR tests. Additionally, developing rapid diagnostic kits for pets could further reduce the number of infections among pregnant women. Educating pet owners about the risks associated with HEV and promoting good hygiene practices are also essential components of an effective public health strategy.

In conclusion, addressing the risk of HEV transmission, particularly to pregnant women, requires a multifaceted public health approach.

While vaccines for pets could offer long-term protection, immediate measures such as mandatory HEV testing for pets of women planning pregnancy and the development of rapid diagnostic kits for pets are more practical solutions. Public education on HEV risks and the importance of good hygiene practices is essential to protect vulnerable populations and reduce the incidence of HEV infections.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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