The dengue vaccine is effective and safe: Confirmation from the first global meta-analysis

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The Dengue vaccine has an efficacy rate of over 50% in reducing disease cases, with lasting effects and a very good safety profile. This is

confirmed by the first global meta-analysis on the efficacy of TAK-003, better known as Qdenga: the only vaccine approved to date in Italy and many European countries for fighting Dengue.

Published in the journal *Vaccines*, the study was conducted by scholars from the University of Bologna and the University of Ferrara.

"This is the first comprehensive global analysis and we are very pleased with the data," says Lamberto Manzoli, director of the School of Specialization in Hygiene and Preventive Medicine at the University of Bologna, who coordinated the study. "It was not a foregone conclusion: it took many years to develop a vaccine with such good results."

The Dengue virus, transmitted by certain species of mosquitoes, infects about 400 million people annually in the warmer regions of the planet, causing more than 3 million deaths. Climate change is also expanding the habitat of the mosquitoes that carry the virus, leading to new Dengue outbreaks in an increasing number of countries. Even in Italy, with the continuous rise in cases, the disease is a major health concern.

Currently, there is no effective therapy against the disease, and environmental remediation actions against mosquitoes cannot eliminate the risk of epidemics. The only prevention strategy is therefore vaccination: approved in Europe in December 2022, the vaccine TAK-003, better known as Qdenga, has shown very promising results. However, until now, a comprehensive estimate of its effectiveness and safety was not available.

Researchers therefore examined and cross-referenced data from the 19 scientific studies conducted so far on the vaccine, to find solid evidence of its ability to combat the disease. Overall, the cases of over 20,000 individuals involved in the various tests were considered, even more than a year after the last administration, both with a single dose and with both

doses required for complete vaccination.

The results show that the vaccine reduces the risk of contracting the disease by over 50%, with a high safety profile. Among those who received both doses, more than 90% developed antibodies against Dengue, and the response is very positive even among those who received only one dose: more than 70% of adults and more than 90% of children and adolescents develop antibodies.

"Given the results in terms of safety, immunogenicity, and efficacy, the administration of two doses can undoubtedly be a key tool for Dengue prevention," confirms Maria Elena Flacco, director of the School of Specialization in Public Health at the University of Ferrara and the study's lead author.

"The currently available vaccine can therefore be very useful not only for populations in endemic areas but also for travellers from non-risk areas."

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