Men's immunity could be key to new malaria drugs

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Sedami Gnidehou's research could lead to new drugs to protect pregnant women and their unborn children from malaria. Credit: Kate Toogood

(Medical Xpress)—A University of Alberta researcher's discovery about how malaria affects men could mean the difference between life and death for pregnant women in Colombia.

Sedami Gnidehou began working on malaria diagnosis in 2011 when she joined Stephanie Yanow's laboratory as a research associate in the School of Public Health. They're now embarking on research that could

provide a new vaccine strategy that would protect pregnant women and their unborn children from malaria.

In a pilot study with collaborators in Colombia and Benin, Gnidehou discovered that men exposed to one species of the parasite that causes malaria have antibodies that recognize another species that is highly dangerous to pregnant women. The discovery raises the possibility of a vaccine that could protect pregnant women against multiple species of malaria.

"Now, we need to confirm our observation using a large number of participants from across Colombia and Latin America," said Gnidehou. She hopes, within a year, to be well on the way to identifying new antigens that will contribute to a multivalent pregnancy vaccine. If successful, it will be the first of its kind to protect against multiple species of malaria.

"The impact of malaria is astonishing," she said. "Since more than 125 million pregnancies globally are threatened by malaria infection, a vaccine would be a game-changer."

"What will be interesting is to determine whether we can develop a vaccine that can protect pregnant women as well as non-pregnant people," said Gnidehou.

Gnidehou says the research could also have implications for people living in malaria-ridden areas around the world, and those who travel to these regions. According to the World Health Organization, this could be as many as 3.3 billion people worldwide.

"With a vaccine, we can protect the health of people who live in high-risk areas, as well as those who travel to these parts of the world. This research has the potential to save lives through prevention of one of the

biggest threats to health humankind has faced."

Provided by University of Alberta