University of Lethbridge News Release

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Fostering resilience in mothers and babies following the Fort McMurray wildfire

Dr. Gerlinde Metz, a University of Lethbridge neuroscientist, is one of a group of Canadian researchers led by Dr. David Olson at the University of Alberta who seek to reduce the negative effects of stress on pregnant women, newborns and their mothers following the Fort McMurray wildfire.

The research study, which was recently awarded $500,000 from the Canadian Institutes of Health Research, could lead to new strategies for helping people who are facing disasters in the future.

“The overall purpose for the study is to ascertain whether we could apply to a large number of women a simple but effective intervention to reduce their stress and thereby improve the outcomes of their pregnancies and the health of their babies,” says Olson. “If this intervention is effective, it can be applied to people everywhere in any country who are victims of natural disasters.”

Previous studies have shown that pregnant women affected by a natural disaster tend to deliver early. The children of pregnant women experiencing a disaster are at higher risk for becoming overweight or obese, developing early onset type 2 diabetes and high blood pressure.

“To overcome this trauma is very difficult and will take a long time,” says Metz. “That’s why we think that, if we offer an intervention that is easy to do, it’s something that we can provide and give back to the community of Fort McMurray.”

Launched by Olson last fall, women participating in the study—177 so far—are asked to do daily online expressive writing for 15 to 20 minutes for four days. Expressive writing is a well-established technique that allows for emotional disclosure and has been shown to reduce biochemical markers of physical and immune functioning. Olson says preliminary results suggest the women in the study are very stressed.

Metz's lab will be determining the allostatic load (AL), which is the wear and tear that accumulates in the body when exposed to repeated or chronic stress, by analyzing tissue samples such as blood, urine, hair or breast milk. Researchers can then identify which biomarkers of disease are linked to the experience of stress. Comparing the AL score before and after treatment will help the researchers determine if the expressive writing treatment has been effective.

"We want to learn how we can provide fast relief next time something like this happens, it could be a flood, a wildfire, or a tornado," says Metz.

As part of the study, children's neurodevelopmental outcomes, weight and metabolic health will be monitored for at least two years. An additional portion of the study will ensure that the processes and outcomes of research are shared with the community and stakeholder groups. Metz says the study results will help inform decision making among health professions, emergency disaster managers and policy makers.

This news release can be found online.

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