The rocketing price of fuel could be making people's physical and mental health worse, according to a new study from the University of East Anglia.

Researchers investigated how fuel poverty—not having enough money to heat your home—impacts health and wellbeing. They found that not being able to keep homes warm enough affects people's levels of life satisfaction. But they also found that it impacts people's physical health by causing higher levels of inflammation, measured by fibrinogen, a blood-based biomarker.

Dr. Apostolos Davillas, from UEA's Norwich Medical School, said: "We know that exposure to cold temperatures is associated with increased blood pressure, inflammation and cardiovascular mortality risks regardless of age or gender. "But until now there has been limited research into the mental and physical health impacts of fuel poverty."

The research team studied data from a nationally representative sample of 6,854 participants involved in Understanding Society, the UK Household Longitudinal Study. They explored the links between fuel poverty and wellbeing outcomes, such as life-satisfaction and self-reported health measures. They also studied elevated bloodstream 'biomarkers'—tell-tale markers of infection or inflammation, which are an objective measure of health.

And they were careful to adjust for other confounding factors that could be affecting people's health such as lifestyle factors, including whether they smoke, eat their five-a-day, or get enough exercise.

Dr. Davillas said: "We looked at those people in the study who experienced high fuel costs as a percentage of their household income or who felt that their home is not warm enough during winter. And we found a causal link between fuel poverty and poorer wellbeing, as well as an increased inflammatory biomarker called fibrinogen.

Dr. Hui-Hsuan Liu, from the Department of Comparative Biomedical Science, Royal Veterinary College, said: "Fibrinogen helps the body to stop bleeding by promoting blood clotting, but it is also an inflammatory biomarker. Elevated fibrinogen levels have been strongly linked to higher risk of coronary heart disease, heart attacks, stroke and an increased risk of death.

"This really shows how fuel poverty can really 'get under the skin' and impact people's health."

Dr. Andrew Burlinson from UEA's Norwich
Business School and the Centre for Competition Policy said: "This research is very important because the cost of living is rising at the fastest pace for 30 years. The government's price cap on energy bills is set to be revised in April and the energy industry has warned that fuel bills could increase by another 50 percent in the next few months.

"Recent figures show that the number of households suffering fuel poverty in England could treble this spring due to the increasing cost of fuel.

"Fuel poverty is widely acknowledged as a distinct form of income poverty and this study shows that it has far reaching and detrimental implications for health, particularly cardiovascular disease, inflammation and lower wellbeing levels.

"In light of our findings, the UK government's recent change to the fuel poverty definition, from Low-Income-High-Cost (LIHC) to the Low-Income-Low Energy Efficiency (LILEE) indicator, needs further consideration.

"In years to come we will need to adapt our homes to reduce carbon emissions and fight climate change. Low-income households suffering fuel poverty will need policies that better support them so that they are not left behind by the transition to greener living."

"Getting warmer: fuel poverty, objective and subjective health and well-being," by Apostolos Davillas, Dr. Andrew Burlinson and Dr. Hui-Hsuan Liu, is published in the February edition of *Energy Economics*.


Provided by University of East Anglia
