Letter to Editor **Open Access**

Acrylamide in Fried Foods: A Link to Depression and Anxiety

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Dear Editor, Recent news that has been circulating about fries or fried foods causing depression and anxiety, I believe it is important to clarify that it is not the fries or fried food itself that is causing depression, but rather a compound called Acrylamide, an intriguing and reactive molecule, is naturally produced when Asparagine, an amino acid found in plant-based foods like potatoes and cereal grains, undergoes a chemical reaction with sugars to naturally produce an intriguing and reactive molecule.. Surprisingly, this molecule is not deliberately added to our food, but rather is a by-product of high-temperature cooking methods such as roasting, frying, and baking. Acrylamide has been present in our food for as long as humans have been cooking, making it an integral part of our culinary history.[1] French fries and potato chips have been found to contain significant amounts of acrylamide, with concentrations ranging from 30 to 2300 µg/kg, 306 to 775 µg/kg, and occasionally exceeding 4000 µg/kg in crisps.[2]

Recently, a study found that acrylamide induced a "depression-like" phenotype with anxiety behavior in animals. The study also found that acrylamide altered the expression of genes involved in presynaptic vesicle cycling, affecting the levels of monoamine neurotransmitters such as serotonin, norepinephrine, and dopamine that are associated with depression and anxiety. These findings highlight the need for further investigation into the potential of acrylamide to induce psychological disorders.[3]

Considering these findings, a study was conducted on 140,728 participants to investigate any links between eating fried food and experiencing anxiety or depression. The study revealed that individuals consuming over one serving of fried food per day had a 12% increased risk of anxiety and a 7% increased risk of depression compared to those who did not consume fried food Thus, it can be deduced that habitual consumption of fried food, which harbors acrylamide, could potentially be correlated with heightened levels of anxiety and depression in people. According to the Commission Regulation (EU) 2017/2158 and the International Agency for Research on Cancer (IARC), ACR is a well-known toxin that exhibits powerful mutagenic, teratogenic, and neurotoxic characteristics. The intake of ACR through the mother's diet impacts the metabolism and overall physiology of the developing embryo or fetus. Different doses of ACR have been found to cause disruptions in neural tube formation and developmental effects, which can vary depending on whether the effects are localized or systemic. It is important to note that the research conducted does not prove that fried foods directly cause depression, but rather that they may be associated with it due to the presence of acrylamide. Additional investigation is required to fully comprehend the connection between acrylamide and psychological well-being.[4-5]

In conclusion, we urge readers to be mindful of their consumption of fried foods and to consider alternative cooking methods that do not produce acrylamide. It is important to prioritize our mental health and well-being, and taking small steps such as changing our cooking habits can make a significant difference.

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