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Teflon flu: Is it a rising concern of only developed country?

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Abstract:

Teflon flu also known as polymer fume fever is a temporary flu-like illness caused by inhaling fumes released when polytetrafluoroethylene (PTFE), the chemical used to make non-stick coatings like Teflon, is heated to very high temperatures. This condition typically occurs when non-stick cookware is overheated to above 500°F (260°C), releasing fumes that can cause symptoms in humans. Teflon flu is manifested with fever, chills, headache, body aches, cough, sore throat and shortness of breath which usually appear within a few hours of exposure and may last for a day or tw. Teflon flu is generally not considered dangerous for healthy individuals but repeated exposure could have more serious effects. Although in India cases are not widely reported as in countries like the U.S., India's medical community, including the Indian Council of Medical Research has advised caution and advocated use of earthen pots for cooking. Here we discuss in detail the causes, and ways to prevent Teflon flu in Indian context.

Keywords:

India, polymer fume fever, Teflon flu

Introduction

Teflon flu, also known as polymer fume fever, is a temporary flu-like illness caused by inhaling fumes released when polytetrafluoroethylene (PTFE), the chemical used to make nonstick coatings like Teflon, is heated to very high temperatures.[1] This condition typically occurs when nonstick cookware is overheated to above 500°F (260°C), releasing fumes that can cause symptoms in humans.[2]

Teflon flu is manifested with fever, chills, headache, body aches, cough, sore throat, and shortness of breath which usually appear within a few hours of exposure and may last for a day or two.[3] Teflon flu is generally not considered dangerous for healthy individuals, but repeated exposure could have more serious effects as it has happened in the US where there is an increase in reported cases of Teflon flu.[4] Although in India cases are not widely reported as in countries like the U.S., India's medical community, including the Indian Council of Medical Research-National Institute of Nutrition, has advised caution and advocated use of earthen pots for cooking.[5] Alternatives such as stainless steel, cast iron, or earthenware are recommended to avoid the risks associated with Teflon cookware not found in traditional nonstick cookware.

Why Suddenly the Cases for Teflon Flu Have Risen?

Teflon flu cases have been reported mostly from the USA. The reports are through social network as well as print media which has created a chaos, and many influencers are advocating for stopping the use of nonstick cookware. The cases may also rise due to increase in awareness of chemical exposure and growing concern about the potential long-term health effects of exposure to chemicals used in everyday products, including cookware.

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Awareness campaigns in the developed countries and studies highlighting the dangers of chemicals like PTFE have brought more attention to Teflon flu.[6]

In recent years due to several environmental surveillance studies and the impact of changing environment on human health, there has been increased scrutiny on chemicals like PFOA, which was once used in the production of Teflon. PFOA has been linked to various health issues, including cancer, thyroid disorders, and developmental issues.[6] As these concerns have come to light, there has been more focus on avoiding potential exposures, including Teflon flu.

With the increase in home cooking, especially during and after the COVID-19 pandemic, more people are using nonstick cookware, raising concerns about the potential risks of improper usage and overheating. Consumers are becoming more conscious of the materials they use in their homes. Safer and more sustainable cookware options, like ceramic and stainless steel, are being sought after, leading to more discussions about the potential risks associated.

How to Reduce the Risk?

Increased attention to the issue is driven by global health trends and reports linking the use of nonstick cookware with health problems, including respiratory issues.

Awareness and Education

- Cooking safety: Educate users on proper cooking practices, such as not overheating nonstick pans above 500°F (260°C), ensuring proper ventilation, and replacing old or damaged cookware
- Labeling: Manufacturers can include warnings on nonstick products about the risks of overheating and provide guidance on safe use.

Early Detection

- Symptom awareness: Individuals should be educated to recognize the symptoms of Teflon flu, such as headaches, fever, chills, and flu-like symptoms, which typically appear within hours of exposure
- Medical history: Doctors should inquire about recent use of nonstick cookware in patients presenting with respiratory or flu-like symptoms, especially in cases where common flu tests come back negative.

Environmental Monitoring

- Home ventilation: Encouraging proper kitchen ventilation, such as using exhaust fans, can help reduce the risk of inhaling harmful fumes
- Air quality testing: In environments like restaurant and commercial kitchen where nonstick cookware is frequently used, periodic air quality testing can help detect harmful fumes early.

Medical Screening

- Lung function tests: If polymer fume fever is suspected, healthcare providers might conduct tests to assess lung function and ensure no lasting damage
- Observation: Patients with suspected exposure should be monitored for worsening symptoms, especially those with preexisting respiratory conditions like asthma.

Adoption of Alternatives!

Many alternatives which were used earlier in the yesteryears are now considered for cooking. Some of the important ones are:

- Stainless steel: Durable and versatile, stainless steel cookware is great for browning and searing. Although it requires a bit more oil or butter for cooking, it does not release harmful chemicals
- Cast iron: Cast iron pans are long-lasting and naturally nonstick when seasoned properly. They are ideal for high-heat cooking and add iron to your food, which can be beneficial for health
- Ceramic cookware: Ceramic-coated cookware provides a nonstick surface without the chemicals found in Teflon. It is often recommended as a safer alternative, though the coating can wear down over time
- Carbon steel: Similar to cast iron but lighter, carbon steel pans are excellent for high-temperature cooking and also develop a nonstick surface with proper seasoning
- Glass and earthenware: Ideal for baking, these materials are chemical-free and inert, meaning they do not react with food, making them safe for a variety of dishes
- Anodized aluminum: This type of cookware has a hard, nonstick surface that is resistant to scratching. Unlike traditional aluminum, it does not react with acidic foods.

Are We Missing Cases in India and Is Screening the Solution?

Screening for Teflon flu (polymer fume fever) typically involves a combination of preventive measures, symptom tracking, and medical evaluation. Since Teflon flu is not a well-defined clinical condition, there is no standard screening test. Screening should involve symptom screening, history of recent cooking activities, timeline for onset of symptoms, history of occupational exposure,

and diagnostic tests for respiratory impairment and rule out other respiratory diseases.

Challenges

Since Teflon flu resolves on its own in most cases, people may not seek medical attention unless symptoms are severe, making widespread screening difficult. Prevention and education are therefore keys in managing the risk of polymer fume fever or Teflon flu.

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Conflicts of interest
There are no conflicts of interest.

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