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The Food Immunology for Asthma Patients

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Abstract: *Diet can alter the immune bodily functions for its pro-inflammatory response. Another chapter for the stool and wastes to be in a healthy state. The keto diet is a refinery process for fibres and vegetables to reduce acidity and achieve the optimum level in achieving a high body standard. The food test tube is for the measurement of portion and a colorful dietary pattern. The most leafy vegetables are the least, and the most darker ones are for the digestive gut. The taste buds have enough pleasure in seeking the tastiness and depth of flavours. There is a food sensibility in rationalizing the time of the phase for the reactivity to take place in the body clock.*
Keywords: *Diet, Immune, Keto-diet, Food sensibility*

I. Introduction

Asthma is a lung inflammation with constricted airways in causing something to soothe down the throat. The tightness of the chest and wheezing are some of the signs and symptoms of an asthmatic attack. It is a health condition caused by sickness, smoke, allergens, or cold air. The condition can be prevented by reducing the triggers and eliminating the symptoms as much as possible. The mucus lining is for the phlegm of yellowish and greenish, which blocks the airways. The allergens are dust, humidity, and dietary patterns. Thus, weight loss may reduce the signs and symptoms of an asthma attack.

There should be an ideal weight for practicing a healthy diet and being physically active. It can either be a quick relief of alleviating the symptoms or a long-term treatment. This is followed by fruits, vegetables, and fiber for their refineries in relieving constricted airways and inflammation in the lungs. Lean proteins may also have a sufficient amount of muscular strength and more oxygenation for preventing stiffness. Stress and aggression can trigger an asthma attack due to the uncontrollable symptoms in increasing the pressure and strain on the voice. Therefore, it is crucial to have effective communication in delivering positive messages to uplift the spirits of the living.

Air pollutants and chemical detergents have contributed to the toxification of the airways. There are also other breathing problems, such as allergic rhinitis and bronchitis, which are relevant to the overall story. Sulphur dioxide can cause harmful chemicals and substances to be inhaled within the lungs, which the lungs cannot process the overworking the muscles, making them more toxic to beat. Pulmonary injury or toxicity caused by inhaling or chemical reactivity increases the pressure via the generation of reactive oxygen species (ROS). The inflammation is known as pneumonitis, and the chronic obstructive pulmonary disease (COPD). Most of the toxicants or other metabolites generate free radicals for cell damage of proteins, DNA, membranes, inflammation, and cytokines that alleviate the injury.

The main research problem is to monitor and control the significant increase in the severity of life-threatening symptoms of asthma and food chemistry. The subheadings are disease progression, impact and quality of life, and need for coordinated care. The research gap is to understand the food mechanism that specifically contributes to the soothing and relaxing of the airway constriction between the airways in the lungs. The specific role of an enzymatic activity to break down the food particles in enhancing the flavouring and

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presentation to the asthmatic patients. The final one is to assess the nutritional activities of the intervention control over the effectiveness of the food programme.

The relevant and sequel to the problem is to assess the association between the dietary pattern and asthmatic pattern among the patients. Then, to identify the food allergens and triggers of the health problem, and to assess the impact of food allergy and asthma severity and control. Hence, mechanistic studies are conducted for the general association between dietary patterns and nutrients. There is a thorough review of immunotherapy and biological therapies for addressing oral health and other medications through oral and nasal intervention strategies.

Other than food, there are alternative ways for the nasal passages to feel relief as the phlegm and other blockages to the neck and throat have access to the airways. The drink of antioxidant teas and therapeutic baths, and bedrooms are some of the ways for caring for their sound sleep at night. A proper circadian clock cycle is around the after-hours for the life of an employee who enjoys his or her work.

II. Literature Review

There are loadings for the most preferred diet intake among children, which are proteins and meats (Peltonen et al., 2025). Their vegetable intakes are reduced amount for there are solutions provided for a plant-based diet meal, including fibers and other minerals, vitamins soluble in the kidney and stomach linings of the body's functional system (Peltonen et al., 2025). Therefore, the scoping review is for the lean meat dietary pattern rather than unwanted substances from the harmful effect of overconsumption of chlorophyll and other greens within the gastric juice and bile (Ekpor et al., 2025). There are food and environmental changes for the air pollution to be reduced according to the population densities and settings, as there are natural solvents and absorbents adaptable for other intakes (Rathogwa et al., 2025).

The overweight and imbalanced dietary pattern has caused sleeping problems as the blood composition consisted of blood lipids (Lin et al., 2025). The insoluble solution blocks the airways and nasal activity for a breathing mechanism (Lin et al., 2025). There is a relationship between the Mediterranean diet and proper sleeping (Verkaar et al., 2024). The sleeping maintenance problem is resolved by their relaxing and calming effect of a therapeutic sleeping rhythm (Verkaar et al., 2024). The Pittsburgh Sleep Quality Index practices different food patterns for measuring the sleep quality for their calmness in behavioural activities (Alghamdi & Almasaudi, 2025). The sleep intensity will reduce as they are refused to be fed with low-fat intake for their dietary modifications (Alghamdi & Almasaudi, 2025).

The number of hours of sleep differs according to different time zones (Bano, 2025). They are more sufficient with protein and carbohydrate intake (Bano, 2025). A cross-sectional study on Chinese university students reported some cases with abnormal body composition with normal body mass index (Liu et al., 2025). There is a significant number of female students who are into sugary intake rather than a healthy low low-fat diet (Liu et al., 2025). There is a significant reduction in fat body mass for vigorous physical activity, while a sedentary lifestyle is positively correlated with increased fat percentage and negatively correlated with muscle mass percentage (Slusar & Vizitu, 2025).

III. Research Methods

A retrospective chart review of bibliographic studies for reporting more than 30 participants in a study allocated by their age and professions. It is an asthma and dietary assessment in a clinical design to relate the parameters between. The step-by-step manual procedures of having an eligibility criterion beyond a geographical and timeless design. There are alternative ways of seeking the subjective matter on the evaluation, for more statistical methods, which are limited by the inferential statistics. Their interpretation of numbers for the time and allocation is less spending and more to the study itself. Although there are no universal theories and facts, they are just empirical studies from historical data to make more predictions in the future. It is a qualitative and quantitative approach, for descriptive and chart patterns to identify and examine their correlations in further interpretation, called scientific consensus.

IV. Results and Discussion

Food insecurity is associated with current asthma and wheezing in both adults and children with both ailments (Kong et al., 2025). There were 25000 participants in the US National Health and Nutritional Examination Surveys from 2007 to 2012 (Kong et al., 2025). The association of asthma is intolerable among those who are women and non-Hispanic Caucasians (Kong et al., 2025). The complexity indigenous in health for restoration of energy and strength in their daily routine for moderate intake of fibers and vegetables (Cunico et al., 2024). However, Omalizumab is one of the effective therapies for managing intolerance to food (Cunico et al., 2024).

There are significant relationships in comorbidities between asthma and food allergies, as there are latent or hidden risk factors for an individualized coefficient in the regression method (Stukus & Prince, 2024). Thus, the individualized management system stated that the health condition is challenged by the increasing number of incidents (Stukus & Prince, 2024). Food allergy is standardized with the oral food challenges, as the dairy product is removed completely from the food list (Klim et al., 2025). The glutinous reaction is more of a sweetener and other flavoring agents (Klim et al., 2025). Food allergy is to symptomize of the health gap in environmental cases of asthma management and other novel therapeutics (Zhou et al., 2025).

The Pittsburgh Sleep Quality Index includes 19 question items that assess the quality of sleep over a one-month schedule (Carpi, 2025). A score above 5 indicates a bad sleeping habit. Some recent evidence showed that a global PSQI score greater than 5 is the threshold to distinctively adjusted from poor to good (Liu et al., 2025). Therefore, there is a shorter version for the measurement of scaling from poor to good (Junior et al., 2025). For instance, the hours of sleeping generate a proper meal and physical exercise in a fully active vibe. Among Brazilian adults, the PSQI-2 proposed a viable method to analyse and interpret their indication in a proper sleeping study method (Junior et al., 2025).

Physiotherapists explored the association between occupational and lifestyle factors (Stanic et al., 2025). They intended to have a proper sleeping habit despite having a busy schedule (Stanic et al., 2025). Histamine is a response in which the body's reactivity is in for inflammatory changes (Vassilopoulou et al., 2020). They might have released more allergic symptoms to regulate the wake-up cycle and cognitive function (Vassilopoulou et al., 2020). Diet intervention is a challenging act of controlling and managing asthma symptoms (Vassilopoulou et al., 2020). Food allergy is bound by mental health issues and gaps (Gupta et al., 2024). The intervention strategies for food intolerance in intakes and outtakes for the energy output to console (Gupta et al., 2024). The integral effect among nutritional,

cognitive, and psychological implications for the quantity of sleep (Gupta et al., 2024).

V. Conclusion

In conclusion, asthmatic patients have an anti-inflammatory response from having a Mediterranean diet pattern. So, the pro-inflammatory response is from a Westernised diet. There is an increased intake of proteins and fibers for a well-balanced figure, and moderate intake of multivitamins and a low-fat diet. Diet is not a substitute but an improvement to bodily functions and lifestyle modifications.

References

Alghamdi, Nouf & Almasaudi, Arwa. (2025). Evaluating dietary habits of adults and their relationship with sleep quality in the Kingdom of Saudi Arabia. Frontiers in Nutrition. 12. 10.3389/fnut.2025.1664739.

Bano, Darakhshan. (2025). 46 A study on the bidirectional impact of sleep and diet: a narrative review. BMJ Nutrition, Prevention & Health. 8. A19.2-A19. 10.1136/bmjnph-2025-nnedprosummit2024.46.

Carpi, Matteo. (2025). The Pittsburgh Sleep Quality Index: a brief review. Occupational medicine (Oxford, England). 75. 14-15. 10.1093/occmed/kqae121.

Cunico, Daniela & Giannì, Giuliana & Scavone, Sara & Buono, Enrico & Caffarelli, Carlo. (2024). The Relationship Between Asthma and Food Allergies in Children. Children. 11. 1295. 10.3390/children11111295.

Ekpor, Anyimah-Ackah & Amfo-Antiri, Auswell & Guy, Eshun. (2025). Diet, Nutrition and Paediatric Asthma: Emerging Trends. Open Journal of Asthma. 9. 001-007. 10.17352/oja.000021.

Gupta, Elena & Conway, Alexandra & Verdi, Marylee & Groetch, Marion & Anagnostou, Katherine & Abrams, Elissa & Nowak-Wegrzyn, Anna & Bukstein, Don & Madan, Juliette & Hand, Matthew & Garnaat, Sarah & Shaker, Marcus. (2024). Food Allergy, Nutrition, Psychology, and Health. The Journal of Allergy and Clinical Immunology: In Practice. 13. 10.1016/j.jaip.2024.09.036.

Junior, Luiz & Carraro, Júlia & Machado-Coelho, George & Meireles, Adriana. (2025). The Pittsburgh sleep quality index-2 (PSQI-2): the validity of a two-item sleep quality screener in Brazilian adults. Sleep and Breathing. 29. 10.1007/s11325-025-03408-x.

Klim, Liliana & Michalik, Maria & Cichocka-Jarosz, Ewa & Jedynak-Wąsowicz, Urszula. (2025). Asthma and Multi-Food Allergy Are Risk Factors for Oral Food Challenge Failure—A Single-Center Experience. Nutrients. 17. 2769. 10.3390/nu17172769.

Kong, Weiliang & Xie, Yilian & Xiong, Kunlong & Hu, Jingjing & Huang, Weina & Cao, Chao. (2025). Food Insecurity Is Associated With Current Asthma, Wheeze, and Lung Function in Children and Adults. The Clinical Respiratory Journal. 19. 10.1111/crj.70052.

Lin, Li-Yin & Hsu, Chien-Yeh & Chao, Jane & Chien, Yu-Ning & Chiou, Hung. (2025). Interactive effects of sleep duration and dietary patterns on obesity moderated by age. Scientific Reports. 15. 10.1038/s41598-025-17886-2.

Liu, Dan & Kahathuduwa, Chanaka & Vazsonyi, Alexander. (2021). The Pittsburgh Sleep Quality Index (PSQI): Psychometric and Clinical Risk Score Applications Among College Students. Psychological Assessment. 33. 816-826. 10.1037/pas0001027.

Liu, Ling & Gong, Wan & Li, Jun & Zhou, Wei & Lin, Li. (2025). Eating habits, nutritional status, and lifestyle correlates of body composition in Chinese university students: a cross-sectional study. Frontiers in Public Health. 13. 10.3389/fpubh.2025.1668307.

Peltonen, H & Erkkola, Maijaliisa & Kukkonen, A & Tilli, E & Korkalo, Liisa & Lehto, Reetta & Vepsäläinen, Henna. (2025). Associations of dietary patterns with asthma symptoms and severity in Finnish children. European Journal of Public Health. 35. 10.1093/eurpub/ckaf161.1371.

Rathogwa, Funzani & Mudau, Thabelo & Patrick, Sean & Shirinde, Joyce. (2025). Dietary Patterns in Relation to Asthma and Wheeze Among Adolescents in a South African Rural Community. International Journal of Environmental Research and Public Health. 22. 502. 10.3390/ijerph22040502.

Slusar, Adriana & Vizitiu, Elena. (2025). Correlation Between Physical Activity And Body Composition Changes In Adult Women. Physical Culture And Sport: Scientific Perspective. 171-180. 10.31891/pcs.2025.2.23.

Stanić, Milica & Krasnik, Rastislava & Mikov, Aleksandra & Zvekic-Svorcan, Jelena & Demeši-Drljan, Čila & Kovacevic, Milena & Vukliš, Dragana & Kolundžić, Mirjana. (2025). Assessment of sleep quality among physiotherapists using the Pittsburgh Sleep Quality Index (PSQI): A pilot study. Work (Reading, Mass.). 10519815251365106. 10.1177/10519815251365106.

Stukus, David & Prince, Benjamin. (2024). Asthma and food allergy: A nuanced relationship. Journal of food allergy. 5. 33-37. 10.2500/jfa.2023.5.230009.

Vassilopoulou, Emilia & Konstantinou, George & Dimitriou, Anastasia & Manios, Yannis & Koumbi, Lemonica & Papadopoulos, Nikolaos. (2020). The Impact of Food Histamine Intake on Asthma Activity: A Pilot Study. Nutrients. 12. 3402. 10.3390/nu12113402.

Verkaar, Auke & Winkels, Renate & Kampman, Ellen & Luik, Annemarie & Voortman, Trudy. (2024). Associations of dietary patterns with objective and subjective sleep duration and sleep quality in a population-based cohort study. Sleep Medicine. 119. 10.1016/j.sleep.2024.05.017.

Zhao, Wei & Gao, Li & Chang, Christopher & Hana, Marlin & Satnarine, Travis & Brozyna, Jeremy & Sun, Jinlyu & Xu, Guogang & Wong, Gary. (2025). AAAAI/WAO 2025 Meeting Update: Climate Change, Asthma, Artificial Intelligence, Food Allergy, and Immunotherapy. Allergy Medicine. 6. 100074. 10.1016/j.allmed.2025.100074.