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Cytokine and Its Effect on Respiratory Allergy A Systematic Review

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Structured Abstract

Background: Allergy is described as an abnormal immune system that occurs when the immune system overreacts to foreign substances. Respiratory allergies like allergic asthma (AA) and allergic rhinitis (AR) are caused by airborne proteins that cause airway inflammation. Human milk is an immune system-complex solution that contains a variety of substances that promote host defence mechanism development and support new-born growth. It also provides passive immunity, as human milk contains elements or components of different types and functions that actively stimulate the developing immune system. Over the past 20 years, various cytokines such as interleukins (ILs), interferons (IFNs), transforming growth factors (TGFs), chemokines, and immunomodulatory substances like soluble receptors have been found in human milk.

Methods: In this study, PRISMA 2020 statement was used for the guidelines to design and create on how the data articles are carried out. The database and website searches were performed using Scopus, Web of Science, and PubMed databases with the selected of inclusion criteria. After extracting the data, all the included articles went through a critical appraisal using the Rob-2 version of the Cochrane risk of bias tool. For the synthesis of this qualitative review, thematic analysis was used to recognise the findings, interpret the data, and analyse the themes and patterns by using NVivo Plus 14 version software.

Results: Eight studies were included in thematic analysis. The effect of respiratory allergies resulted in this review due to the imbalanced Th2 responses and uncontrolled Th1 responses thus, high respiratory allergies in human milk due to cytokine levels. The allergy response in human milk was related to the respiratory allergy because only the specific cytokine levels involved were increased. Based on these studies, IL-4, IL-5, and IL-13 were participated in asthma and rhinitis allergy responses.

Conclusion: This study reviews summarised a compilation of published articles that meet the inclusion criteria which are useful for the references and contributing to the detection of specific allergies that are involving group of cytokines may serve as biomarkers in the future.

Keywords: Cytokine, human milk, allergy asthma, allergy rhinitis, thematic analysis.

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