

# “FREQUENCY OF FATAL AND RECURRENT ANAPHYLAXIS DUE TO COW’S MILK: A SYSTEMATIC REVIEW AND META-ANALYSIS OF OBSERVATIONAL STUDIES”.

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## Abstract

Background: Cow’s milk allergy can result in anaphylactic reactions. The estimated prevalence of cow’s milk allergy in developed countries ranges from 0.5% to 3% at age 1 year. Objective: Our objective was to perform a systematic review and, if possible, a meta-analysis to assess the frequency of fatal and recurrent anaphylaxis induced by cow’s milk. Methods: We searched PubMed/MEDLINE, EMBASE, and the Web of Science for studies that had assessed fatal and recurrent anaphylaxis induced by cow’s milk for the population of a country or at least an administrative region. Our review included cohort, cross-sectional, and registry studies that had assessed the incidence or prevalence of recurrent anaphylaxis or the incidence of fatal anaphylaxis due to cow’s milk. Results: The pooled prevalence of recurrence (PR) for at least an episode of anaphylaxis was 26.98% (3.41-155.19). Teymourpour et al (Iran) reported the highest PR (53.10%); the 2 studies with the lowest PR were from France (5.16 and 0.42 respectively) ( $p < 0.01$ ). Nine studies on fatal anaphylaxis were selected (41 deaths) and found to be highly heterogeneous ( $I^2 = 75.91\%$ ). Levy et al and Bassagio et al reported the highest incidence rate (IR 0.15 and 0.6 deaths per million persons-year). Conclusion: The PR of anaphylaxis was approximately one quarter of patients with anaphylaxis due to cow’s milk, while deaths from anaphylaxis caused by cow’s milk were very rare, although some studies report rates as high as 15 times the lowest IR.

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