1.29 What is the impact of e-cigarette on asthma exacerbation in the adolescent population

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Background: E-cigarette use among the adolescent population is increasing worldwide, especially in youth having asthma. The studies have shown that the aerosols generated from an e-cigarette can act as a possible trigger for asthma and could exacerbate asthma symptoms. **Results**: About the primary outcome, asthma exacerbation, the data from seven included studies were presented as narrative synthesis. Out of the seven included studies, six of them show statistically significant association, and one study shows a non-significant association between e-cigarette use and asthma exacerbation in the adolescent population. The secondary outcome of six of the seven included studies also presented as narrative synthesis. There was no data available for secondary analysis in one of the studies. **Methods**: The PICO Mnemonic (Population, Intervention, Comparison, and Outcome) was used to form the review question. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used to conduct the review. Of thirty-six potential studies identified, seven met the inclusion criteria. Quality appraisal of included studies was conducted using an evidence-based librarian appraisal checklist. Data were analyzed by narrative synthesis. **Conclusion:** E-cigarettes may have an impact on asthma exacerbation in the adolescent population. The result was consistent in six out of the seven included studies. However, all the possible links between e-cigarette use and asthma exacerbation in the adolescent population are not fully understood, and there is a significant gap in the evidence-based, which highlights the need for more research in this area.

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