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Artificial intelligence techniques in asthma: a systematic review and critical appraisal of the existing literature

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Artificial intelligence algorithms are able to analyse large amounts of complex data and extract meaningful patterns that can be utilised in clinical practice and contribute to the provision of better care, especially in chronic diseases such as asthma https://bit.ly/2SC6c3q

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ABSTRACT   Artificial intelligence (AI) when coupled with large amounts of well characterised data can yield models that are expected to facilitate clinical practice and contribute to the delivery of better care, especially in chronic diseases such as asthma.

The purpose of this paper is to review the utilisation of AI techniques in all aspects of asthma research, *i.e.* from asthma screening and diagnosis, to patient classification and the overall asthma management and treatment, in order to identify trends, draw conclusions and discover potential gaps in the literature.

We conducted a systematic review of the literature using PubMed and DBLP from 1988 up to 2019, yielding 425 articles; after removing duplicate and irrelevant articles, 98 were further selected for detailed review.

The resulting articles were organised in four categories, and subsequently compared based on a set of qualitative and quantitative factors. Overall, we observed an increasing adoption of AI techniques for asthma research, especially within the last decade.

AI is a scientific field that is in the spotlight, especially the last decade. In asthma there are already numerous studies; however, there are certain unmet needs that need to be further elucidated.