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Title: How do patterns of wheeze change over the first 14 years of life?

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Body: Aim: Only few studies described changes in clinical patterns of wheeze in children over a wide age range. This study aimed to describe reported symptom patterns in children with wheeze from age 1 to 14 yrs, focusing on indicators of wheeze severity and triggers of attacks. Methods: In a population-based cohort study in Leicestershire, UK, we assessed prevalence of parent-reported wheeze and associated symptoms at ages 1, 2, 4, 6, 9 and 14 yrs. We analyzed variables related to severity (frequency of wheezing attacks, shortness of breath, sleep disturbance and activity disturbance due to wheeze) and triggers of wheeze (colds, exercise, food, contact with aeroallergens) in the past 12 months. Results: The prevalence of wheeze decreased from 36% (1446/4035) at age 1 to 16% (471/3003) at age 6 years and remained stable thereafter. Among children with wheeze the proportion with frequent attacks (≥ 4) changed little from age 1 (35%) to 14 years (32%) and so did prevalence of activity disturbance, sleep disturbance, wheeze associated with colds and food-induced attacks. In contrast, the following symptoms became more frequent with increasing age: shortness of breath (increasing from 54% at age 1 to 85% at age 14), wheeze apart from colds (32% to 61%), exercise-induced attacks (26% to 71%) and aeroallergen-induced wheeze (6% to 50%). Conclusion: We found significant age-related changes in wheezing patterns from infancy to adolescence. When designing questionnaires and planning studies, such differences in patterns of wheezing illness by age should to be taken into account. Funding:SNF PDFMP3-123162, SNF 3200B0-122341, Asthma UK 07/048.