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Title: Recurrent respiratory symptoms in preschool children: What is the outcome at school age?

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Body: Background Diagnosis in preschool children with symptoms like wheeze, cough and shortness of breath is still a challenge. Therefore, we developed a questionnaire for distinguishing children with persistent symptoms from children with transient symptoms at preschool age. Aim To determine the outcome at school age in children with respiratory symptoms at preschool age and to determine the predictive value of this questionnaire. Methods Children with symptoms suggestive of asthma at young age are reinvestigated at school age. The cohort of children consists of 200 participants (mean age 3.0 yrs, 66% boys) enrolled in two clinical trials. Parents of these children filled out the diagnostic questionnaire at preschool age. At school age data on asthma symptoms and medication use are collected using a questionnaire based on the ISAAC. Results Data were collected in 127 children (age 11.5 ±1.3 yrs., 68% boys). Parents reported asthma symptoms in the past 12 months in 57 children. Asthma maintenance medication was used in the past 12 months in 38 children. The diagnostic questionnaire total score (0-100) was significantly different between children with (n=63) or without symptoms and/or asthma medication use at follow-up (54 versus 42, p=0.005). Sensitivity, specificity, positive and negative predictive values of the questionnaire were 40%, 82%, 69 % and 56%, respectively. Conclusions These preliminary results show asthma symptoms and/or medication use at school age in half of the children with respiratory symptoms at preschool age. Further analyses of the final database are needed to draw definite conclusions with regard to the diagnostic accuracy of this newly developed diagnostic tool.