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Title: Asthma-related quality of life in children: Correlation with asthma control and lung function

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Body: Introduction Children with asthma often have sleep disturbances, absence from school and limitations of physical activity that may reduce their quality of life (QOL). Therefore, asthma-related QOL is an important endpoint in childhood asthma. Objectives To assess QOL in children and adolescents with asthma, and to correlate QOL with asthma control, lung function and FENO. Methods QOL was assessed by caregivers of asthmatic children aged 4-11 yrs and by adolescents with asthma (12-18 yrs) using the Pediatric Asthma (Caregivers) Quality of Life Questionnaire (PAQLQ). PAQLQ scores were correlated with asthma control (assessed by the (Childhood) Asthma Control Test ((C)-ACT) and GINA classification) and with FEV1 and FENO. Results 221 children (mean age 10.5 yrs, 148 male, n=76 > 11 yrs) participated. Median FEV1 was 97.1% (59-139) and median FeNO 18.6 ppb (4-170). Median PAQLQ score of caregivers was 6.46 (3.69-7), with median sub domain scores of 6.75 (activity) and 6.44 (emotional). Median PAQLQ score of adolescents was 6.18 (3.52-7), with sub domain scores of 6.10 (symptoms), 5.40 (activity) and 6.88 (emotional). Median PAQLQ score in children with controlled asthma (n=43) was 6.85 (5.54-7), in partly controlled asthma (n=84) 6.52 (4.23-7) and in uncontrolled asthma (n=78) 5.92 (3.52-7) (p<0.05). PAQLQ scores correlated strongly with (C)ACT scores (r= 0.604, p<0.05), but not with FeNO (r=0.048, p=0.49) or FEV1 (r= -0.168, p=0.35). Conclusions Caregivers reported few problems due to their child's asthma whereas adolescents reported lower QOL, in particular on activity. Pediatric asthma QOL correlated strongly with asthma control, but not with FeNO and FEV1.