

Asthma in Adolescents

Adolescence is defined as the transitional period of growth and development between puberty and adulthood.

Most young people with asthma develop physically through puberty in the same way as others of their age. A few however, who have severe asthma, may have delayed puberty and growth, and need extra reassurance.¹

Asthma in adolescence is common: up to 1 in 7 adolescents have wheezing some of the time. Asthma may start during the teenage years, or it may continue from a younger age. The evidence base for diagnosing and managing asthma in adolescents is limited even though asthma is common in this age group.

Because the teenage years are times of great changes for young people, they need special support and understanding if they have an ongoing health problem such as asthma.

It is estimated that 20-30% of asthma is under diagnosed in adolescence and this has been attributed to under-reporting of symptoms.²

A number of risk factors have independently been associated with under-diagnosis:

- Female gender
- Current and passive cigarette smoking
- Low socioeconomic status
- Family problems
- Low physical activity & high BMI
- Race/ethnicity

Children with undiagnosed frequent wheezing are less likely to receive adequate health care for their asthma and the consequences of undiagnosed disease are considerable.³

A good practice point from the BTS/SIGN 2011 asthma guidelines recommends that clinicians seeing adolescents with any cardio-respiratory symptoms should consider asking about symptoms of asthma.⁴

Risk factors for asthma in adolescence

Atopy (previous or current eczema or allergic rhinitis) is a strong predictor of asthma persisting into teenage years.

Adolescents who were of low birth weight due to prematurity as opposed to intrauterine growth retardation are more likely to have chronic cough, wheezing and asthma compared to matched controls.⁵

Frequent or severe wheezing episodes in childhood are associated with recurrent wheeze that persists into adolescence. During adolescence there is a reversal in the gender prevalence with more girls than boys having asthma from the age of 13-14 yrs onwards, similarly the risk of hospital admissions with an exacerbation of asthma is doubled in girls compared to boys.

Co-morbidities

Asthma severity is associated with an increased risk of depression, panic attacks and any anxiety disorder.⁶

Unfortunately clinical conditions associated with anxiety may be mistaken for, or overlap with asthma. These can include dysfunctional breathing, vocal cord dysfunction and psychogenic cough. Detailed clinical assessment with careful history taking ensuring the adolescent's perceptions and experiences are taken into consideration should be undertaken. Brief screening questionnaires for anxiety and depression suitable for this group are available and may help identify those with significant symptoms.

Obesity – there is conflicting evidence that asthma is more common in overweight and obese adolescents. We know that weight reduction in adults with asthma is thought to improve lung function however this has not been established in adolescents.

Clinician-managed allergic rhinitis which occurs in about 20% of cases of asthma is associated with clinically important worsening asthma control. This poor asthma control results in substantial increases in health resource utilisation.⁷ Allergic rhinitis has a peak prevalence in this age group and so should be diagnosed and managed appropriately, particularly as asthma control in the hay fever season may be particularly problematic.

Asthma exacerbations and the risk of hospital admission

Frequent respiratory symptoms, airway hyper-responsiveness, atopy and low lung function, identify those at high risk of hospitalisation, particularly with respect to multiple admissions.

Career advice

Clinicians should discuss future career choices with adolescents with asthma and highlight occupations that might

increase susceptibility to work-related respiratory symptoms. It has been shown that young people with relatively mild asthma have slightly more limitations in vocational and professional careers than those without asthma. It would also appear that young adults with asthma have a low awareness of occupations that might worsen their condition e.g occupations involving exposure to dust, fumes, sprays, exertion and temperature changes and do not discuss career plans with their healthcare professional.

Smoking and exposure to passive smoke

Among adolescents passive and active smoking is a significant risk factor for asthma. Maternal environmental tobacco smoke exposure is associated with lifetime symptoms, but daily smoking in the adolescent group is more strongly related to current symptoms and is thought to be more common in girls than boys.

Adolescents and their parents/carers should be encouraged to avoid exposure to environmental tobacco smoke and should be informed about the risks and strongly advised not to start smoking. Adolescents should be asked about their smoking status and smokers who wish to stop, should be offered advice and referral to a smoking cessation service.

Complementary and alternative medicine

Most adolescents who use complementary/alternative medicines (CAM) for their asthma use them in conjunction with conventional asthma treatment, however in one US study it was found that 27% used it instead of prescribed therapy suggesting that CAM use may be marker of non-adherence with conventional asthma treatment. Clinicians should therefore be aware that CAM use is fairly common in this group and ask about its use.⁸

Pharmacological management and Inhaler devices

Specific recommendations for pharmacological management in adolescents is limited and the BTS/SIGN step wise treatment steps have been extrapolated from current adult and paediatric studies as there have been no specific studies carried out in this group.

The guideline suggests that although adolescents may be competent in the use

of their device, adherence to treatment may be affected by preference for a specific device and this should be taken into consideration when choosing an inhaler. In addition it is important to consider the portability of a device and how discreet it is to use particularly for delivery of their reliever therapy in public. In an American study 41% did not know the name of their asthma medicine. Only 38% reported taking an inhaler with them when leaving the house. While 70% reported feeling in control over their asthma symptoms, 63% reported feelings of anxiety and 39% could remember a time when they felt like they were going to die from asthma. Subjects who reported feeling in control over their asthma were more likely to take their reliever inhaler with them when leaving the house. Only 39% had disclosed their asthma to their friends, and 29% felt embarrassed about having an asthma attack in front of their friends.⁹

Transition

Effective transition involves preparing adolescents to take responsibility for their own asthma. In primary care young people should be given the opportunity to consult without their parents/carers, however it is important that the needs of parents/carers are taken into consideration while this process is evolving. It is important to help adolescents negotiate the health care system effectively (such as how to order and collect a prescription for their inhalers). Primary care practitioners need to educate and empower adolescents to manage as much of their asthma care as they are capable of doing while supporting parents to gradually hand over responsibility to their child.

Review

There is little evidence to determine the best healthcare setting to encourage attendance among adolescents, however in this age group telephone reviews may be one way of reaching individuals who do not want regular review and are unwilling to attend a pre-arranged appointment. There is evidence that reviews carried out by telephone may be as effective as face-to-face consultations,¹⁰ and may be one way in reaching this hard to access group.

Patient education and self-management

Education:

- Should be adapted to meet individual needs, and should recognise their developmental stages of cognitive ability.
- Should be delivered by educators that respect, engage, encourage and motivate young people. Peer led interventions in the school setting should be considered.

- Should be individualised rather than generalised and written and oral information should use jargon-free/non-medical language.
- Should be delivered in an appropriate and uninterrupted setting and make use of Information Technology where appropriate.⁴

Independent self-management should be underpinned by specific knowledge, skills and attitudes such that the adolescent:

- Can name and explain their condition
- Know what medications they are currently taking and can explain what they do and why they take them
- Can remember to take their treatment most of the time
- Can answer questions asked of them by healthcare professionals and can ask questions of professionals.
- Can arrange and cancel appointments
- Can consult with a healthcare professional without a parent/carer being in attendance
- Can order more medication (before it runs out) and can have prescriptions filled at the pharmacy.⁴

There is little evidence about self-management in adolescence although innovative approaches to self management education in teenagers (web-based, peer delivered within schools) appear to be more successful than traditional programmes.¹¹ Adolescents do have concerns about their asthma. They report embarrassment about using inhalers in front of others, sadness about not being able to take part in normal activities, frustration and anger at the way they are treated by their families (e.g being fussed over by their parents or not being allowed to do what they want to do).¹²

They also report anxieties about dying of their asthma and feelings of guilt over the effect their asthma has had on the rest of the family. Young people can be concerned about needing to rely on someone else if they have an acute attack and that teachers don't always know what to do in this event. They stress the importance of support from friends at school particularly those who have asthma.¹²

Young people with asthma may have difficulty in admitting that they are in any way different from their friends and it is hard for them not to be doing what their friends are doing. They may pretend that they don't have asthma, even to themselves, and so will not manage it properly. Sometimes they stop using medication because they do not want to admit to having the condition.¹²

They may ignore signs that they are unwell rather than use their inhaler when their friends are around. They may also take risks with drugs and smoking.¹³

It is important to encourage adoles-

cents to make decisions in all areas of their lives as well as in managing their asthma. Show them that you believe in them, notice and comment on improvements and remember mistakes are to learn from, recognising that adolescents value emotional support as well as factual information.

Strategies to improve asthma care in adolescence should therefore concentrate on focussing on the individual and their lifestyle, the use of personalised action asthma plans and personal goal setting.

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