Asthma literacy: Breathchamps
Sharing asthma knowledge using storytelling

Heather Henry *Nurse entrepreneur and founder, BreathChamps CIC*

Article introduction
by Llinos Jones, *Consultant Respiratory Physician*

In this inspiring article we learn about the power of storytelling for children and young people suffering from asthma. Asthma is a very common disease, and for some it is a lifelong condition requiring long-term self-management. Studies show that lay-led asthma education can lead to increased knowledge about symptoms, treatment and management strategies. Better understanding is also linked to a decrease in exacerbations and a reduction in symptoms. Receiving information about their condition will help educate children and young people and empower them to better manage their asthma. This wonderful venture will no doubt have positive implications for the young volunteers who delivered this intervention also.

Background and introduction

Greater Manchester has one of the highest rates of paediatric asthma hospital admissions in England, at 198 per 100,000 for people aged under 19.[1] Evidence suggests that this may be down to the higher than average rates of parental smoking (14.8%) and poor indoor and outdoor air quality.[1]

BreathChamps CIC (BCIC), a social enterprise established in 2020 in Trafford, Greater Manchester, aims to improve respiratory health and reduce hospital admissions through social innovations. The organisation engages local volunteers to co-design and test these innovations.

Stories alter our neurobiology by increasing oxytocin synthesis, which facilitates empathy, trust, kindness and cooperation. It helps us to align our emotions with the story that we are experiencing, improves recall and increases attention.[2] When children act out fictional activities, such as giving first aid to a puppet with asthma, they can be seen to take responsibility.[3] So, stories are a way to influence children, for example, to help their peers if they have asthma or to change their attitude and behaviour towards their condition.

Project outline

Between December 2023 and July 2024, BCIC partnered with eight 6th form students from Altrincham College to tell the story "The Big Bad Wolf Has Asthma" to younger students. Funded by Trafford Council's Inclusive Communities grant, this project aimed to develop students' leadership skills and test if they could learn and share basic clinical knowledge.

Objectives

The project sought to:

1. Develop leadership and storytelling skills among 6th form students.
2. Teach students basic asthma clinical competencies and how to educate others.

Box 1 Clinical competencies for 6th form student storytelling

- Describe how short-acting beta-agonist (SABA) and inhaled corticosteroid (ICS) inhalers work and when each should be used
- Explain the importance of using a spacer/valve holding chamber and how it works
- Demonstrate how to administer a metered dose inhaler, with a spacer/valve holding chamber (mask and mouthpiece), using a tidal breathing technique
- Explain the importance of having an asthma action plan and the basic components of such a plan
- Describe the symptoms of an asthma attack and what first aid to administer.

Method

The project used a video of "The Big Bad Wolf Has Asthma" with pauses for interactive learning. Students facilitated small groups, practising inhaler techniques with placebo devices and puppets. The experiment built on previous work with Guides and Scouts,[4] which showed a 21% increase in asthma knowledge retention after similar storytelling sessions.

Learning and development sessions

Ten students volunteered, with eight completing the project. They underwent five one-hour training sessions covering storytelling techniques, clinical competencies and practical demonstrations. Pairs of students were equipped with a placebo MDI, a valve holding chamber and a puppet.

Competencies were assessed and signed off by a registered nurse who observed each 6th form student whilst facilitating group work and asked questions to check knowledge was accurate.

Box 2 "The Big Bad Wolf Has Asthma" story[5]

At the start of the story, the wolf cannot blow down the house of straw because he starts coughing. The video is stopped, and children are asked questions about the help that he needs (Box 3). The video then shows the administration of a SABA metered-dose inhaler (MDI) to the puppet wolf using an age-appropriate spacer/valve holding chamber. Depending upon the age of children in the audience, additional information is given about how the SABA is only a rescue inhaler and doesn't treat the asthma itself.

At the house of sticks the wolf's breath isn't strong enough to blow down the house because he has got inflammation ('swelling') in his lungs. The video is stopped again for questions about medicines to control asthma (Box 3) and a child is invited to demonstrate to the whole class how to administer an ICS MDI with a spacer/valve holding chamber. When the video restarts, the wolf takes out his asthma action plan and realises that he has forgotten to take his beige ICS inhaler. He then goes off to the forest for 2 weeks to take his inhaler twice a day before successfully blowing the second house down.

When the wolf tackles the house of bricks, of course, he cannot blow it down so he climbs down the chimney. The little pigs light a fire and the wolf breathes in the smoke and has an asthma attack. The video is stopped and, in groups, children discuss the signs and symptoms of a serious attack. They are encouraged to say how they would give first aid and who they would call for help, depending upon their age. Children guess which inhaler is needed (SABA) and how many puffs they can give in an emergency (up to 10 at 1-minute intervals). Children are again invited to practise the inhaler technique on the wolf.

Note that a more mature version of the story, suitable for year 7 students, was produced as a parody of the Three Little Pigs story featuring a 'Big Bad Instagram Star'.[6]

Box 3 Questions for 6th form volunteers to ask year 6/7s during the story

At the house of straw:

- Which inhaler does the Big Bad Wolf/Instagram Star need?
- How does that inhaler work?
- What is the name of the plastic bubble that is used with the inhaler?
- Year 6/7s are invited to take notice of the inhaler technique in the video when it restarts.

At the house of sticks:

- Which inhaler does the Big Bad Wolf/ Instagram Star need?
- How does that inhaler work?
- Has anyone heard of an asthma action plan? What does it do?
- How many ordinary breaths does the Big Bad Wolf/Instagram Star take from the spacer?
- How long should he leave it before taking a second puff?
- Invite one person from Year 6/7 to demonstrate the inhaler technique for the whole class (all children will have the opportunity to do this at the next step)

  Notice:
  - Are the inhaler and spacer the correct way up?
  - Is the spacer level?
  - Is the spacer between the puppet's teeth and lips (or over the nose and mouth if using a mask and spacer)?
  - Do children just put one puff into the spacer at a time?
  - Does the puppet take the right number of breaths with the inhaler still in place?

At the house of bricks:

- Which inhaler does the Big Bad Wolf/ Instagram Star need? And how many puffs?
- How does that inhaler work?
- What are the signs and symptoms of an asthma attack?
- What is the first aid for an asthma attack?

Invite everyone else to give the Big Bad Wolf/Instagram Star his inhaler in turn.

This time the Big Bad Wolf/Instagram Star is breathless, so ignore the number of breaths – he just needs enough time to inhale all the medicine from the spacer.

Results

Eight 6th form students completed five learning and development sessions and gained sufficient clinical competency to deliver an asthma-themed story. In total, the 6th formers observed one clinician-led classroom session before facilitating three classroom sessions themselves, involving 95 young people aged 9–12 years old in one secondary and one primary school. A registered nurse and form teacher were present, but these three classes were entirely student-led. Not only could students facilitate storytelling, but they were also capable of taking turns to lead the whole class and answer the questions from younger students. This was no easy task because in some classes the children were disruptive, but the 6th formers only occasionally needed the form teacher's input. At the start of the project one 6th former in particular appeared shy and unable to learn the information, but by the end of the project she was able to co-facilitate a whole class.

The form teacher's evaluation (a short questionnaire) emphasised peer to peer learning:

> *'The sixth form students working with the year 7 classes was great to see. From a year 7 perspective it was different to the norm, and I found they really enjoyed having the older students in their class. […] [Great project! Loved being involved and I thought all students both older and younger took so much away from the experience.'* (Form Teacher)

The importance of the project was appreciated by the school:

> *'… teenagers are the ones who are less likely to manage their asthma well and it's really important for their friends to be aware of this condition – just as they would be if they had epilepsy or another serious medical condition. Asthma should be talked about and should be taken seriously, and this initiative does a great job of raising that awareness.'*
>
> (6th Form Learning Resource Manager)

And by the students themselves:

> *'I had an asthma attack when I was younger, causing me to collapse and be taken to hospital. If I was with someone who was having an asthma attack I would feel more confident that I would be able to help them.'*
>
> (Year 7 Student)

In terms of what could have gone better, the form teacher and 6th Form Learning Resource Manager mentioned having more devices and puppets available so children didn't have to wait to practise the inhaler technique. The classroom used also needed prior consideration, since on one occasion a science room with fixed benches was used, which caused issues with arranging group work. There were also limitations, such as following up on how much of the information is retained and used by students in real life.

Next steps

Since this experiment, a live version of this story has been 'on tour' around all 11 children's libraries in Trafford. This means that asthma knowledge has been shared with 105 adults and 160 children, which both normalises asthma for children and educates parents/carers. Grant funding has been secured to repeat the 6th form experiment in three other secondary schools in Trafford. A downloadable pack is being prepared from www.breathchamps.com so others can replicate this project.

Implications for clinical practice and service delivery

The project demonstrates that storytelling can effectively convey clinical knowledge, supporting traditional consultations. Videos of these stories are freely available for use by clinicians and educators on YouTube. Multilingual versions of the videos have been suggested, and funding will be sought for this.

Although the amount of effort required to teach 6th form students to tell a story might seem out of reach for most busy clinicians, retired clinicians, local voluntary groups or Duke of Edinburgh leaders may welcome the challenge of replicating it. Other clinicians who run youth groups such as Guiding and Scouting have welcomed it and have used the YouTube stories as part of group activities, particularly first aid training.

In the same way that clinicians may prescribe books on prescription for mental health, they may similarly prescribe a children's story, perhaps via text messages to parents containing a YouTube link. Previously, parents of Brownies have commented on how important it is for inhalers and devices to feature in stories so children recognise themselves in the story, and how this can reduce stigma.

Simplification has been the key to success; however, as the 2024 asthma guidelines[7] have recently been introduced, consideration will be given by the author about how or what to mention about the use of maintenance and reliever therapy (MART) in the under-12 age group.

Implications of the project on the environment/greener healthcare

Better asthma control may lead to greener healthcare by reducing asthma exacerbations meaning less hospital/surgery travel and fewer inhaler prescriptions. A conversation could be started in classrooms about the polluting effects of wood-burning stoves at the 'house of bricks' part of the story.

Conclusions

This project tested whether students with no prior knowledge of asthma could accurately learn and share clinical knowledge. The experiment determined that they could do this, independently of nurse supervision. Leadership and soft skill development were visible, which may support students' future prospects.

The impact was felt amongst multiple stakeholders, particularly:

- those year 6 and 7 students who had asthma and identified with the story;
- teachers who appreciated the role modelling of leadership presented by senior students and the development of their soft skills that may lead to more successful university applications; and
- a feeder primary school whose links with their secondary school could help aid transition for those with asthma.

This experiment challenges traditional clinically-led/delivered approaches by harnessing the power of young leaders and encouraging young people to look out for others with asthma. It emphasises long-held public health themes of community empowerment and people helping people,[8] rather than relying solely on NHS services. This is what is called an asset-based or 'glass half full' approach,[9] where the clinical focus is on supporting what's strong rather than what's wrong in a community.

References

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