

Healthcare professionals lack knowledge on allergic reactions in children

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Credit: Imperial College London

Many school first aiders, community pharmacists and GP practice nurses overestimate the risk of fatal reaction for children with food allergy.

This is the conclusion of a new study, which also shows some [health care professionals](#) are unable to treat allergic reactions safely.

The team behind the research, from Imperial College London, asked 90 people (30 school first aiders, 30 GP practice nurses and 30 [community pharmacists](#)) to estimate the likelihood that a child with [food allergy](#) will suffer a fatal allergic reaction.

The team, who published their findings in the journal *Clinical and Experimental Allergy*, also asked how they would recognise and treat a life-threatening allergic reaction in children.

The results showed all three groups significantly overestimated the risk of a child dying from a fatal allergic reaction.

However despite heightened risk perception, the

researchers found the study group were not able to adequately treat life-threatening allergic reactions in children.

Most of the people surveyed in the study could not correctly administer an adrenaline auto-injector device such as EpiPen.

These life-saving devices, which resemble a thick marker pen, must be used within minutes of a severe allergic reaction. They inject adrenaline into the body, which quickly reduces swelling in the throat and mouth, and allows breathing to return to normal.

One in three school first aiders were unable to correctly use the device, which is usually pressed into the thigh.

More than eight in ten (83 per cent) GP nurses used the device incorrectly, along with three in five pharmacists.

Most of the study group previously said they were very confident in using an adrenaline auto-injector.

The most common mistake was to not hold the device in place for five seconds – the time needed for the adrenaline to move into the thigh muscle. Other mistakes included not removing the safety cap or trying to inject the wrong end into the leg. Some people would have accidentally injected themselves.

The team said that although the study was small, the findings suggest all professionals who may need to treat severe allergies should have mandatory training, and practise with trainer devices on a regular basis.

Heather Hanna, allergy research nurse and an author on the study from the Department of Medicine at Imperial said: "Although severe allergic reactions are rare, they can be life-threatening. The

results from this study showed that many of the professionals questioned over-estimated the risk of death from these reactions. However, this over-estimation didn't result in people being better prepared – as only 40 per cent of all people in the study could correctly administer a trainer adrenaline auto-injector device."

The team said the findings surrounding school first aiders was particularly worrying, as previous studies have shown up to one in five allergic reactions in children occur in school. It's also thought that outcomes of serious reactions may be worse when they occur at school as opposed to occurring at home.

Mrs Hanna added: "There are good resources available for learning about treating allergic reactions, as well as adrenaline auto-injector trainer devices. We recommend people regularly practice using their trainer device."

Severe allergic reactions kill around one to two people per month in the UK. Most are triggered by a reaction to foods, such as peanuts, or to medicines. The reactions, called anaphylaxis, can quickly trigger swelling in the skin, lips, mouth and throat, making breathing difficult. They also cause a sudden drop in blood pressure, leading to a person becoming weak and floppy, and in some cases collapsing or losing consciousness.

Food allergies – most commonly nut allergy – are the leading cause of fatal anaphylaxis in children.

In the study, the team gave the 90 study participants potential scenarios of a child suffering an allergic reaction to food, and then asked them how they would respond.

They also asked the group to inject a child mannequin with an adrenaline auto-injector.

In the event of a severe allergic reaction, an auto-injector should be given immediately – and then an ambulance should be called, and other medication may be given.

However, in the practise scenario under half of school first aiders said they would give an auto-

injector as first line treatment. A third said they would give an inhaler first, and around one in five said they would give antihistamines.

The findings echo previous research from Dr Robert Boyle, another author of the new study from the Department of Medicine at Imperial. His previous work suggested over half of mothers of children with severe allergies could not correctly administer an auto-injector, just six weeks after they received thorough training.

Dr Boyle said this stresses the need for better designed devices.

"These devices could be the difference between life and death, yet their design is not simple or intuitive enough for use in an emergency situation. We need to develop easier-to-use treatments for severe [allergic reactions](#)."

He also added that the risks associated with allergy, particularly food allergy, should be included in information leaflets and training packages for professionals and patients, in order to avoid the heightened risk perception identified in this study.

"This misperception of risk by school first aiders, pharmacists and practice nurses may lead to increased anxiety and restriction of activities for food-allergic children" said Dr Boyle.

More information: For more information, see www.anaphylaxis.org.uk/information/allergywise-training/

"Community healthcare professionals overestimate the risk of fatal anaphylaxis for food allergic children" by H.J Hanna et al is published in the journal *Clinical & Experimental Allergy*

Provided by Imperial College London

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