Abstract

Many food allergic adolescents who are at high risk of severe and fatal anaphylactic reactions demonstrate poor emergency management skills, specifically involving their use of intra-muscular injection of epinephrine. Epinephrine is the drug of choice for anaphylactic emergencies and delayed or non-injection of epinephrine increases the risk of a fatal outcome. Health care providers who care for adolescents from ages 13 to 21 must be trained in the proper use of epinephrine auto-injectors and be sufficiently confident and competent to pass this knowledge and skillset onto food allergic adolescents as they transition to self-care. In this intervention, health care providers participated in a standardized educational simulation with the aim of increasing their knowledge regarding the proper use of epinephrine auto-injectors.

Prior to the simulation video, participants were prompted to take a pre-test to evaluate their current knowledge and use a 4-point Likert Scale to measure their confidence in administrating and teaching how to administer epinephrine auto-injectors. After the simulation video participants completed a post-test to demonstrate how the education changed their level of knowledge. Overall, there was a mean improvement in self-confidence in both administering and teaching epinephrine auto-injector use from “disagree” to “agree”.

Increasing self-efficacy for food allergic adolescent patients is critical because it has been associated with reduced symptom burden, reduced hospitalizations and overall better quality of life. Clinical simulation improves knowledge of the treatment of anaphylaxis. There is an urgent need for health care providers to be trained on the proper use of the various types of epinephrine auto-injectors in order for them to have the competence and confidence in their ability to pass this knowledge and skillset onto adolescents, as well as being able to administer epinephrine themselves when anaphylaxis events occur in the clinical setting. The success of this intervention

demonstrates that it is possible to effectively provide epinephrine auto-injector training in a digital setting. This is a much more scalable solution than in-person teaching, allowing more health care providers the ability to gain more practice with this life-saving technique.