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A Novel Method of Parent and Patient Hand Hygiene Education to Reduce Episodes of Peritonitis in Pediatric Chronic Peritoneal Dialysis Patients

Suzie Hedrick, BSN, Riley Hospital for Children and Indiana University Health, Indianapolis, IN

This was a quality improvement project to improve parent and patient education of proper hand hygiene to reduce the risk of contamination and peritonitis infection rates in the children receiving chronic peritoneal dialysis (PD).

The quality improvement initiative was done in our single-center pediatric dialysis unit, in which 22 patients participated in the study.

Literature and evidence-based practice shows by using good hand hygiene and sterile techniques, one can help prevent bacteria from entering the peritoneal cavity and thus preventing infections for children on chronic PD. Peritonitis is a common and a serious complication of peritoneal dialysis, often leading to compromised function of the peritoneal membrane and potential need to change modality to hemodialysis. Meticulous PD training by a dialysis nurse (RN) plays an imperative role of preventing peritonitis and is related to the overall success of a PD program.

The dialysis RNs used a lotion that glows when exposed to ultraviolet (UV) light to educate parents and patients about their effectiveness of hand washing. This product contains safe ingredients that are formulated to be the same size as bacteria. When a person has the lotion on their hands, it can be transferred to other objects by touch, simulating the broad spread of bacteria over a short period of time. The presence of UV-activated lotion was assessed before and after hand washing. The education was performed quarterly at monthly dialysis appointments over the study period.

In May of 2015, before our initiative, our unit peritonitis rate was 0.30 peritonitis episodes per patient year, based on a 12 month rolling average. In January of 2018 (end of project), the peritonitis rate reduced to 0.19 peritonitis episodes per patient year.

The use of the UV-activated lotion with hand hygiene education brought a lot of awareness to the parents and patients about the importance of improved hand washing techniques. It was a novel and simple quality improvement project that was completely nursing-driven and resulted in an impressive improvement in our unit's peritonitis rate.

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