participants without compromising on educational goals. In the absence of formal postgraduate education in LMICs, external agencies continue to play an important role in the delivery of structured training programs.

Conclusion: A Human Factors approach with incremental adjustments and simple improvements with each simulation led to better team task accomplishment in complex preparation and resuscitation.

"Baby Steps" for Baby Breaths–How Incremental Changes Changed Our Performance

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Introduction: Neonatal resuscitations are challenging to any mixed ED with rotating medical staff. Covid-19 decimated nursing numbers and reduced training to a standstill. New doctors and nurses find pediatric resuscitations (simulations and in real cases) challenging as there are complex algorithms/calculations as well as preparing and operating systems such as a Drager Resuscitaire[R].

Training rotating or new staff for rare complex resuscitations can be time and resource consuming with little yield.

We describe our experience of applying incremental measures after almost every simulation to improve team performance and knowledge.

Method: This is an ongoing audit of simulations and cases for neonatal / infant resuscitations using our pediatric bay and Drager Resuscitaire[R] system. Our main aim was to improve:

1. Nursing preparation time / competence for:
   - Pediatric / neonatal drug doses
   - Drager Resuscitaire[R] system setup
2. Medical staff competence for:
   - Neonatal resuscitation algorithms
   - Drager Resuscitaire[R] usage (PPV/Ventilator setup)

Two ED consultants ran "in-situ" simulations and recorded gaps/errors (including feedback in debrief). Any measures deemed fixable were implemented ASAP. Improvement was made if error was not repeated in subsequent two independent simulations.

Results: Audits of five real cases and fifteen simulations revealed gaps (e.g. dose miscalculations, equipment unfamiliarity) which were corrected by simple measures after each discovery. These include:

1. Neonatal resuscitation checklist with steps to setup the Resuscitaire
2. Weight-based resuscitation cards / pre-made packs of equipment instead of manual calculations
3. Position markers for "ideal" Resuscitaire[R] ventilator settings
4. Step by step Resuscitaire[R] numbered markers on machine

We found improvements in knowledge gaps, task accomplishment rates, staff satisfaction, appreciation of deficits and in-situ simulation uptake. More gaps are found and resolved at every simulation.

Past, Present, and Future of Korea National Radiation Emergency Medicine Education

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Introduction: In Korea, there are various medical and industrial researchers who use radiation as part of their research. But radiation can cause extensive long-term damage in case of an accident. Therefore, national-level policy and training for the response workforce have been established for a professional response. Since 2002, the KIRAMS has been providing emergency medical response education based on the five mandatory contents (including legislation, protection measures, and emergency medicine).

Method: The training content can be divided into theoretical and practical courses. Early education included theoretical courses on cases of accidents and their effects on the human body, as well as practical courses on treatment for contaminated patients. The current education program offers group practice using a HPS and mobile learning. As for the future of national radiation emergency education, the paradigm of education will change with the fourth industrial revolution, the advancement of the IT industry, and the advent of the 'untact' era. Therefore, research and development on XR technology–based educational content that can overcome reality's constraints, is being conducted. Simulation-based education courses to increase effectiveness and immersion will be implemented.

Results: Currently, there are approximately 900 radiation emergency medical personnel, and more than 30 new and supplementary education contents are provided each year to improve their proficiency and response abilities. Approximately eight types of content using XR technology will be developed and tested (2021-2023) before being implemented in actual education programs (2024). Advancements in education reflecting special conditions, such as COVID-19, and technological advancements will continue indefinitely.

Conclusion: Efforts are ongoing to improve the educational content and to train excellent radiation emergency medical personnel. With the implementation of XR technologies and new education trends, the future of national Korean radiation emergency medical education is expected to advance and diversify, and further improvements in the educational content can be expected.