

## **Project Title**

General Emergency Nurses' Competency on Pediatric Resuscitation Medication

## **Project Lead and Members**

Project lead: Joanne Yeo Eng Mai

Project members: Phyu Sin May Aung, Chua Peng Peng, Ivy Tan Sok Ngee, Ebarita Czarina Gako, Sankar-Kumar Manjula, Revathy Arputhananthan and Toh Eng Hock

## **Organisation(s) Involved**

Ng Teng Fong General Hospital

## **Healthcare Family Group Involved in this Project**

Nursing

## **Applicable Specialty or Discipline**

Emergency Medicine, Pediatrics

## **Project Period**

Start date: Feb-2018

Completed date: Jul-2018

## **Aims**

To improve ED RNs confidence in administering drugs during pediatric resuscitation by the end of July 2018.

## **Background**

See poster appended / below

## **Methods**

See poster appended / below

## **Results**

See poster appended / below

## **Lessons Learnt**

Confidence with familiarisation in drug preparation and administration helps to reduce an element of stress for the healthcare team, allowing for a more effective coordination and organisation during resuscitation.

## **Conclusion**

See poster appended / below

## **Project Category**

Training & Education

## **Keywords**

Pediatric Resuscitation Medication, Broselow Tape, Medication Chart

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# GENERAL EMERGENCY NURSES' COMPETENCY ON PEDIATRIC RESUSCITATION MEDICATION

- SAFETY
- PRODUCTIVITY
- PATIENT EXPERIENCE
- QUALITY
- VALUE

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## Define Problem, Set Aim

Acute pediatric resuscitations can be challenging. Since its opening in Year 2015, the Emergency Department (ED) of Ng Teng Fong General Hospital (NTFGH) has seen an avid increase in such cases. Unfamiliarity, limited exposure, inadequate proficiency of required procedural skills and expertise result in additional stress for the Registered Nurse (RN) (Guise et al., 2017). Henceforth, it is essential to understand RNs perspectives in pediatric resuscitation management. Our aim is to improve ED RNs confidence in administering drugs during pediatric resuscitation by the end of July 2018.

## Establish Measures

A pre-survey, conducted in the month of February 2018, collected responses of 115 RNs.

Fig.1.1 Years of Emergency Nursing Experience

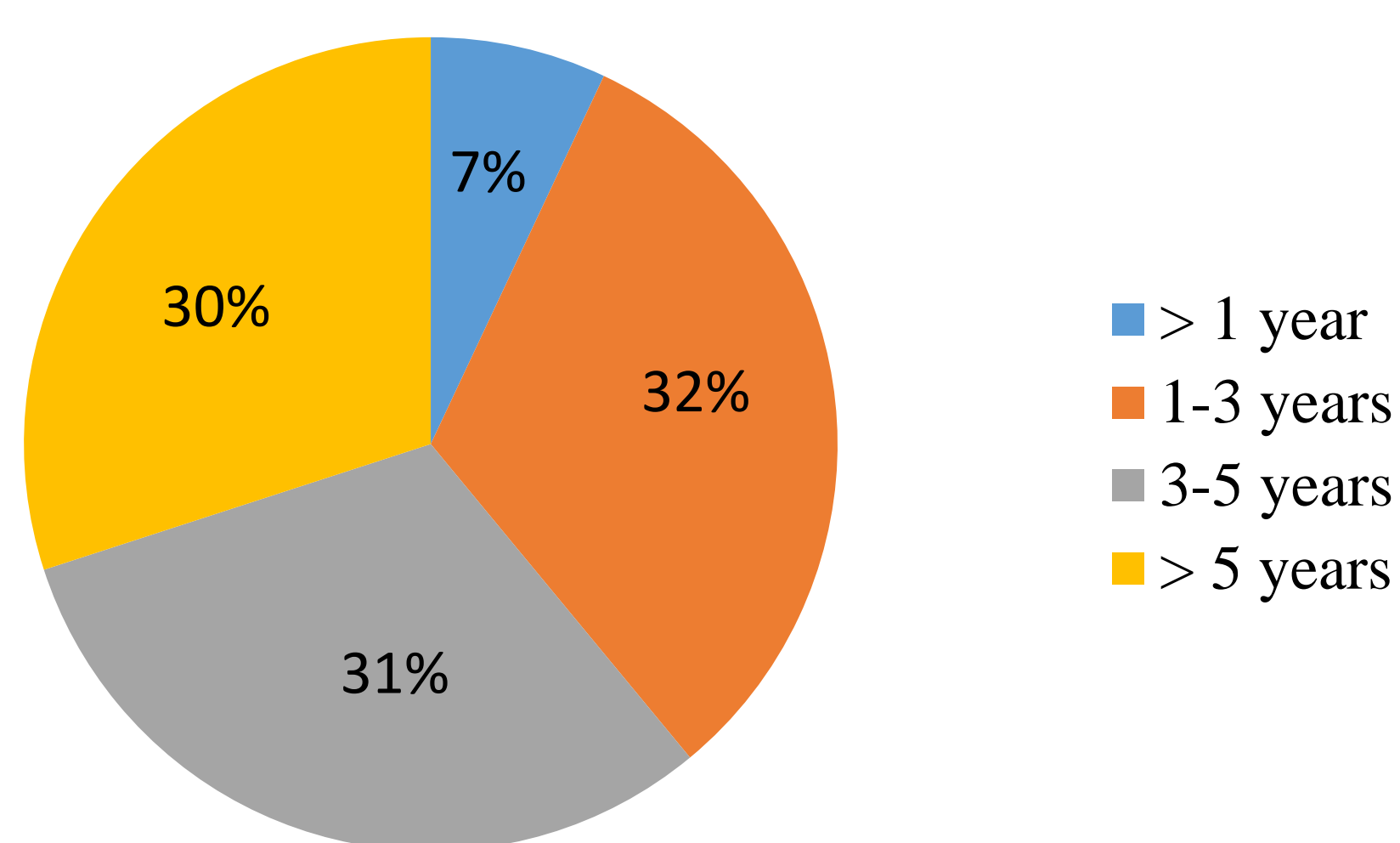


Fig.1.2 Competency Level in Pediatric Resuscitation

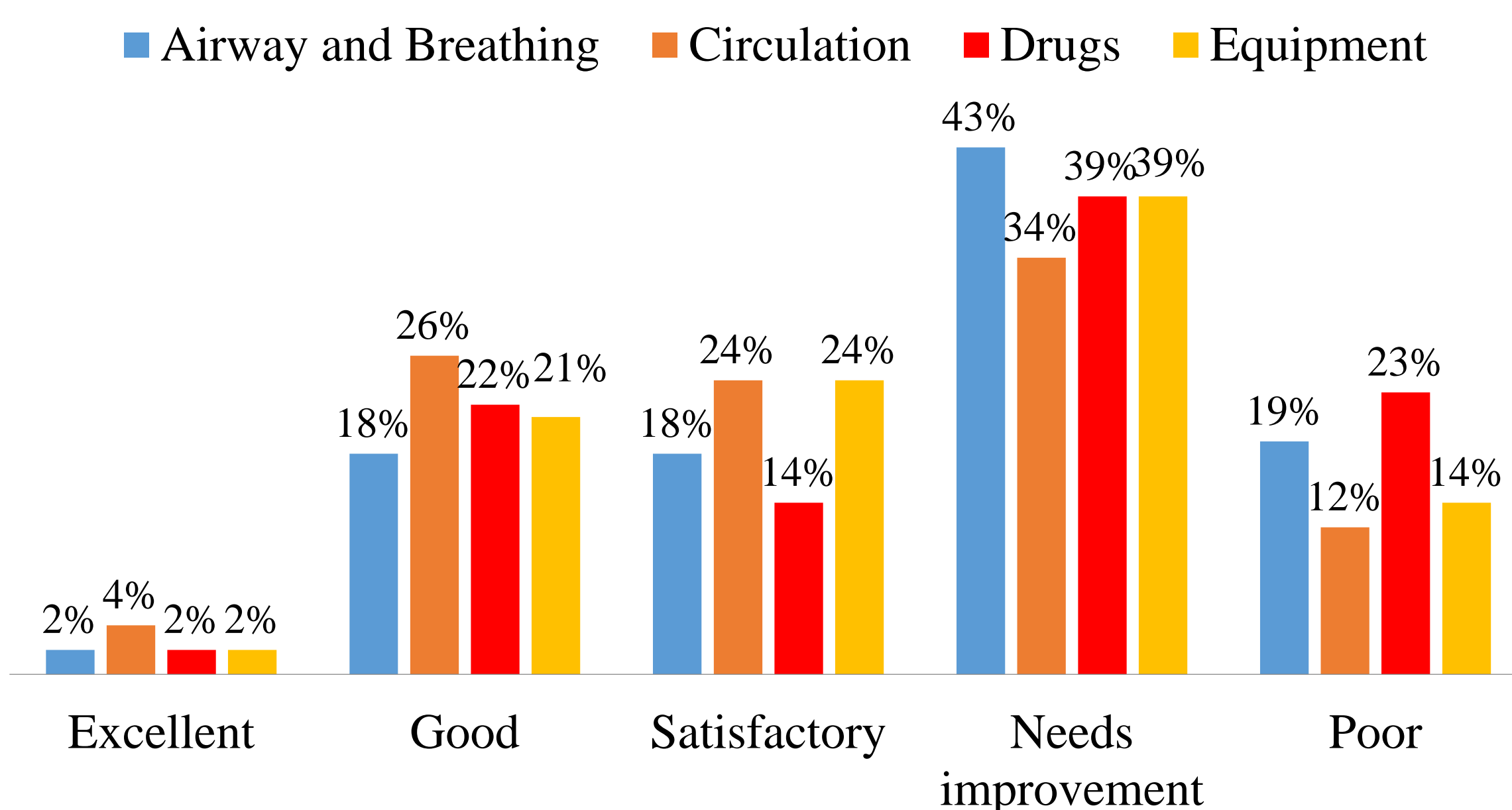
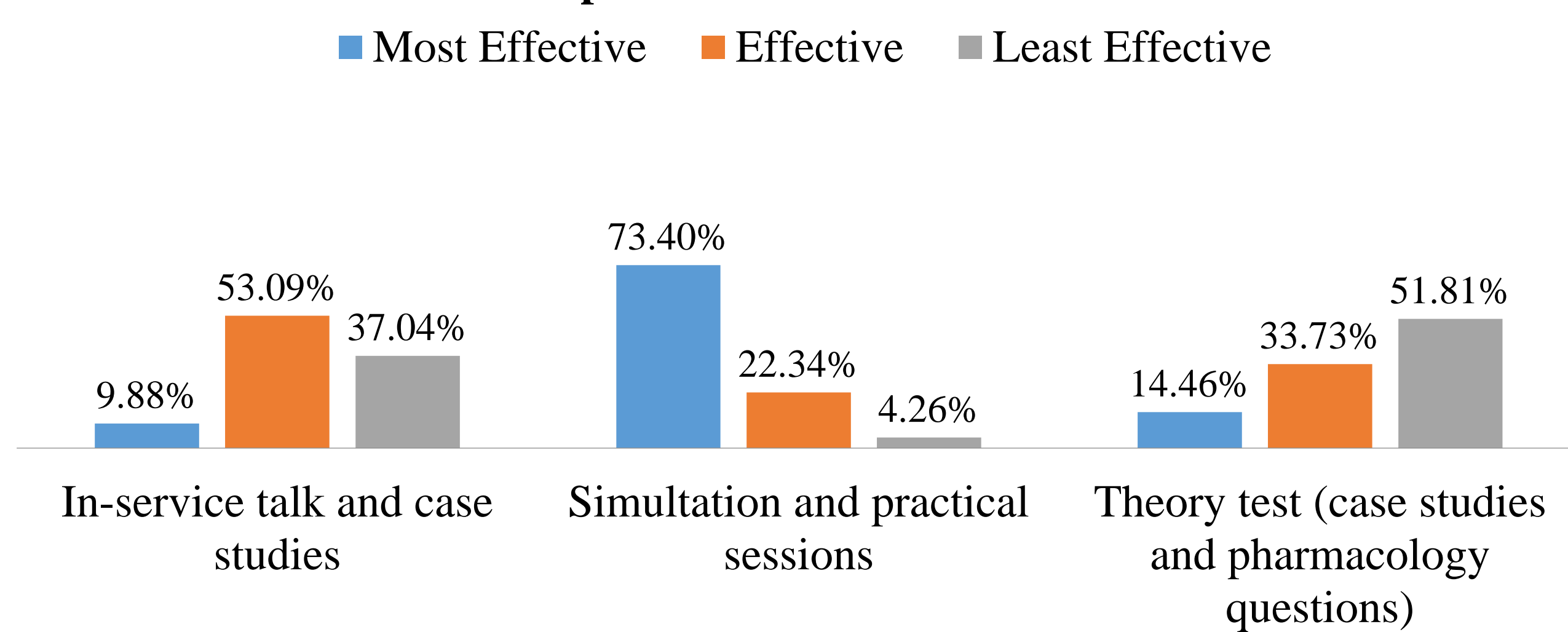


Fig.1.3 Effectiveness in improving knowledge and skills on pediatric resuscitation



## Analyse Problem

The pre-survey results (Fig.1.1) revealed an unexpectedly even distribution of nurses with work experience at the one-to-three year, three-to-five year, and beyond-five year marks, with a small percentage of nurses below a year's experience. Objectively, the even contribution considered an impartiality, where work experience may not necessarily reflect competency.

With regard to self-assessed competency (Fig.1.2), the greatest percentage presented in the "Needs Improvement" category, and alarmingly, 62% of nurses felt that their grasp of "Drugs" was either poor or required further improvement.

Lastly (Fig.1.3), Simulation and Practical Sessions weighed in highest for staff's most-preferred method of effectively improving clinical knowledge and learning of skills, followed by In-service Lectures, and lastly, Theory Test.

## Test & Implement Changes

ED Medication team initiated multiple sharing sessions with a total of 124 RNs, used of previous NTFGH ED cases as anonymous case studies and quiz questions. Reviewing of past actual scenarios allowed RNs to simulate, spurring improvement of knowledge with hopes of providing more effective care for future patients, preventing potential mistakes (Ouseph, Mohidin, Tabsh, & A1-Hebshi, 2015). The medication team aimed to assess and facilitate RNs understanding of using Broselow tape (Fig.1.4) with medication chart (Fig 1.5) for pediatric medication preparation.

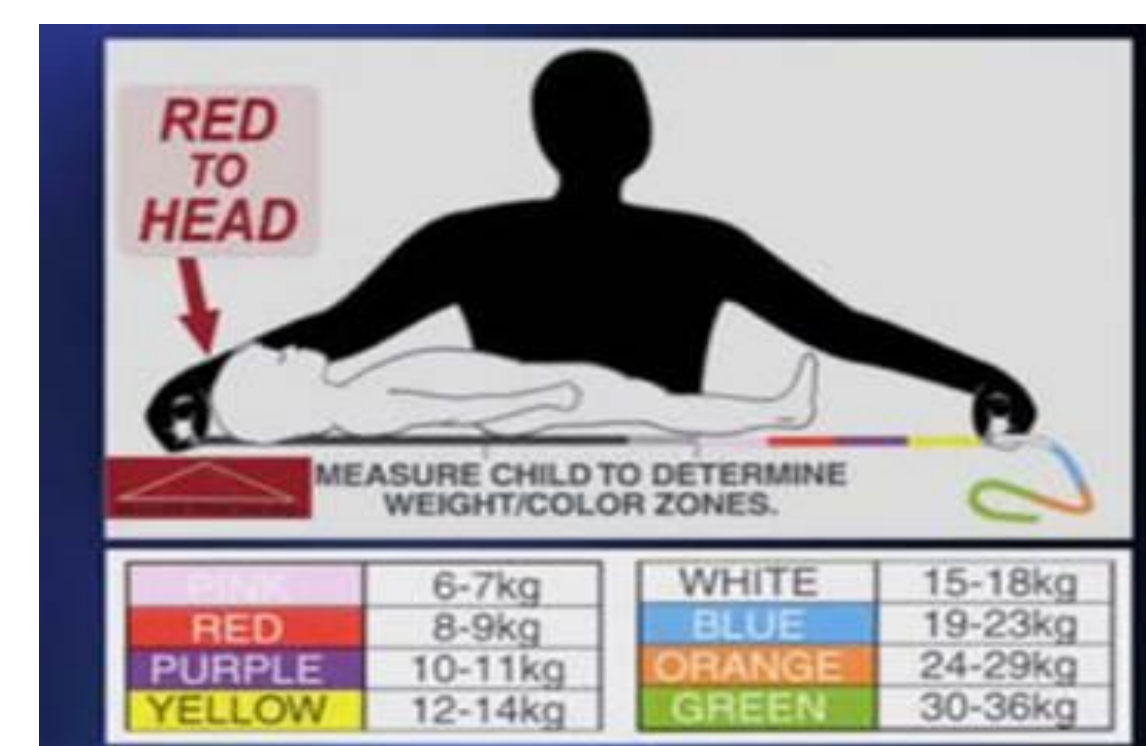


Fig.1.4 Broselow Tape

Fig.1.5 Medication chart

A total of 104 RNs responded in the post-survey after the multiple sharing sessions. Results showed significant effectiveness of the in-service sessions without the Simulation and Practical segment (Fig.1.6 & Fig.1.7).

Fig.1.6 Rank the usefulness of case studies

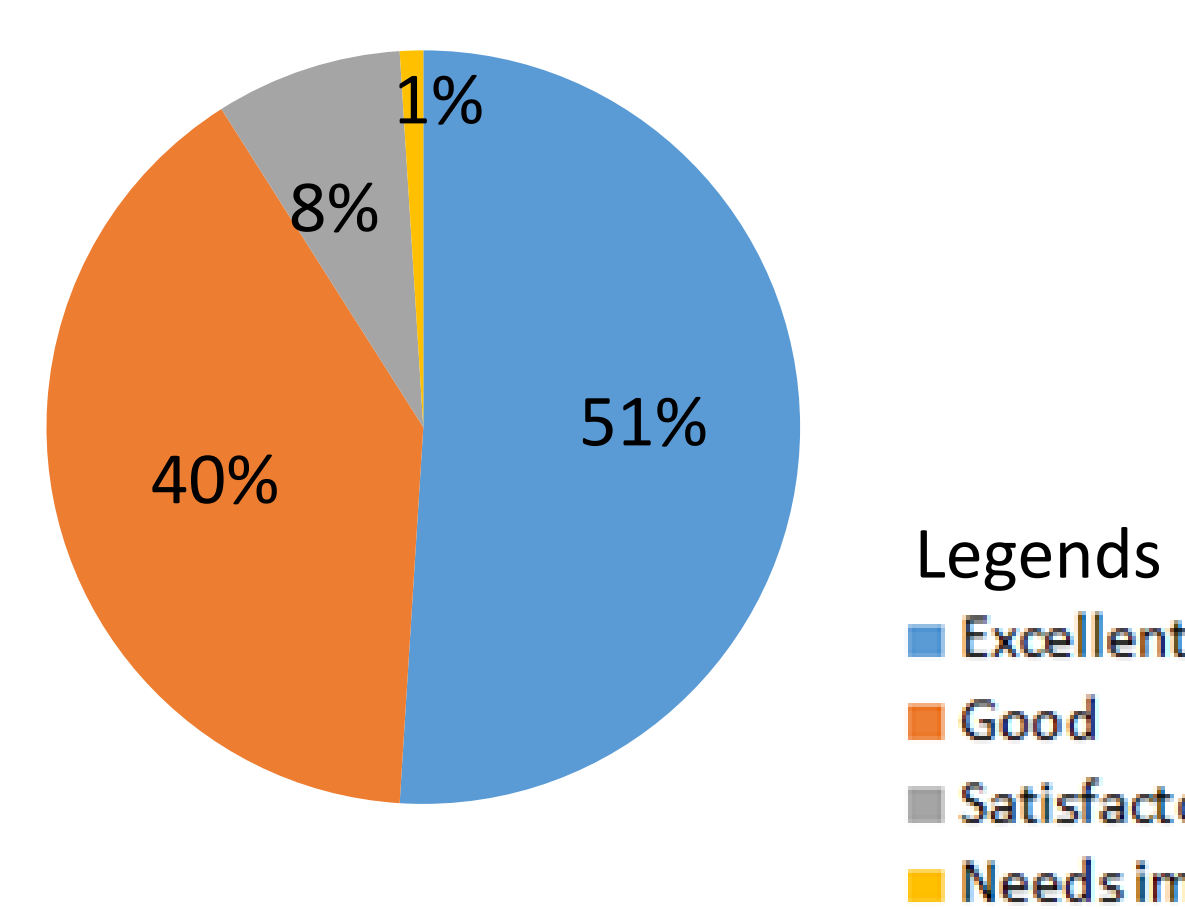
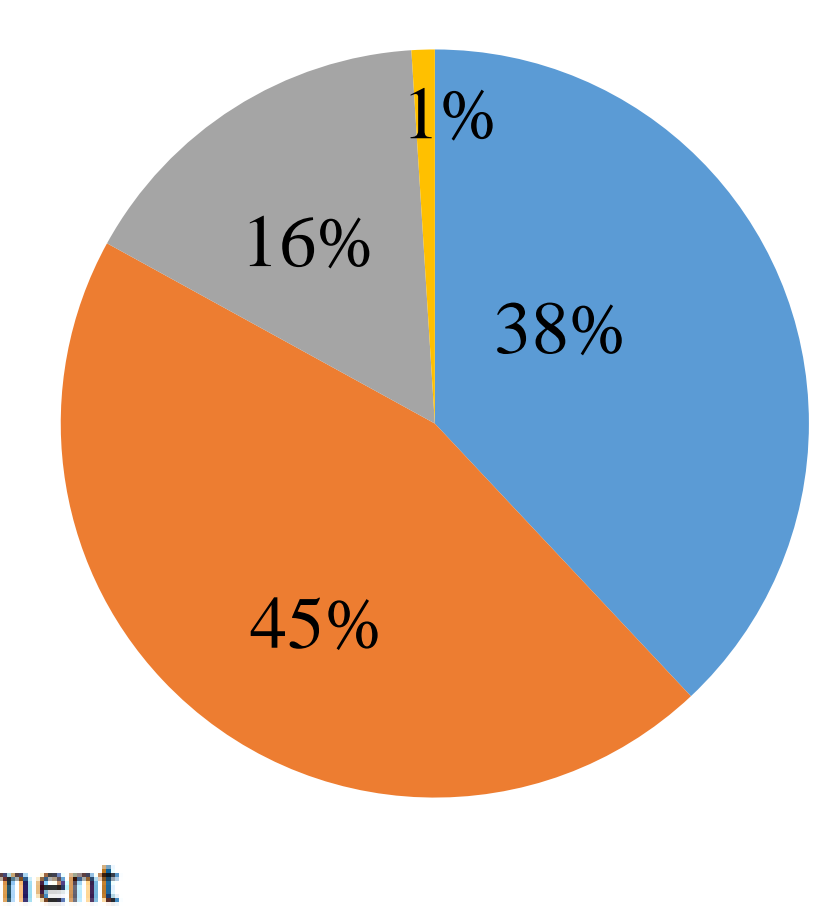


Fig.1.7 Were the quiz questions sufficient?



Overall, RNs felt well improvement in confidence level in familiarizing medication administration (Fig 1.8) and perceived in their competency levels (Fig.1.9).

Fig.1.8 Confidence level in familiarizing with pediatric medications administration

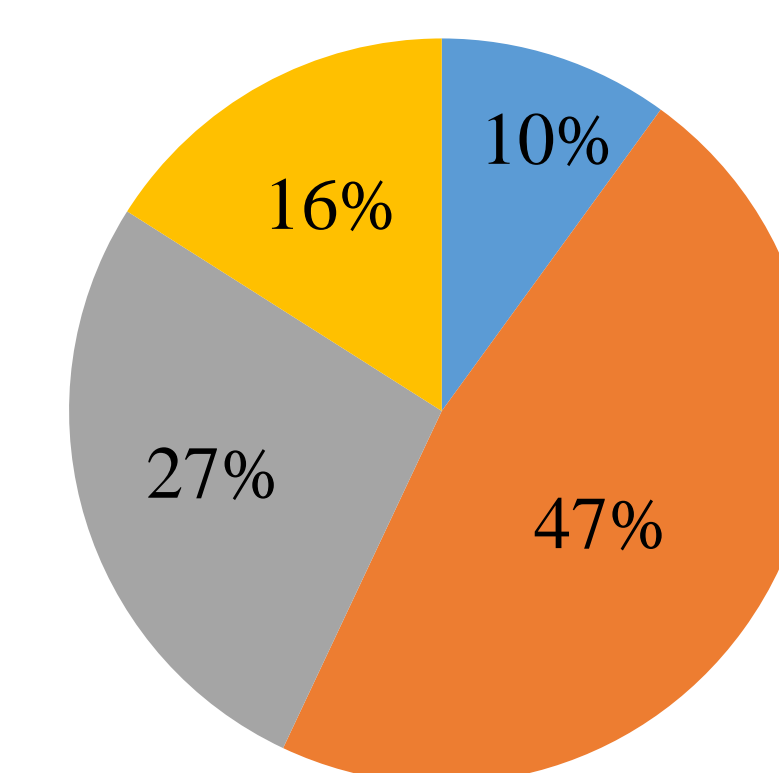
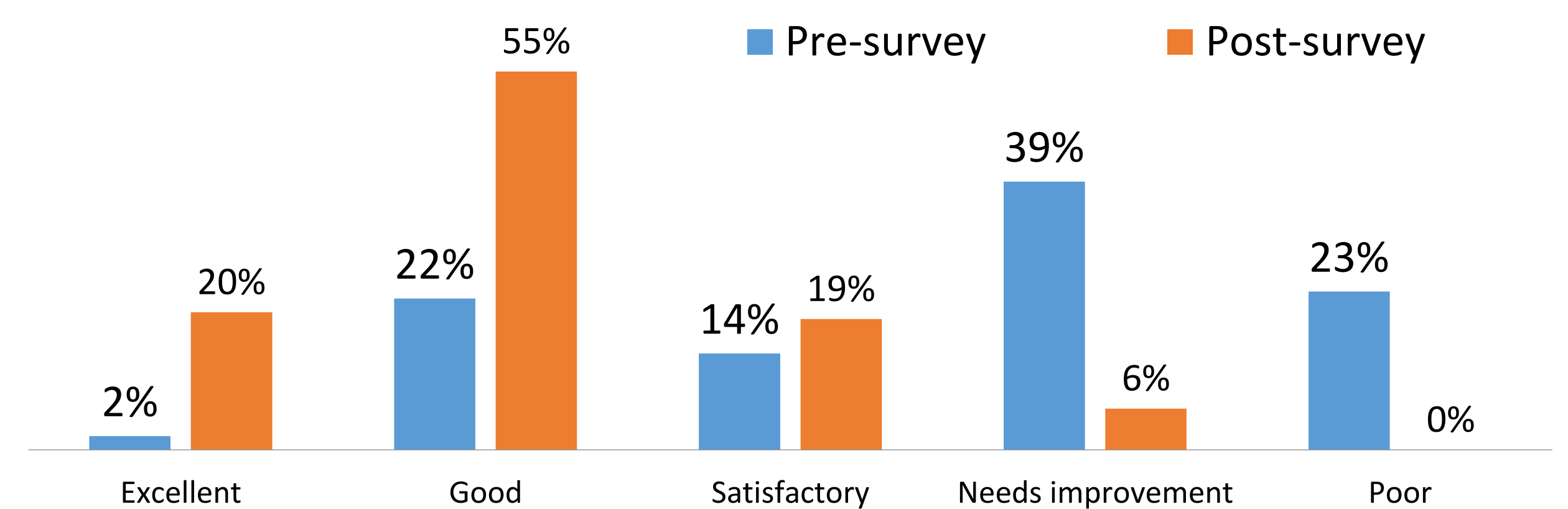


Fig.1.9 Competency level after Sharing Sessions



## Learning Points

The aim of the Quality Improvement Project (QIP) conducted by the Medication Team, is to equip ED RNs with proficient knowledge with regard to medication in pediatric resuscitation. Confidence with familiarization in drug preparation and administration reduces an element of stress for the healthcare team, allowing for a more effective coordination and organization during resuscitation.

## References

- Guise J-M, Hansen M, O'Brien K, et al. (2017). Emergency medical services responders' perceptions of the effect of stress and anxiety on patient safety in the out-of-hospital emergency care of children: a qualitative study. *BMJ Open*, 7, e014057. doi:10.1136/bmjopen-2016-014057
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