Knowledge is Power: Using an Instructional Video Library to Provide Continuous Education in the NICU

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Introduction and Objectives

Introduction
- Nurses who participate in educational courses have better performance and greater overall success compared to non-participating nurses[1].
- Limited staff education can lead to higher risk of stress and burn out, negatively affecting their quality of care for patients[2].
- The NICU nurses at LVHN requested more education and presented a list of procedures they felt needed continued training. 13 procedures were selected for this project.

Purpose – Quality Improvement Project
- Identify areas of true concern that require further education in the NICU.
- Create an instructional video library of the pediatric surgery team teaching the viewer how to care for a baby post-operation of the selected procedures.

Methods

- Surveys were created and distributed to the nurses at the Cedar Crest Hospital NICU.
- The completed surveys were collected, and the data was averaged based on years of experience.
- The pediatric surgical team filmed lectures explaining and/or demonstrating predominantly post-operational care for babies who underwent the procedures listed in the survey.


Figure 1 is the front side of the survey completed by the NICU nurses. It asks for their amount of experience as a nurse and for their comfort level, on a scale from 1-5, for caring for a baby after undergoing each of the 13 procedures.

Figure 2 is an image from one of the instructional videos about ostomy bags.

Figure 1

Figure 2

Results

The survey had a 44% response rate. The procedures indicated with an asterisk (*) have a notable lower average of comfort for the nurses who have been working for only 1-3 years. These procedures are generally more complex, but also less common in the NICU.

Years As a NICU Nurse and Their Average Level of Comfort

	1-3	4-6	7-10	11-15	> 16
Gastroschisis*	2.00	3.63	3.75	3.86	3.91
Tracheostomy	3.00	3.44	2.63	3.86	3.23
Hirschsprung's Disease*	1.78	2.88	3.25	3.43	3.82
Rectal Irrigation*	1.39	2.31	2.38	3.29	3.64
Ostomies	3.44	3.63	3.75	4.43	4.00
Gastrostomy Tubes	3.56	4.06	4.00	4.71	4.00
Circumcision	4.11	4.56	4.75	5.00	4.91
Urinary Catheters	3.00	3.44	3.63	4.00	4.10
Chest Tubes	2.28	3.13	3.00	3.57	4.10
Necrotizing Enterocolitis	3.28	3.75	3.88	4.14	4.36
Tracheoesophageal Fistula*	1.83	3.13	3.13	3.57	3.73
Omphalocele*	1.39	2.31	2.88	3.14	3.82
Congenital Diaphragmatic Hernia*	2.00	2.88	2.25	2.86	3.55

NICU Nurse Demographics Based on Survey

- < 16 years — 32%
- 11-15 years — 12%
- 7-10 years — 14%
- 4-6 years — 23%
- 1-3 years — 19%
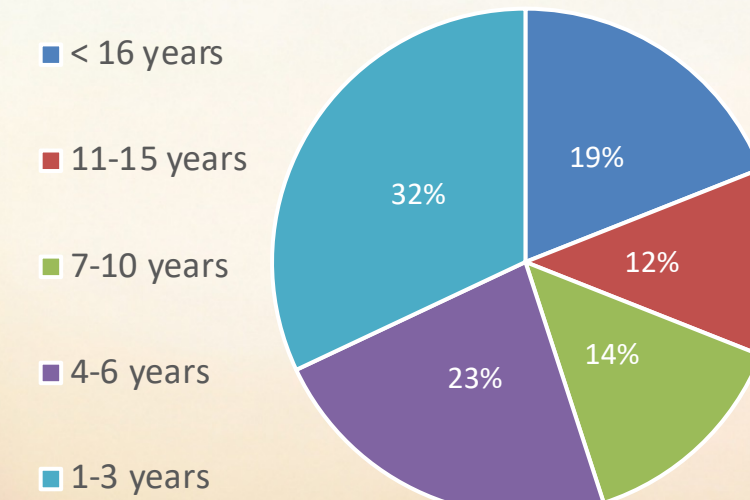
- The table displays the average level of comfort (on a scale from 1 – not at all comfortable to 5 – very comfortable) in caring for a baby post-operation for the given procedure. The data was grouped based on years of experience as a NICU nurse.
- The pie chart displays the overall breakdown of experience in the NICU, based on the survey response. Each section represents an amount of experience, ranging from 1 to 16+ years.

Conclusions

- There is a notable correlation between years of experience and level of comfort treating NICU babies. With only a few exceptions, the average comfort level steadily increases with years of experience.
- More clinical experience correlates to more knowledge, however, 55% of the NICU nurses have been working at LVHN for less than 6 years. This reinforces the importance of education, due to overall lack of experience.
  - According to the data, it takes about 10 years of experience to become comfortable treating the babies who had a complex surgical procedure.
- The nurses who have been working in the NICU for less than 3 years should be accompanied by a more experienced nurse when treating the patients who underwent a complex surgery. A mentorship system ensures that the patients can receive the best possible care while enabling the less experienced nurses to continue learning without jeopardizing the quality of the patient's care.
- While educational videos cannot replace years of clinical work, they can provide guidance and reassurance to all the nurses, regardless of their experience.
  - Continued education provides the tools to ensure that all nurses are capable of quality patient care.

Future Directions

- Each month, after the conclusion of this project, the NICU nurses will be assigned one of the videos through TLC, their educational platform.
- As the year continues, the previously assigned videos will still be accessible for continuing education.
- In 1 year, after all the videos have been assigned, repeat the survey and determine if they were successful in educating and increasing comfort in performance within the staff.
- Prepare and film videos for other procedures or topics at the nurses' requests.

Acknowledgments and References

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