Abstract

**Background:** Triage is one of the most important steps in the emergency department (ED), as it helps to recognize the urgency among patients. A proper triage system identifies the most critical patients regardless of the time of presentation. Triage nurses rarely can follow up on their triaged patients to verify the accuracy of their decision.

**Methods:** A teaching session on male genitalia triage by a Pediatric Emergency Medicine (PEM) resident was given to triage nurses and a survey was sent afterwards to all participants to evaluate the confidence in their triage accuracy before and after the session. The data were collected via Google Forms and analyzed using paired t-test score to check for significance.

**Results:** The results showed a statistically significant increase in the confidence of nurses in avoiding both under-triage and over-triage accuracy. Also, all the nurses recommended attending similar talks given by a PEM resident.

**Conclusion:** PEM resident-nurses teaching is an innovative method to improve the accuracy and quality of triage and to help establish good interpersonal relationship skills in the pediatric ED. More studies are needed in the future to validate this technique so that it can be implemented for all presentations.

**Keywords:** education, innovation, triage, nursing
The participants felt an increase in their confidence in identifying high-acuity cases (under-triage) from a mean of 7.44/10 to 9.56/10 (21.2%) (Fig. 2). Also, they felt an increase in their confidence in identifying low-acuity cases (over-triage) from a mean of 6.67/10 to 9.22/10 (25.5%) (Fig. 2). Using paired t-test score, the difference in both under-triage and over-triage was found to be statistically significant (P value: 0.0071; CI: 0.76 – 3.47 and P value: 0.0013; CI: 1.39 – 3.94 respectively).

**Discussion**

As far as we know, the PEM resident-nurses teaching on pediatric emergency triage is a new teaching technique that was not described previously in the literature. In the ED, communication is key and, for this reason, the nursing and medical team participate in joint simulations where they practice teamwork and crisis resource management (CRM) skills (Foronda et al., 2015; Lei & Palm, 2021).
On the other hand, having a PEM resident present to the nurses on triage “red flags” and the most common benign presentations on a specific subject, offered a new perception to the nurses on what to look for during triage. This was reflected by the significant increased confidence of the nurses in their triage accuracy for reducing both over-triage and under-triage.

Conclusion
PEM resident-nurses teaching is an innovative method to improve the accuracy and quality of triage and to help establish good interpersonal relationship skills in the pediatric ED. More studies are needed in the future to validate this technique, so that it can be implemented for all presentations.

Implications for Emergency Clinical Practice
- Teaching involving residents and nurses has a high potential of improving patients care in the ED.
- Continuous medical education given by residents to nurses can help in decreasing overtriage and undertriage.

REFERENCES


Appendix 1

Male Genitalia Talk Feedback
Thank you for participating in the teaching and taking the time to fill this questionnaire. Please note that the questionnaire is anonymous, and you may fill it only once. So please make sure that your answers are free before submitting. All the questions in the survey are about the teaching on male genitalia image.

* Required

1. Do you consent in participating in the survey? *
   Mark only one oval:
   [ ] Yes
   [ ] No

2. For how many years have you practised as a pediatric emergency nurse? *
   Mark only one oval:
   [ ] less than 1 year
   [ ] between 1 and 5 years
   [ ] more than 5 years

3. For how many years have you been a triage nurse? *
   Mark only one oval:
   [ ] less than 1 year
   [ ] between 1 and 5 years
   [ ] more than 5 years

4. Have you ever participated in a talk given by a Pediatric Emergency fellow prior to this talk? *
   Mark only one oval:
   [ ] Yes
   [ ] No

5. How confident were you in identifying high acuity patients presenting with male genitalia-related complaints in triage PRIOR to the talk (on a scale from 0 to 10)? *
   Mark only one oval:
   [ ] 0 1 2 3 4 5 6 7 8 9 10
   Not very [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Very much

6. How confident are you in identifying high acuity patients presenting with male genitalia-related complaints in triage AFTER the talk (on a scale from 0 to 10)? *
   Mark only one oval:
   [ ] 0 1 2 3 4 5 6 7 8 9 10
   Not very [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Very much

7. How confident were you in identifying low acuity patients presenting with male genitalia-related complaints in triage PRIOR to the talk (on a scale from 0 to 10)? *
   Mark only one oval:
   [ ] 0 1 2 3 4 5 6 7 8 9 10
   Not very [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Very much

8. How confident are you in identifying low acuity patients presenting with male genitalia-related complaints in triage AFTER the talk (on a scale from 0 to 10)? *
   Mark only one oval:
   [ ] 0 1 2 3 4 5 6 7 8 9 10
   Not very [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Very much

9. Do you recommend talks given by Pediatric Emergency fellows to nurses about triage? *
   Mark only one oval:
   [ ] Yes
   [ ] No. I prefer talks given by other nurses