Simulation: An Innovative Evidence Based Learning Strategy for Optimum Paediatric Patients Care

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A Member of Hamad Medical Corporation

Al Wakra Hospital Multidisciplinary Paediatric Simulation Team Project

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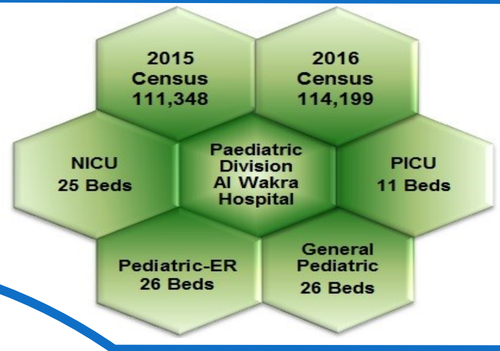
Introduction:

Improving patient care outcomes relies on competent technical and non-technical skills; these include clinical, communication, teamwork and leadership skills, underpinning this is the importance of critical thinking. We know that the most common sources of errors result from a lack of competency. However, simulation has proved to be effective evidence based experiential learning strategy that provides opportunities for the multidisciplinary teams to achieve higher level of competency to improve patient care outcomes.

Setting:



Aim:

The aim of this project was to review the impact of using 'simulation' as a teaching and learning strategy on pediatric health care professionals' clinical reasoning, critical thinking, problem solving and reflective skills which are necessary to improve patient care outcomes between January 2016 and February 2017.

Data Collection Method:

- Learners = 296
  - 47 Doctors (15.9%)
  - 244 Nurses (82.4%)
  - 2 Respiratory Therapists (0.7%)
  - 3 Clinical Pharmacists (1%)
- Conducted 38 simulation-based training sessions
- Post Training Feedback

Interventions:

December 2015:
- Built a simulation capacity
- 6 doctors and 6 nurses completed an international simulation training instructorship.

January 2016:
- Allocated required resources (i.e. simulators)
- Identified learning needs gaps

February 2016:
- Developed simulated scenarios and annual simulation training calendar.
- Learning outcomes focused clinical and non-technical skills, were inline with HMC guidelines and evidence based practices.

March 2016:
Run the first multidisciplinary simulation based training

January 2017:
Conducted a 2-day hospital wide simulation awareness campaign to encourage other health teams to embrace it.

February 2017:
Evaluated the effectiveness of the project.

On-going:
- Conducting scenarios (at least 5 sessions monthly)
- Revising scenarios based on post-simulation training feedbacks.
- Developing and implementing action plans based on gaps identified during training i.e. clinical skills competency validation.

Results:

Percentage of Level of Agreement on the Impact of Simulation on Patient Care (Graph 2, 3, 4, 5 and 6)

73.4 %	• Effectiveness of Post-Simulation Debriefing
72%	• Identified Knowledge-Skills Gaps • Improved Critical Thinking and Problem Solving
71.3%	• Safely Transformed Learning into Clinical Practice • Improved Clinical Reasoning

Figure 1. Number of Participants Attended the Simulation Training Program in 2015-2016

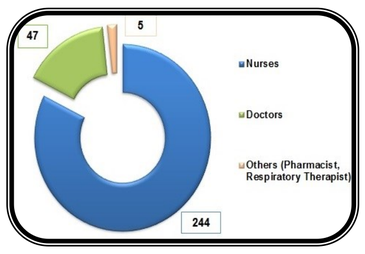


Figure 2. Safely Transformed Learning into Clinical Practice

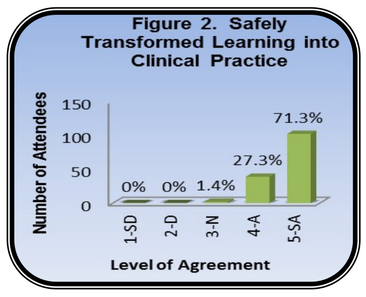


Figure 3. Identified Knowledge - Skills (Clinical & Non-Clinical) Gaps

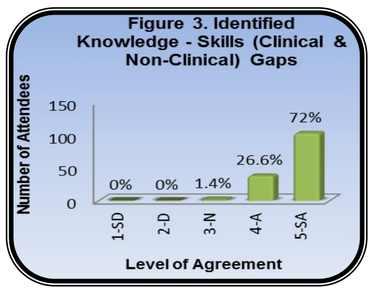


Figure 4. Improved Critical Thinking and Problem Solving

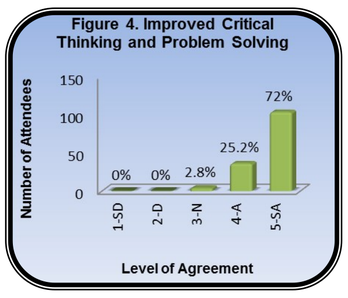


Figure 5. Improved Clinical Reasoning

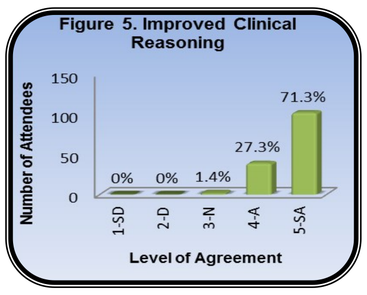
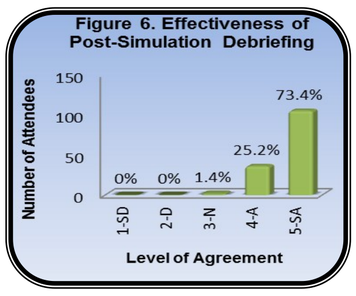


Figure 6. Effectiveness of Post-Simulation Debriefing



Graph Legend:
1 - SD - Strongly Agree
2 - D - Disagree
3 - N - Neutral
4 - A - Agree
5 - SA - Strongly Agree

Examples of Participants' Comments on their Simulation Experience

"Using ISBAR and closing the communication loop is something new I learned and was the most efficient tool during critical situations to prevent errors."

"Attending debriefing after simulation helped me gain more insights on the rational of my nursing interventions."

I realized that the best care that I can give to my patients is good skills, quick thinking and be on board with them."

Recommendations:

- Continue using simulation in Pediatric Division training activities
- Develop simulation faculties across AWH patient care units.
- Use the actual events debriefing results for devising patients' care outcomes monitoring tools.
- Conduct further studies to investigate the impact of simulation on patient care outcomes across HMC

Conclusion:

This project demonstrates that using simulation training has the potential to impact patient care outcomes, with learners reporting increased abilities in clinical reasoning, critical thinking, problem solving, clinical reasoning and reflective skills necessary to provide quality care that leads to positive outcomes.

Impact on Current Practice:

Currently debriefing after real events is used; a total of three debriefings were conducted and actual action plans were implemented as a result.

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