



## Service Priorities and Programmes Electronic Presentations

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**Submitting author:** Ms HOI LAM HO

**Post title:** Registered Nurse, Pamela Youde Nethersole Eastern Hospital, HKEC

### **Effectiveness of Cardiac Arrest in Pregnancy Simulation Workshop for Nurses in O&G**

*Ho HL(1), Yip MY(1), Kan LL(1), Leung WL(1)*

*(1)Department of Obstetrics & Gynaecology, Pamela Youde Nethersole Eastern Hospital*

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#### **Introduction**

Cardiac arrest is rarely happened in pregnancy but when it occurs, the survivals of pregnant woman and her foetus are endangered. In order to better prepare nurses for this critical event, a 90-minute Cardiac Arrest in Pregnancy Simulation Workshop (CAPS) was conducted in the Department of O&G, PYNEH from April to August 2015. It aims to enhance nurses' competency in maternal cardiac arrest management.

#### **Objectives**

To compare learners' knowledge levels on maternal cardiac arrest management before and after the simulation workshop. To compare learners' psychomotor skills of cardiopulmonary resuscitation (CPR) performed in 2 simulation scenarios.

#### **Methodology**

It was a cross-sectional study. 98 nurses were recruited in this study. Learners were required to attend a 10-minute lecture on the management of maternal cardiac arrest. Then, 3-4 learners worked as a team to resuscitate a pregnant woman suffered from cardiac arrest in 2 different simulation scenarios with debriefing conducted after each scenario. Pre and post-tests which consisted of 10 multiple choice questions on the knowledge of maternal cardiac arrest management were conducted on individual basis before and after the simulation workshop. Practical assessment on their CPR skills was performed on team basis using hospital standardized checklist for CPR drill with modifications for obstetric cases. 46 checklist items were in common for 2 simulation scenarios. Paired t-test and Wilcoxon Signed Rank Test were used for analysing pre and post-test scores and checklist items achieved in scenarios respectively.

#### **Result**

Learners of this simulation workshop were consisted of 89.8% registered midwives, 6.1% registered nurses and 4.1% enrolled nurses. For the written assessment with

passing score at 5, 61.2% of learners passed the pre-test with mean score 5.14 (95%CI=4.84-5.45). All of them passed the post-test with mean score 8.79 (95%CI=8.55-9.02). Learners in average showed 3.64 increment in post-test score ( $p < 0.001$ , 95%CI=3.29-4.00). For the practical assessment, half of the teams performed better in the second scenario with more checklist items being achieved. There were statistically significant differences in 5 checklist items with better performance in the second scenario including "Check carotid pulse within 5-10 seconds" ( $p=0.025$ ), "Location of chest compression" ( $p=0.020$ ), "Rate of chest compression" ( $p=0.014$ ), "Prepare stylet for endotracheal intubation" ( $p=0.046$ ) and "Prepare vasopressor" ( $p=0.034$ ). This simulation workshop can strengthen nurses' knowledge on managing maternal cardiac arrest and their CPR skills. Modification of future CAPS like increasing the duration of workshop and the number of simulation scenarios can help to further enhance nurses' CPR skills.