

Implementation of virtual skills and simulation in maternal and newborn care during COVID-19 pandemic in the selected tertiary hospitals of Nepal

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Background

Under the leadership of Family Welfare Division, supported by UNICEF, in collaboration with Simulation Society of Nepal and Laerdal Global Health, a program was implemented to strengthen the quality of maternal and newborn health (MNH) care through simulation-based education and mentoring from November 2019 to December 2021 in Janakpur Provincial Hospital (JPH), Gajendra Narayan Singh Hospital (GNSH) and Narayani Hospital (NH) in Madhesh Province, Nepal.

During COVID-19 pandemic, skills and simulation sessions were implemented virtually in the simulation corners established in the hospitals.



Glimpses of skills and simulation sessions implemented virtually by subject experts and local facilitators

Objectives

- To assess the knowledge and competency level among the health care professionals in MNH care.
- To explore the experience of implementation, effectiveness, barriers, and enablers on implementing virtual simulation sessions on MNH care.

Results

- Statistically significant difference was found between clinical competency scores across baseline and midline in all the areas of skills assessment ($U = 196.6, p < 0.001$).
- There was improvement in the MNH and system-related indicators.
- Most of the participants reported that virtual knowledge, skills and simulation sessions helped them in improving knowledge and skills and shared instances of application of the learnings in clinical settings and highlighted the importance to ensure logistics, local facilitators.

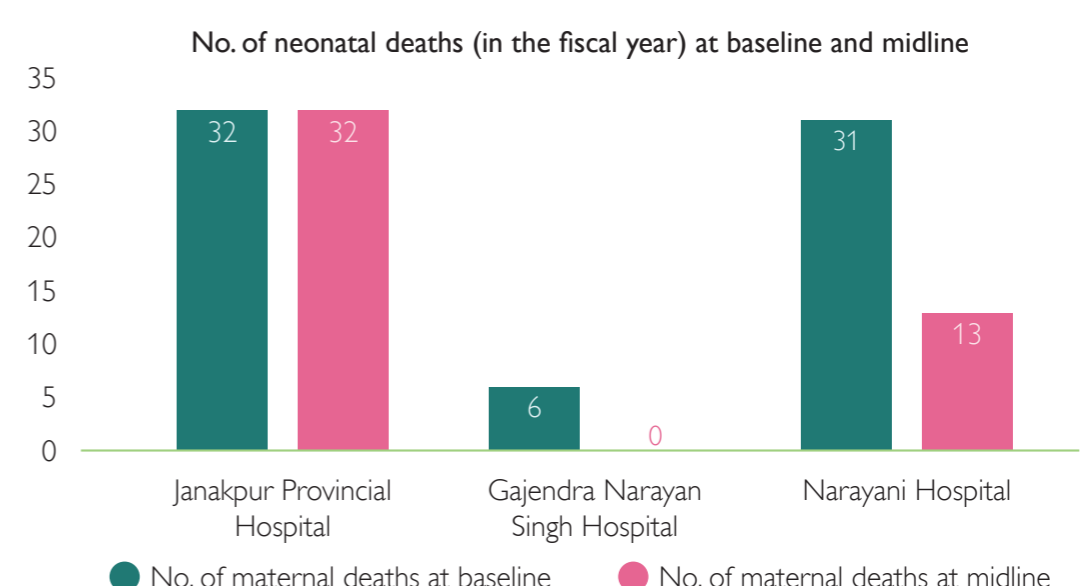
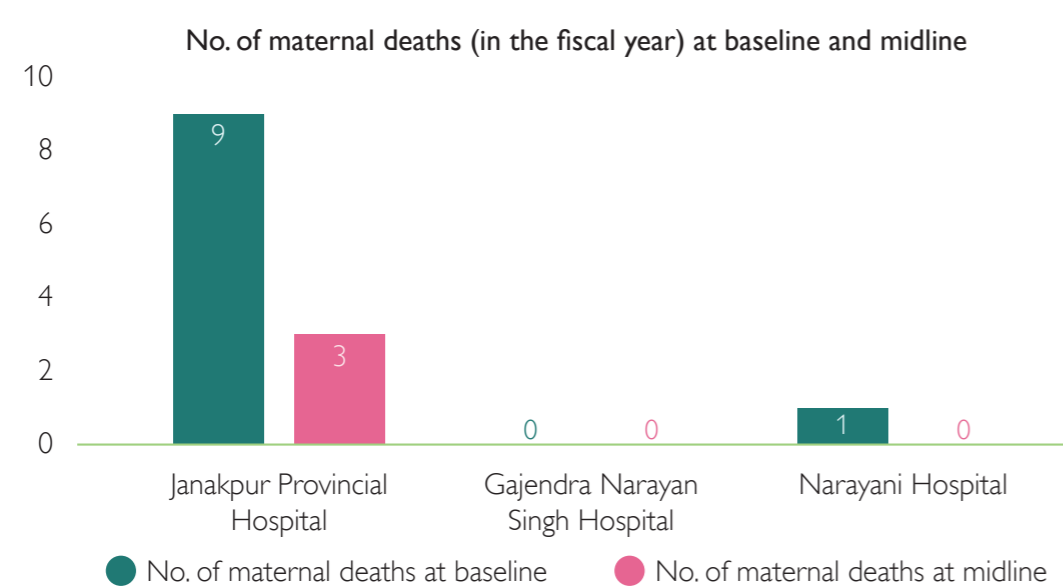
Methods

A mixed-method study was conducted with 78 doctors and nurses from the three selected hospitals using following methods:

- Pretest-Posttest using standard Objective Structured Clinical Examination (OSCE) for each skill.
- 15 In-Depth Interviews and 3 Focus Group Discussions with hospital officials.
- Records review and observation checklists for hospital-level maternal and newborn health related indicators.

Thematic area of skills assessed	Baseline		Midline		Mann-Whitney U	p-value
	n	Mean Rank	n	Mean Rank		
Assisted normal delivery	13	7.35	22	24.3	281.5	<0.001*
Management of PPH	12	8.5	22	22.41	240	<0.001*
Newborn resuscitation	17	10.12	14	23.14	219	<0.001*
Assisting breastfeeding	17	9.5	7	19.79	110.5	<0.001*
Kangaroo Mother Care	12	8.5	13	17.15	132	0.002*

* p-value significant at 5% level of significance



Discussion

Although COVID-19 pandemic created a global shift towards virtual modalities in health care education, implementation of context specific programs can leverage existing success of the face-to-face training modalities. Moreover, a blended approach with integration of skills and simulation could be an effective strategy especially in the remote and resource limited settings like in Nepal.

Conclusion

Adoption of virtual modality during skills/ simulation sessions to address the needs during COVID-19 pandemic created significant impact on the knowledge, skills and service delivery in maternal and newborn care.

References

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