Reviewer’s report

**Title:** Structured on-the-job training to improve retention of newborn resuscitation skills: a national cohort Helping Babies Breathe study in Tanzania

**Version:** 1  **Date:** 08 Nov 2018

**Reviewer:** Beena Kamath-Rayne

**Reviewer's report:**

Properly performed neonatal resuscitation is a key intervention that can save newborn lives. Therefore, understanding how birth attendants acquire and retain resuscitation skills so that these life-saving skills can be performed in the appropriate moments is a topic of utmost importance and worthy of study. It is well known that after an initial training, learners lose their skills without ongoing practice, and this was an important lesson learned in the first 5 years after the first edition of HBB was released in 2009-2010. For that reason, the second edition of Helping Babies Breathe (HBB), released in 2016, specifically recommends that a system of ongoing practice should be put into place after an initial training, although no specific recommendations on the frequency of practice are able to be given due to a lack of consensus in the literature. In the initial era after HBB implementation and dissemination, the authors noted that resuscitation skills performed in simulation declined when assessed 4-6 weeks after an initial training and onsite inspection revealed that there was limited self-initiated practice, verbal rather than hands-on facilitation of the HBB content, and no formal ongoing practice. For the reason, the on the job (OJT) intervention was developed to facilitate self-learning and continuous peer-to-peer learning. This OJT provided a more structured format where learners would review 4 key concepts after an initial training, so that these concepts could be reinforced.

Because HBB 2nd edition does not make recommendations on the exact structure for a system of ongoing practice, having more detailed on exactly what was recommended in OJT would be important so that other sites could replicate this intervention. There have been studies on other methods of ongoing practice, such as low-dose, high-frequency practice (Mduma et al., 2015; KC et al., 2017; Rule et al., 2017; Tabangin et al.,2018) which provide some detail on other methods of ongoing practice, including a bag-mask ventilation checklist, oversight with a master trainer, and peer-to-peer learning. Certain types of ongoing learning may suit different types of workers better than others.

The manuscript also illustrates an even more important point--that a plan for ongoing practice needs to be put into place before the initial workshop is over--and that champions on the ground, in conjunction with supportive supervision from their facilitators and local health leaders--need to continue the efforts to integrate HBB into the local health care system before the enthusiasm, momentum and energy from the initial workshop wear off. The time period directly after the workshop is one in which this ongoing support is critical, before the newly acquired skills disappear. Future studies should consider following learners for longer than 4-6 weeks to not only learn about mastery of skills, but then ongoing retention.
Are the methods appropriate and well described?
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Yes

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