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# Retention of Initial Neonate Resuscitation Skills after Implementation of the Novel Hyblab® Learning Method



RJ Nadišauskiene<sup>1\*</sup>, Kudrevičienė A<sup>1</sup>, R Tamelienė<sup>1</sup>, Dobožinskas P<sup>1,2</sup>, Vaitkaitis D<sup>1,2</sup>

<sup>1</sup>Lithuanian University of Health Sciences, Lithuania

<sup>2</sup>Crisis Research Centre, Lithuania

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\*Corresponding author: RJ Nadišauskiene, Lithuanian University of Health Sciences, Lithuania, Email: ruta.nadisauskiene@gmail.com

## Introduction

Imitations of clinical situations are an effective teaching technique, which is useful in learning or improving practical skills [1,2]. Ensuring long-term retention of the acquired practical skills is one of the major aims of a medical school. The Lithuanian University of Health Sciences (LUHS) and the Crisis Research Center (CRC) created a learning methodology to overcome issues when teaching resources were limited and demands required a standardized practice for skills. The main goal of HybLab® learning method is to avoid as many mistakes as possible in medical practice. The Department of Obstetrics and Gynecology of LUHS used the HybLab® learning method successfully for 4 years for.

The aim of this study was to evaluate the retention of initial neonatal resuscitation skills after 6 and 12 months of OB/GYN clinical rotation using the HybLab® method [3,4].

## Method

Seventy-two 5th-year students successfully completed initial neonatal resuscitation module by the HybLab® method (1<sup>st</sup> assessment). The first steps (FS) of neonatal resuscitation,

mouth-to-mouth ventilation (MMV), chest compressions (ChC) and correct sequence of actions (CS) were measured. Students were randomly assigned to 6 and 12 months after initial training groups for repeat assessment (2<sup>nd</sup> assessment). All participants underwent identical clinical tasks, but group R (+) (n=30) was provided with reminder checklist of correct order of interventions, group R(-) was asked to fulfill the task without remainder.

## Results

The mean score of the 1<sup>st</sup> assessment at the end of the module in 72 students of the study group was 95.9%. The mean total score of the 2<sup>nd</sup> assessment was 84% of students in group R(+) and 52.3% in group R(-). Logistic regression analysis showed that the duration between 1<sup>st</sup> and 2<sup>nd</sup> assessment had no influence to the result (p=0.225). We compared the drop-off assessment score of FS, MMV, ChC and CS skills in both investigated groups depending on the availability of the recall option (Table 1). We compared retention of neonatal resuscitation skills as well as drop-off of skills in group R (-) (Figure 1) and group R(+) (Figure 2).

**Table 1:** Comparison between percentage score drop-off in the assessment of FS, MMV, ChC, and CS depending on the availability of the recall option.

First Steps	Drop-off %
(FS)	Mean change (SD)% between the 1st and the 2ndFS assessment scores
R(+) group N=30	11.3(16.3)
R(-) group N=42	40.5(30.8)
P value	0,001
Mouth-to-mouth ventilation	Drop-off %
(MMV)	Mean change (SD)% between the 1st and the 2ndMMV assessment scores
R(+) group N=30	21.7(25.2)
R(-) group N=42	50.1(42.1)

P value	0,002
Chest compressions (ChC)	Drop-off %
	Mean change (SD)% between the 1st and the 2ndChC assessment scores
R(+) group N=30	21.3(31.5)
R(-) group N=42	29.5(39.1)
P value	0,521
Correct sequence (CS)	Drop-off%
	Mean change (SD)% between the 1st and the 2ndCS assessment scores
R(+) group N=30	1.1(6.2)
R(-) group N=42	37.1(34.9)
P value	<0,001

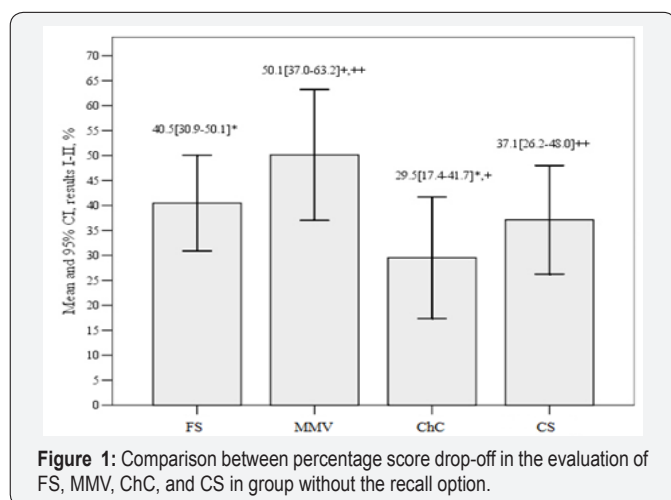


Figure 1: Comparison between percentage score drop-off in the evaluation of FS, MMV, ChC, and CS in group without the recall option.

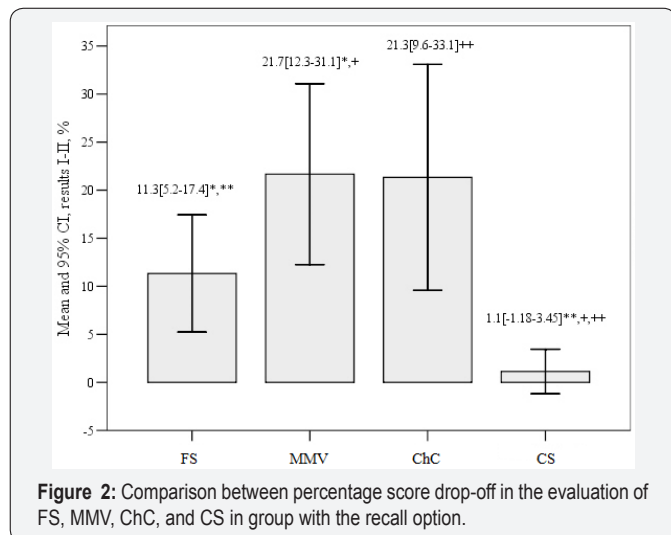


Figure 2: Comparison between percentage score drop-off in the evaluation of FS, MMV, ChC, and CS in group with the recall option.

Conclusion

1. HybLab® learning method ensure high percentage of initial neonatal resuscitation skills retention after 6 and 12 months of learning.
2. Possibility to recall the order of interventions ensure significantly better performance of initial neonatal resuscitation after 6 and 12 months of learning.
3. MMV ir ChC skills after 6 and 12 months dropped by 21 %, FS - 11 %, CS - only 1 %.

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