

# Use Of A Low Resource Model For Group Cardiopulmonary Resuscitation Training: Knowledge Gains And Attitude Changes

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## Introduction

CPR training and regular skills practice is often limited by the availability of a high resource device such as a manikin torso. We investigated the knowledge gains and attitude changes in student participants of group hands-only CPR training (20-50 participants) using a low resource device, a bed pillow, to practice skills.

## Objectives

The objective of this study is to gain knowledge regarding individuals who learn cardiopulmonary resuscitation (CPR) on a generally accessible resource, a pillow. Through our prior research, we demonstrated that learning CPR on a low resource device, such as a pillow, was as adequate as learning CPR on a higher resource manikin. In this study, we wish to learn more about the attitudes, confidence, knowledge gains and likeness of future skill practice after students participate in this nontraditional mode of training. The benefit of being able to use a generally accessible pillow for CPR training will result in a greater proliferation of community members willing and able to provide CPR to victims of cardiac arrest.

### Assumptions:

- Proliferation of CPR training is important
- Frequent practice is important
- Access to manikins for practice is generally limited due to availability and financial constraints

### Benefits of a low resource training technique:

- Allows for training to more individuals due to greater access to “equipment”
- Allows training to more individuals due to lower costs

## Methods

Hands-only CPR trainings, utilizing a bed pillow for skills practice, were conducted for groups of college students. Using a one-group pre-test post-test design, participants (n=360) completed a questionnaire which included demographic information, prior history of CPR training, and multiple-choice questions to evaluate knowledge. Five-point Likert scale questions were used to assess attitudes specific to willingness to perform CPR, confidence in ability to perform CPR and likeness to practice skills in the next year. The survey was completed prior to training. The participants then watched a demonstration followed by interactive skills practice on a pillow. A specially designed printed pillow case was used to show hand position landmarks and review information. The post training survey was then completed and each participant was provided a printed pillow case for future skills practice and review.



– Figure 1 Instructional pillow cases used for trainings



Figure 2 – Pictures from Pillow CPR trainings

## Results

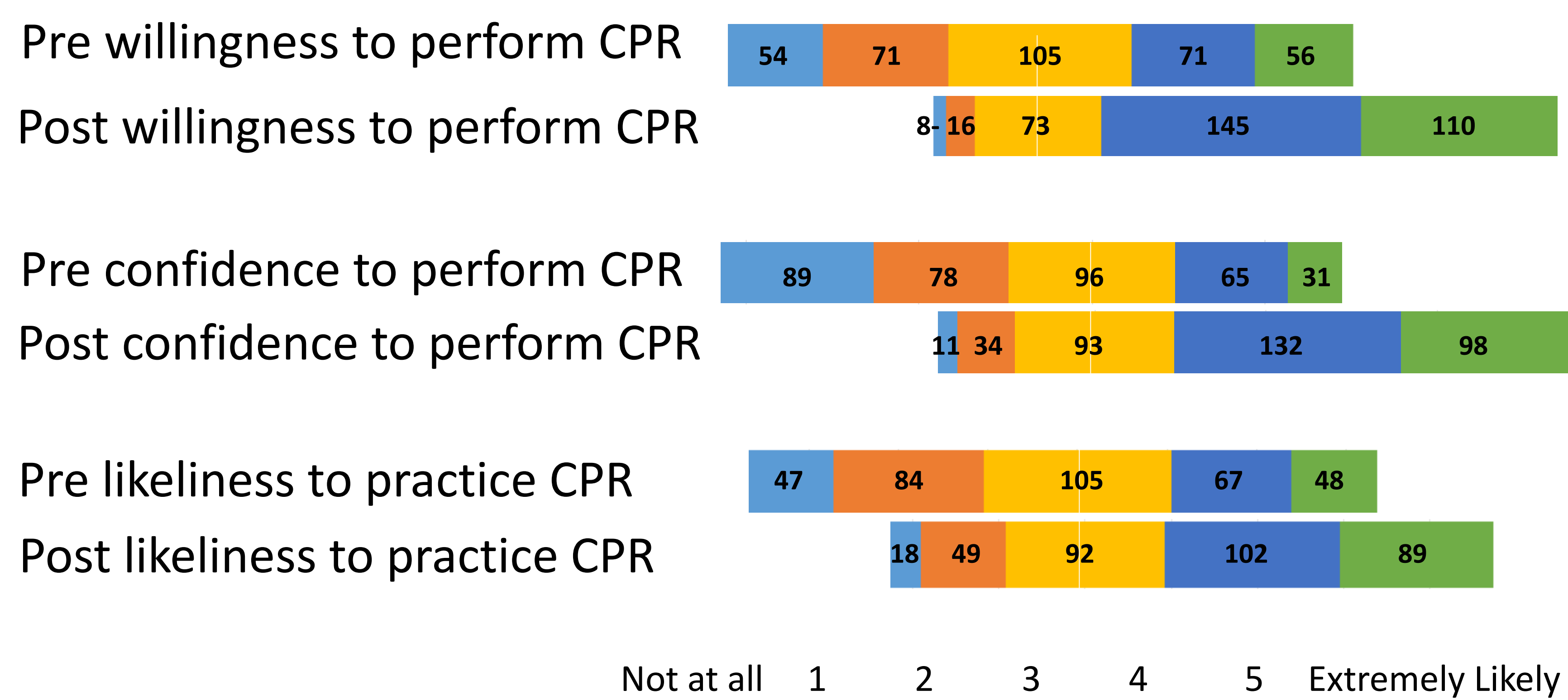


Figure 1– Attitudes

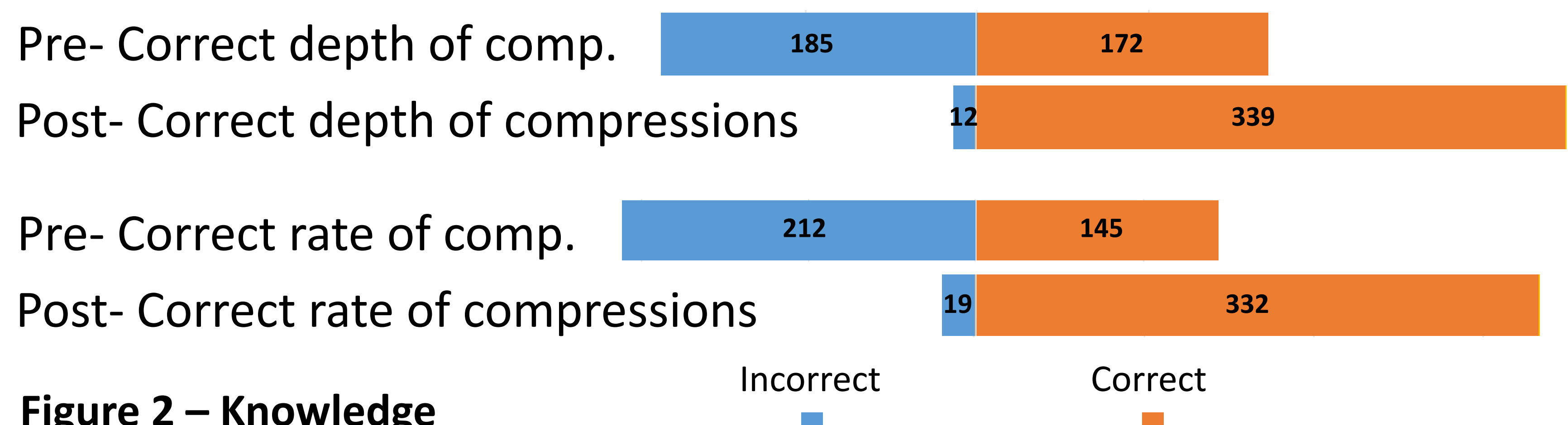


Figure 2 – Knowledge

360 participants completed the study. 129 (36%) had no prior CPR training, there were more females 273 (76%) than males, and the average age of participants was 20 years old. Correct knowledge regarding depth of compressions increased by 47% (47 to 94) while speed of compression knowledge increased by 52% (40 to 92). In a paired analysis, there were significant differences ( $p < .0001$ ) in all attitude measures from pre-to-post training. Willingness to perform CPR increased 31% (gain=0.94, pre test=3.01), confidence to perform CPR, 45% (gain=1.18, pre test=2.64) and likeness to practice skills in the next year, 20% (gain=0.59, pre test=2.97).

## Conclusion

Participation in group hands-only CPR training using a low resource device for skills practice resulted in significant knowledge gains and improved attitudes in the areas of willingness to perform CPR, confidence to perform CPR and skills practice likeness. This training method can provide an accessible and cost-effective means for providing group CPR training.

### Reference

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