

TECHNOLOGICAL UNIVERSITY OF CYPRUS

SCHOOL OF HEALTH SCIENCES



MASTER THESIS

RETENTION OF KNOWLEDGE AND SKILLS
AFTER EUROPEAN PEDIATRIC ADVANCED
LIFE SUPPORT COURSE

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TECNOLOGICAL UNIVERSITY CYPRUS

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DEPARTMENT OF NURSING

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ΕΝΤΥΠΟ ΕΓΚΡΙΣΗΣ

Μεταπτυχιακή διατριβή

**RETENTION OF KNOWLEDGE AND SKILLS
AFTER EUROPEAN PEDIATRIC ADVANCED LIFE
SUPPORT COURSE**

Παρουσιάστηκε από

Χρυσοστόμη Μικάλλη

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Τεχνολογικό Πανεπιστήμιο Κύπρου

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Πνευματικά δικαιώματα

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Abstract

Objective: The aim of the present study was to evaluate the retention of theoretical knowledge and skills of healthcare providers in Cyprus that successfully passed an EPLS course. Since October 2010, three groups of participants completed an EPLS course in Cyprus. At the time of the study, there had been 3.5 years since the first group was recertified. The European Pediatric Life Support (EPLS) provider course aims at training doctors and nurses in the efficient and prompt management of cardiopulmonary arrest in children. It is a two-day, European Resuscitation Council (ERC) course, involving teaching of theoretical knowledge and practical skills.

Methods: In total, 24 doctors and 36 nurses who attended 4 EPLS provider courses, from October 2010 to March 2013 in Cyprus, were asked to participate in the study and 29 nurses and 18 doctors responded positively. Demographic data of the participants were collected. The ERC – approved EPLS written posttest was used to assess theoretical knowledge right after the course and after 1, 2 and 3.5 years. The retention of certain skills like airway opening, insertion of an oropharyngeal airway, bag-mask ventilation, chest compressions and defibrillation, were also examined in the form of a simulated scenario performed on a manikin, of in hospital cardiorespiratory arrest of a 6 year old child with known heart disease.

Main Results: We found a significant reduction in knowledge levels between “Test” and “Posttest”, for each group tested and there was a significant effect of time within [$F(2,38) = 3.25, p=0.05$] and between the subjects [$F(2,38) = 3.25, p<0.001$]. The biggest decline in knowledge was found in the group having their course 3.5 years ago and the smallest in the most recent group certified. There was also a significant difference between doctors and nurses ($p<0.001$) and between private and government area of employment ($p=0.01$) for knowledge levels in Posttest. Significant positive correlation was found between “Test” and “Posttest” $r=0.597, p<0.001$. Specialty was found to have a positive correlation $\beta=0,78, p<0.001$ while workplace had a negative correlation $\beta=-0,30, p=0.05$ to the evaluation results. Significant difference was found for the participants of the October 2010, performing less well to for Chest compressions skill, $X^2(2) = 9.87, p<0.05$. Bigger percent of the participants working in the private sector, 50%, performed better in passing the Defibrillation Skill

compared to 19.4% working the government sector ($p=0.09$ with Fisher's Exact Test). In terms of airway opening and, measuring / placing correctly a Guedel airway, 87.8% and 80.5% could perform skills correctly respectively. 92.7% could use correctly the BVM and 87.8% could start CC. Only 51.2% could recognize the VF rhythm and 26.8% could perform Defibrillation.

Conclusion: Based on our findings EPLS participants showed decline in both knowledge and certain skills. The bigger decline was noted to the first group certified 3.5 years before. Although some skills could be maintained our findings support the hypothesis that more frequent training is needed.

Key Words: retention knowledge / skills, pediatric, advanced life support course, EPLS.