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Assessment of knowledge and self-efficacy before and after teaching Basic Life Support to schoolchildren

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Trabalho realizado sob a orientação de:

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ASSESSMENT OF KNOWLEDGE AND SELF-EFFICACY BEFORE AND AFTER TEACHING BASIC LIFE SUPPORT TO SCHOOLCHILDREN

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AVALIAÇÃO DE CONHECIMENTOS E DA AUTO-EFICÁCIA ANTES E APÓS ENSINO DE SUPORTE BÁSICO DE VIDA A CRIANÇAS

Trabalho Final do 6º Ano Médico com vista à obtenção do grau de Mestre no âmbito do Ciclo de Estudos de Mestrado Integrado em Medicina, sob a orientação da Professora Doutora Fernanda Rodrigues, professora auxiliar convidada da Faculdade de Medicina da Universidade de Coimbra e da Dra. Ana Ferraz, assistente convidada a título gracioso na Faculdade de Medicina da Universidade de Coimbra.

Gostaria de expressar toda a minha gratidão:

À minha orientadora, Prof. Doutora Fernanda Rodrigues,

por ter aceite a minha proposta e por todo o incansável rigor e disponibilidade.

À minha coorientadora, Dra. Ana Ferraz,

pelo apoio incondicional a este projeto.

Aos meus pais, a quem devo tudo o que sou.

Ao Carlos, por todos os dias.

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ASSESSMENT OF KNOWLEDGE AND SELF-EFFICACY BEFORE AND AFTER TEACHING BASIC LIFE SUPPORT TO SCHOOLCHILDREN

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ABSTRACT

BACKGROUND: Teaching basic life support to schoolchildren is well established as one of the most effective strategies in increasing bystander resuscitation rates. However, there is a lack of scientific evidence concerning the Portuguese paediatric population.

OBJECTIVE: The present study aims to evaluate the outcome of a basic life support training session on theoretical knowledge and self-efficacy, immediately after the training and 6 months later, in a paediatric population.

MATERIALS AND METHODS: A total of 392 pupils, aged 7 to 12 years-old, participated in this prospective longitudinal study, answering a questionnaire before, immediately after and 6 moths after receiving 120 minutes of resuscitation training from medical students.

RESULTS: There was a significant increase in the knowledge and self-efficacy after one single training session. Both decreased over a period of 6 months, but remained significantly higher than the baseline. These results were homogeneous across classes.

CONCLUSIONS: Medical students provided adequate basic life support training to a group of Portuguese schoolchildren, with effects in the knowledge and self-efficacy lasting for at least 6 months.

Keywords: resuscitation, training, schoolchildren, evaluation, basic life support.

RESUMO

CONTEXTO: O ensino de suporte básico de vida a crianças em idade escolar está bem estabelecido como uma das estratégias mais eficazes no aumento das taxas de reanimação cardiorrespiratória. No entanto, há uma falta de validação científica para a população pediátrica Portuguesa.

OBJETIVO: Este estudo pretende avaliar o resultado de uma sessão de treino em suporte básico de vida no conhecimento teórico e autoeficácia, imediatamente após e 6 meses depois.

MATERIAIS E MÉTODOS: Um total de 392 crianças (com idades entre os 7 e os 12 anos) participaram neste estudo longitudinal prospetivo respondendo a um questionário antes, imediatamente depois e 6 meses após receberem 120 minutos de treino em reanimação cardiorrespiratória feito por estudantes de medicina.

RESULTADOS: Houve um aumento significativo no conhecimento e autoeficácia nas crianças após este treino único. Ambos diminuíram num período de 6 meses, mas mantiveram-se significativamente mais altos que o valor basal. Estes resultados foram homogéneos nas diferentes turmas.

CONCLUSÕES: Estudantes de medicina ministraram adequadamente o treino de Suporte Básico de Vida a um a grupo de crianças Portuguesas em idade escolar, com efeitos ao nível do conhecimento e da autoeficácia, que duram pelo menos seis meses.

Palavras-chave: ressuscitação, treino, crianças, avaliação, suporte básico de vida.

INTRODUCTION

Out-of-hospital cardiac arrest (OHCA) is a major public health problem, responsible for a significant number of deaths in Europe [1]. The importance of shortening the treatment-free interval after the cardiac arrest is well established, since the survival rate from OHCA increases 2 to 4 times with early initiation of cardiopulmonary resuscitation (CPR) [2]. Thus, bystander CPR is crucial as it can be promptly initiated before the arrival of an Emergency Medical Service, reducing the treatment-free interval after the collapse [3]. However, in many European countries, the current bystander resuscitation rates are less than 30% [4], and it is estimated that doubling that rate could triple the chance of survival in those situations [5].

As bystanders with previous CPR training are more likely to perform CPR [6], training the population arises as a strategy with promising results in increasing survival following OHCA [5]. The motivation to start CPR is highly dependent not only on the level of knowledge but also on the level of confidence in the ability to correctly perform it, both of which tend to increase after a hands-on training session [7,8].

Although there are several strategies to increase lay CPR rates recommended in the European Resuscitation Council (ERC) Guidelines for Resuscitation 2015 [9], training schoolchildren in CPR has been demonstrated to be feasible, one of the most effective [8,10] and with more sustained results when it starts at younger ages (under 12 years-old) [11].

In order to promote schoolchildren's education in CPR worldwide, the European Patient Safety Foundation (EuPSF), the ERC, the International Liaison Committee on Resuscitation (ILCOR) and the World Federation of Societies of Anaesthesiologists (WFSA) developed the "Kids save lives" position statement on schoolchildren's education in CPR which asserts that "teaching CPR to all schoolchildren will lead to a marked improvement in global health" [12]. In 2015 this was endorsed by the World Health Organization (WHO) [13].

Portugal is part of a group of countries that has legislation about CPR education (Resolução da Assembleia da República n.◦ 33/2013. Diário de República. 1.ª Série. 53. 2013-03-15). However, legislation is not enough and must be supported by effective implementation and surveillance strategies [14,15]. Additionally, there is still a lack of scientific evidence about the best way to do it, particularly in the Portuguese paediatric population [16].

Following the "Kids Save Lives" recommendations [12], the Medical Student Nucleus of the Coimbra Academic Association (NEM/AAC) developed a project entitled *A Brincar, A Brincar,* with medical students teaching Basic Life Support (BLS) to schoolchildren. As part of this project, the present study aims to evaluate the outcome of a single 120-minute BLS training session on theoretical knowledge and self-efficacy related to performing BLS, immediately after the session and 6 months later.

Another goal of this study is to evaluate whether different tutors lead to different outcomes in terms of knowledge and self-efficacy, since each class had its training session with a different pair of medical students.

MATERIALS AND METHODS

STUDY DESIGN AND PARTICIPANTS

This six-month prospective longitudinal study was performed between November 2016 and June 2017; it included 392 pupils, aged 7 to 12 years-old, in 10 public and 2 private Portuguese elementary schools, located in Coimbra and Viseu. It was a convenience sample, limited by the geographical area where it was possible for the medical students to go, that

included a group of schools that accepted to participate. Students with special learning needs were also included.

The pupils answered a baseline questionnaire before the training session. The same questionnaire was applied one day to one week after the training session and 6 months later.

Pupils who attended the training course but didn't complete the baseline questionnaire were excluded from the study. However, students who answered the baseline questionnaire but didn't answer the second or third questionnaires were included.

TRAINING THE TRAINERS

The CPR trainers were 84 medical students from the University of Coimbra. They all underwent a 90-min theoretical training course, which included a BLS update based on the 2015 ERC Guidelines for Resuscitation [17], as well as some basic communication skills with children. The instructors were two Paediatricians of the Hospital Pediátrico de Coimbra.

TRAINING THE PUPILS

Each 2-hour session occurred during school time and assembled 2 trainers and 12 to 25 students. All of the training sessions were standardized, using the same support presentation, which was made based on the 2015 ERC Guidelines for Resuscitation [17], with the guidance of elementary school teachers (Appendix 1).

It included an age-appropriate lecture on BLS as well as hands-on training on CPR and Recovery Position (RP). The concepts were presented in a problem-based learning setting, which allowed not only to further engage the children, but also to give them practical examples of the application of that knowledge.

As it was not possible to use mannequins because of the lack of funding, the compressions' hands-on training was highly limited. In order to overcome that flaw, each

pupil used a stuffed animal in order to perform the correct technic regarding the positioning of the hands, arms and torso, as well as the rate of the compressions. The trainers corrected each pupil as they were performing the compressions' technic, while listening to a song about the BLS basics, with a beat of 100 beats per minute. The RP was performed in pairs, step by step, with the help of one tutor for each pair.

WRITTEN ASSESSMENT OF KNOWLEDGE

The pupils' theoretical knowledge about CPR was tested using a 10-item questionnaire, with 8 multiple-choice questions and 2 ordering questions (Appendix 2).

A literature review failed to identify a validated questionnaire that could be used in this study.

The questionnaire used was built with the guidance of elementary school teachers and Educational Specialists. Each multiple-choice question was made to evaluate one of the key messages that were selected as the most relevant information.

Two ordering questions were also included, regarding the BLS algorithm and the RP, the latter using the images showed in the presentation.

Although other similar studies included questions regarding theoretical knowledge of the biology of circulation and ventilation [8, 11, 18], those were not included, as it was assumed that all children in the study would have been assessed for that knowledge in the previous years, since it was part of their curricular program [19].

The content of the questionnaire was validated through a pre-test with 36 schoolchildren who did not receive the BLS training session, from one private and one public schools and in the same education grade class as the population in the study, to ensure that each item was understandable and the answers unambiguous to pupils of that age.

Points for correct answers were added up and then divided by the maximum score (10/10). The overall score is thus presented in the form of a percentage, meaning that the higher the percentage, the better the schoolchildren's state of CPR knowledge.

WRITTEN ASSESSMENT OF SELF-EFFICACY

The self-efficacy was used to evaluate the schoolchildren's confidence in their own ability to perform CPR. It was measured using a four-item questionnaire adapted with the author's permission from one used in another study [8] performed in Germany, over a six years period, in children aged from 10 to 16 years-old.

The statements were translated from English to Portuguese, and the four-point scale was adapted to a simpler two-point scale (*yes* vs *no*), since it has been concluded in the pre-test that the children had some trouble finding the difference between "fairly true", "true" and "strongly true".

Points for either "*yes*" (sentences 1, 2 and 4) or "*no*" (sentence 3) were added up to provide an overall score from 0 points (low confidence) to 4 points (high confidence).

STATISTICAL ANALYSIS

The statistical analysis was carried out using IBM SPSS Statistics for Macintosh, version 24.0 (IBM Corp., Armonk, NY, USA). Categorical data are described by absolute numbers and percentages; continuous data are described by means, standard deviations, maximum and minimum. The effectiveness of the training courses in terms of knowledge and self-efficacy was tested using general linear models with repeated measurements. Statistical significance was considered as a p value < 0.05.

ETHICAL APPROVAL

The study received approval (CE-083/2017) from the Ethics Committee of Faculty of Medicine, University of Coimbra, Coimbra, Portugal (Chairperson: Professor J. Lima) on 25 September 2017.

The participation was voluntary and each child was informed that he/she could withdraw at any time. Parents gave written consent before the beginning of the study. The communication with the parents was done through the teachers, that fully supported the project from the start.

RESULTS

DEMOGRAPHIC DATA

The study included a total of 392 pupils with an age ranging from 7 to 12 years, 8.93 ± 0.57 years (mean ± SD), and a ratio of boys to girls of 1:1. The students were from 12 different schools and 21 different classes; 94.1% of them were fourth graders and 86.2% from public schools. The 21 classes had between 11 to 24 pupils participating in the study, with 18.67 ± 3.98 students each (mean ± SD). Demographic data are presented in Figure 1.

Of the 392 students that answered the baseline questionnaire, 372 (94.8%) answered the second and 376 (95.9%) the third questionnaires.

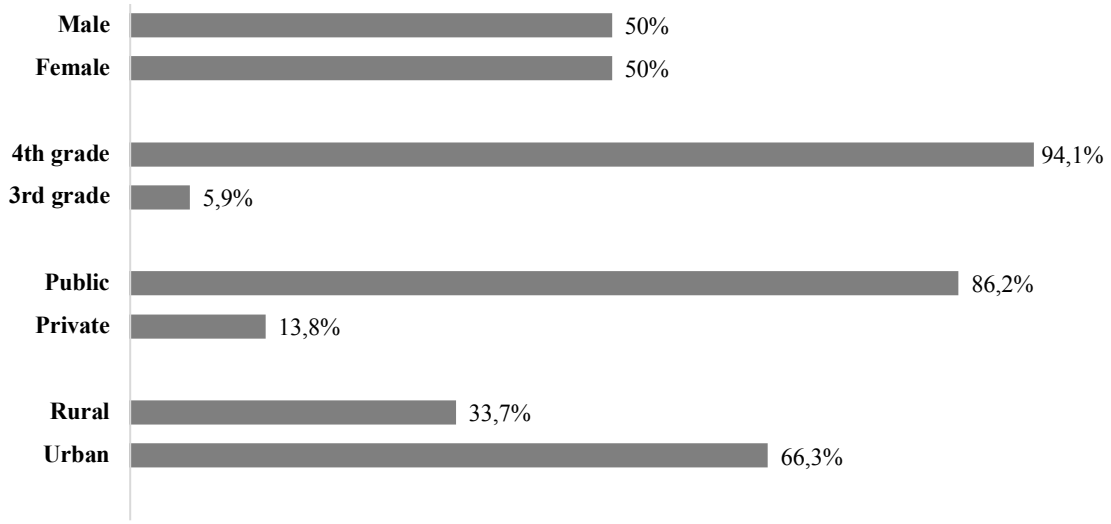

Figure 1
Demographic data

KNOWLEDGE

A one-way repeated measured analysis of variance (ANOVA) was conducted to evaluate the null hypothesis that there is no change in schoolchildren' knowledge in BLS when measured before, one day to one week and 6 months after the participation in a single 2-hours BLS training course (N=392). Descriptive statistics are presented in Table 1. The results of ANOVA indicated a significant time effect (Wilks' Lambda=0.21, $F(2\ ,\ 359)$=690.79, $p<0.05$, $\eta^2=0.75$), with significant evidence to reject the null hypothesis. Mauchly's Test of Sphericity indicated that the assumption of sphericity had not been violated, $\chi^2(2)=0.500$, $p=0.779$.

Pairwise comparisons indicated that each pairwise difference was significant ($p<0.05$). Although there was a significant decrease between the knowledge immediately after and 6-months later, there was still a significant increase between the baseline and the 6-months later evaluation (Table 2).

Table 1
Theoretical Knowledge: descriptive statistics

	Mean	Std. Deviation
Baseline	37,26	11,473
One day to one week after training	71,77	16,369
6-months after training	60,58	15,845

Table 2
Theoretical Knowledge: pairwise comparisons

Pairwise comparisons		Mean Difference	Std. Error	95% CI for Difference	
				Lower Bound	Upper Bound
1	2	-34,515*	0,953	-36,807	-32,224
	3	-23,324*	0,923	-25,545	-21,103
2	1	34,515*	0,953	32,224	36,807
	3	11,191*	0,946	8,917	13,465
3	1	23,324*	0,923	21,103	25,545
	2	-11,191*	0,946	-13,465	-8,917

Based on estimated marginal means.
*The mean difference is significant at the 0,05 level.
1: Baseline; 2: One day to one week after training; 3: 6-months after training

SELF-EFFICACY

The change in children's confidence in their own ability to perform CPR when measured before, one day to one week and 6 months after participation in the training course was also evaluated through a one-way repeated measured ANOVA (N=392). Descriptive statistics are displayed in Table 3. The results indicated a significant time effect (Wilks' Lambda=0.67, $F(2\ ,\ 342)$=83.26, $p<0.05$, η^2=0.33). Mauchly's Test of Sphericity indicated that the assumption of sphericity had not been violated, $\chi2(2)=4.648$, $p=0.098$.

Once again, there was a significant decrease between the self-efficacy immediately after and 6-months after the training course, but there was still a significant increase between the baseline and the 6-months later evaluation (Table 4).

Table 3
Self-efficacy: descriptive statistics

	Mean	Std. Deviation
Baseline	1,56	1,154
One day to one week after training	2,45	1,284
6-months after training	2,16	1,277

Table 4
Self-efficacy: pairwise comparisons

Pairwise comparisons		Mean Difference	Std. Error	95% CI for Difference	
				Lower Bound	Upper Bound
1	2	-0,892*	0,070	-1,100	-0,685
	3	-0,596*	0,077	-0,822	-0,370
2	1	0,892*	0,070	0,685	1,100
	3	0,297*	0,077	0,069	0,524
3	1	0,596*	0,077	0,370	0,822
	2	-0,297*	0,077	-0,524	-0,069

Based on estimated marginal means.
*The mean difference is significant at the 0,05 level.
1: Baseline; 2: One day to one week after training; 3: 6-months after training

DIFFERENCES BETWEEN CLASSES

The classes had, from the start, a baseline knowledge that was statistically different. Therefore, in order to determine whether different classes (with different tutors) had different improvements, two new variables were computed: "*immediately_after – baseline*" and "*6 months_after – baseline*", that represent the improvement of correct answers respectively one day to one week and 6 months after the training session, compared to the baseline knowledge.

There was a statistically significant difference between the classes in the improvement of correct answers right after the training session (p=0.001).

However, there was no statistically significant difference between the classes in the improvement of correct answers at 6 months, comparing to the baseline knowledge, as determined by one-way ANOVA (p=0.194).

DISCUSSION

This is the first Portuguese study performed to evaluate the outcome on theoretical knowledge and self-efficacy of a BLS training session provided by medical students to school children.

The overwhelming majority of pupils had no difficulties retaining theoretical knowledge related to performing BLS in the 6 months period after a single 120-minute training session. As expected, there was a substantial increase immediately after the training session, upholding that the key messages were clearly transmitted by the medical students and correctly understood by the pupils. Also, the concepts were remembered for the subsequent 6 months, and despite the lower number of correct answers, there was still a significant difference compared to baseline knowledge. These findings are in line with the concept well established in the "Kids Save Lives" statement [12], that children with 12 years-old or less are an appropriate target population for BLS training. Likewise, Bohn *et al.* [11] and Connolly *et al.* [10] demonstrated that the theoretical knowledge required to perform BLS is within the reach of 10 years-old pupils, and can easily be learnt and remembered.

Additionally, the training session improved the schoolchildren's confidence in their own ability to perform CPR, as described in other studies [7, 8, 11], indicating the likelihood of a practical application of the knowledge. Once again, the students' confidence decreased 6 months after the training session, but remained substantially higher than the baseline.

The baseline knowledge varied between the 21 classes, which indicates that the overall awareness regarding this subject is variable among the population. Despite that, the improvement on the number of correct answers was homogeneous, even though each class was taught by a different pair of medical students, suggesting that even with different tutors, is possible to obtain similar results in terms of acquisition of concepts if the support

presentation is standardized. As the second questionnaire was answered one day to one week after the presentation, some heterogeneity in the results among the classes on that questionnaire maybe due to that time difference.

There are other studies with medical students as CPR trainers and positive results in terms of theoretical knowledge [10], meaning that a project that promotes BLS teaching by medical students can be an efficient way to increase bystander CPR rates, as they are part of a motivated group and aware of the importance of such programs.

The ideal age for starting CPR training has been subject of a lot of debate [7,8,10,11]. In this study, the selected target age of 7 to 12 years-old was based on the Portuguese education system. Elementary schools usually have smaller classes, fewer teachers and shorter curriculums, which made it easier to include the project in the curricular plan. Additionally, despite the discussion concerning the ideal starting age, the introduction of BLS training shouldn't be delayed.

This project was exceedingly well received by the school community, and almost all elementary schools agreed or even asked to participate in the next edition, planned for November 2017.

There are some limitations in this study. The questionnaire used to valuate pupil's theoretical knowledge about CPR lacks a robust validation, but an already validated questionnaire was not identified to be used in this study. Additionally, some adaptations to the self-efficacy questionnaire had to be made after realising that the four-point scale originally used in other studies wasn't properly understood by the pupils.

The second questionnaire was answered in a period of time that perhaps should have been shorter or at least closer across different classes. However, due to weekends and holidays it wasn't possible for some classes to answer it in the day immediately after de training session.

Due to the lack of mannequins available, it was impossible to conduct a proper practical assessment of the CPR technic in terms of chest compression depth and compression rate. For that reason, there was no opportunity to determine whether the acquisition of theoretical knowledge and self-efficacy translates into actual CPR skills.

We hope that in the future it will be possible to use mannequins to assess CPR practical skills and that the questionnaire can be properly validated, so that a more robust set of results can be evaluated.

CONCLUSION

Given the pupils' excellent performance, this study supports the concept that a single 120-minute BLS training session provided by medical students to schoolchildren is effective in promoting not only the acquisition of theoretical knowledge, but also the confidence in the ability to perform CPR, with results lasting for over a 6 months period.

Furthermore, it validates that CPR training can be taught and learnt by the Portuguese schoolchildren, a concept that was already well established in many other studies, from other countries.

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Financial support and sponsorship: We thank NEM/AAC for sponsoring the project *A Brincar, A Brincar*, and for the opportunity to conduct this study as part of it (Appendix 3).

Conflicts of interest: none.

Presentation: none.

This study was presented in the *A Brincar, A Brincar* third edition, in November 2nd 2017, at the Faculty of Medicine, University of Coimbra (Appendix 4).

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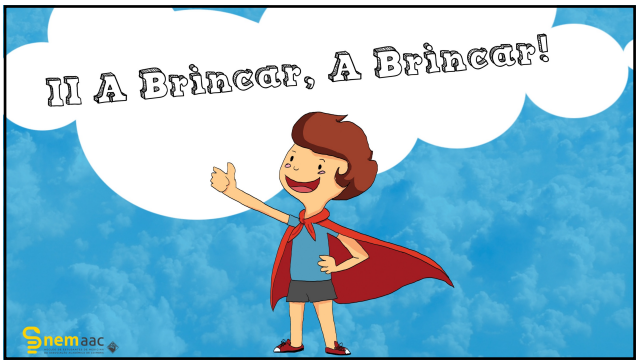
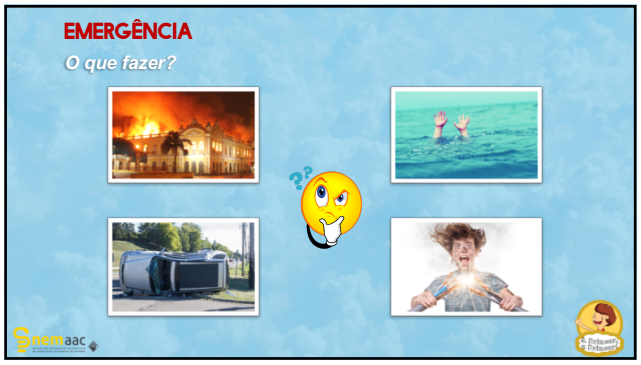
APPENDIX 1 - SUPPORT PRESENTATION





EMERGÊNCIA

O que fazer?

1. SEGURANÇA!

A TUA SEGURANÇA ESTÁ **SEMPRE** EM PRIMEIRO LUGAR

EMERGÊNCIA

O que fazer?

1. SEGURANÇA!

A TUA SEGURANÇA ESTÁ **SEMPRE** EM PRIMEIRO LUGAR

2. PEDIR AJUDA

A quem?

EMERGÊNCIA

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A TUA SEGURANÇA ESTÁ **SEMPRE** EM PRIMEIRO LUGAR

2. PEDIR AJUDA

A quem?

1. ALGUÉM QUE ESTEJA PERTO
2. LIGAR AO 112

EMERGÊNCIA

O que fazer?

1. SEGURANÇA!

A TUA SEGURANÇA ESTÁ **SEMPRE** EM PRIMEIRO LUGAR

2. PEDIR AJUDA

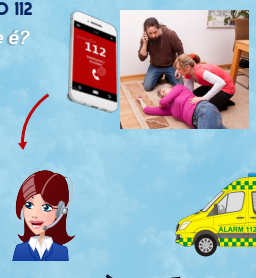
A quem?

1. ALGUÉM QUE ESTEJA PERTO
2. LIGAR AO 112

O que é?

2. LIGAR AO 112

O que é?



EMERGÊNCIA

O que fazer?

1. SEGURANÇA!

A TUA SEGURANÇA ESTÁ **SEMPRE** EM PRIMEIRO LUGAR

2. PEDIR AJUDA

A quem?

1. ALGUÉM QUE ESTEJA PERTO
2. LIGAR AO 112

Quando se deve ligar?

EMERGÊNCIA

O que fazer?

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Quando se deve ligar?

APENAS QUANDO HÁ UMA EMERGÊNCIA!

EMERGÊNCIA

O que fazer?

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A quem?

1. ALGUÉM QUE ESTEJA PERTO
2. LIGAR AO 112

O que é que eu tenho que saber?

2. LIGAR AO 112

O que é que eu tenho que saber?

1. A MORADA / LOCALIZAÇÃO EXATA, COM INDICAÇÃO DE PONTOS DE REFERÊNCIA;
2. O TIPO DE SITUAÇÃO;
3. O NÚMERO DE VÍTIMAS, GÉNERO E A IDADE APARENTE.
4. AS QUEIXAS PRINCIPAIS E AS ALTERAÇÕES QUE ESTÁS A VER;
5. O NÚMERO DE TELEFONE DE DE ONDE ESTÁS A LIGAR;
6. SE PODES DESLIGAR.

2. LIGAR AO 112

Vamos treinar!

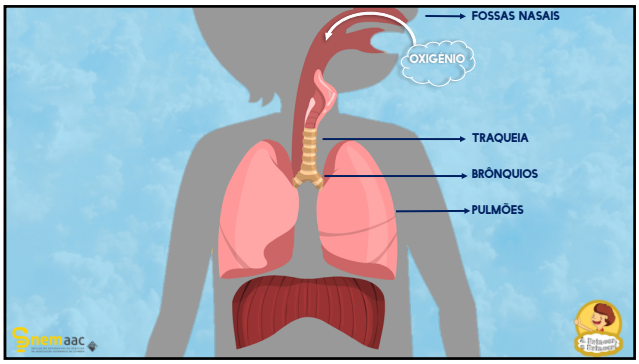
1. **ONDE ESTÁS?** (MORADA / PONTOS DE REFERÊNCIA);
2. **O QUE É QUE SE ESTÁ A PASSAR?** (TIPO DE SITUAÇÃO);
3. **QUEM E QUANTOS PRECISAM DE AJUDA?** (NÚMERO, GÉNERO E A IDADE);
4. **O QUE É QUE ESTÁS A VER?** (QUEIXAS PRINCIPAIS E ALTERAÇÕES);
5. **QUAL É O NÚMERO DE ONDE ESTÁS A LIGAR?**
6. **PODES DESLIGAR?** (PERGUNTA OU ESPERA QUE TE DIGAM)

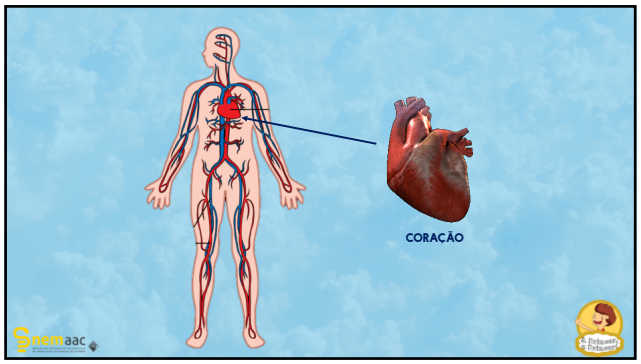
O que fazer?

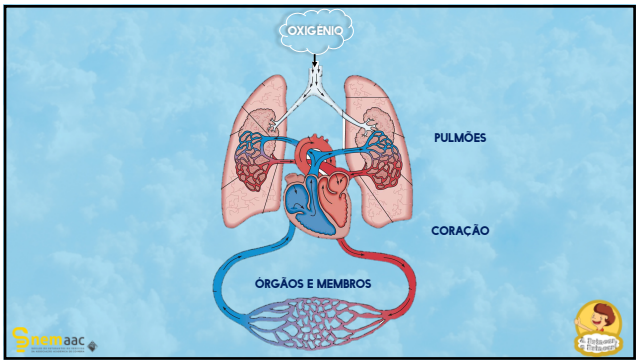
O que fazer?

O que fazer?

O que fazer?







O que fazer?

SEGURANÇA

A VÍTIMA RESPONDE? SIM → GARANTIR QUE FICA BEM

NÃO

PEDIR AJUDA

A VÍTIMA RESPIRA?

VER, OUVIR E SENTIR

NÃO → LIGAR 112 → COMPRESSÕES TORÁCICAS

SIM → POSIÇÃO LATERAL DE SEGURANÇA → LIGAR 112

VER SE A PESSOA RESPONDE

SEGURANÇA

A VÍTIMA RESPONDE? SIM → GARANTIR QUE FICA BEM

NÃO

PEDIR AJUDA

A VÍTIMA RESPIRA?

VER, OUVIR E SENTIR

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VER, OUVIR E SENTIR

NÃO → LIGAR 112 → COMPRESSÕES TORÁCICAS

SIM → POSIÇÃO LATERAL DE SEGURANÇA → LIGAR 112

VER SE A PESSOA RESPIRA

PERMEABILIZAÇÃO DAS VIAS AÉREAS
COLOCAR A PESSOA NUMA POSIÇÃO QUE FACILITE A ENTRADA DO AR PARA OS PULMÕES.

VER → MOVIMENTOS TORÁCICOS
OUVIR → A RESPIRAÇÃO
SENTIR → O AR NA CARA

SEGURANÇA

A VÍTIMA RESPONDE? SIM → GARANTIR QUE FICA BEM

NÃO

PEDIR AJUDA

A VÍTIMA RESPIRA?

VER, OUVIR E SENTIR

NÃO → LIGAR 112 → COMPRESSÕES TORÁCICAS

SIM → POSIÇÃO LATERAL DE SEGURANÇA → LIGAR 112

POSIÇÃO LATERAL DE SEGURANÇA

1° PASSO

1

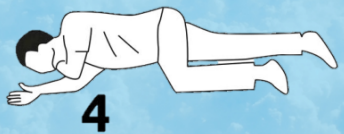
2° PASSO

2

3° PASSO

3

4° PASSO



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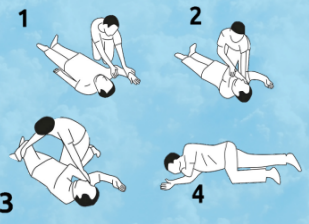
POSIÇÃO LATERAL DE SEGURANÇA

Vamos treinar!



SEGURANÇA

A VÍTIMA RESPONDE? SIM → GARANTIR QUE FICA BEM

NÃO

PEDIR AJUDA

A VÍTIMA RESPIRA?

VER, OUVIR E SENTIR

NÃO → LIGAR 112 → COMPRESSÕES TORÁCICAS

SIM → POSIÇÃO LATERAL DE SEGURANÇA → LIGAR 112

COMPRESSÕES TORÁCICAS

1° PASSO

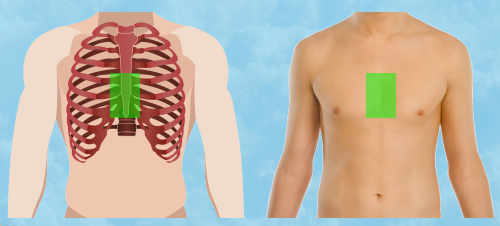
VAMOS TODOS FICAR DE JOELHOS, AO LADO DA PESSOA.

2° PASSO

DEVEMOS COLOCAR AS MÃOS JUNTAS, UMA POR CIMA DA OUTRA.

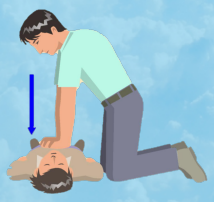
3° PASSO

AS MÃOS ESTÃO SOBRE A METADE INFERIOR DO ESTERNO.



4° PASSO

NÃO PODEMOS DOBRAR OS BRAÇOS!



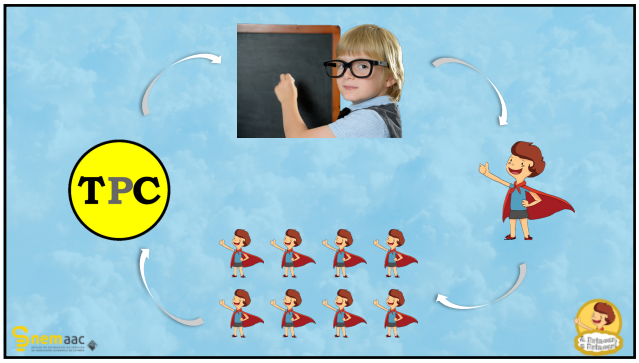
QUANDO PODES PARAR AS COMPRESSÕES?

APENAS EM 4 SITUAÇÕES!

1. PERDERAM-SE AS CONDIÇÕES DE SEGURANÇA!
2. A VÍTIMA ACORDA!
3. O SENHOR DO 112 CHEGOU!
4. ESTÁS MUITO CANSADO E NÃO AGUENTAS CONTINUAR!

COMPRESSÕES TORÁCICAS

Vamos treinar!



FIM

OBRIGADO PELA VOSSA ATENÇÃO!

APPENDIX 2 - QUESTIONNAIRE

Impacto do ensino de Suporte Básico de Vida a crianças do 4º ano do 1º Ciclo do Ensino Básico

[Antes/Depois/Seis Meses Depois] da Atividade

Os dados fornecidos por este questionário serão utilizados apenas no contexto de investigação, com **garantias de confidencialidade e anonimato**.
Este questionário é composto por **quatro páginas** (duas folhas).

Por favor **assinala com um X** a opção adequada.

Género:
__ Masculino
__ Feminino

Idade:
__ 7 anos
__ 8 anos
__ 9 anos
__ 10 anos

Ano:
__ 3º ano
__ 4º ano

Nível de escolaridade dos pais:

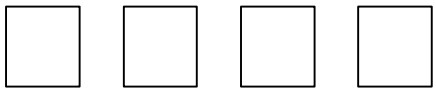
Pai:
__ Ensino Básico
__ Ensino Secundário
__ Ensino Superior

Mãe:
__ Ensino Básico
__ Ensino Secundário
__ Ensino Superior

Algum dos teus pais trabalha na área da saúde?
__ Sim
__ Não

Alguma vez estiveste numa situação de emergência?
__ Sim
__ Não

Escreve, no primeiro quadrado a **inicial do primeiro nome da tua mãe**, no segundo quadrado, a **inicial do primeiro nome do teu pai**, no terceiro quadrado, o **número de irmãos que tens** e no quarto quadrado a **inicial do teu primeiro nome**.



Depois de leres atentamente cada uma das seguintes frases, **classifica cada uma delas** sendo:
S – Sim
N – Não

	S	N
Eu sou bom em primeiros socorros		
Considero que é fácil responder de forma apropriada e rápida em situações de emergência		
É fácil fazer Suporte Básico de Vida		
É difícil prestar primeiros socorros e Suporte Básico de Vida		

Imagina que estás na rua e encontras uma pessoa caída no chão.

Depois de ler atentamente cada questão, **rodeia** a resposta que consideras **certa ou numera de 1 a 4** quando te for pedido**.**

1. O que pensas ser mais importante numa situação de emergência?
   a. Garantir que estou em segurança
   b. Pedir ajuda a um adulto
   c. Ir imediatamente para junto da pessoa em perigo
   d. Ligar ao número de emergência

2. Qual destes números de telefone deves contactar em caso de emergência?
   a. 110
   b. 112
   c. 19222
   d. 911

3. Numa emergência é importante garantir...
   a. Que a pessoa consegue comer
   b. Que a pessoa consegue sentir
   c. Que a pessoa consegue respirar
   d. Que a pessoa consegue ouvir

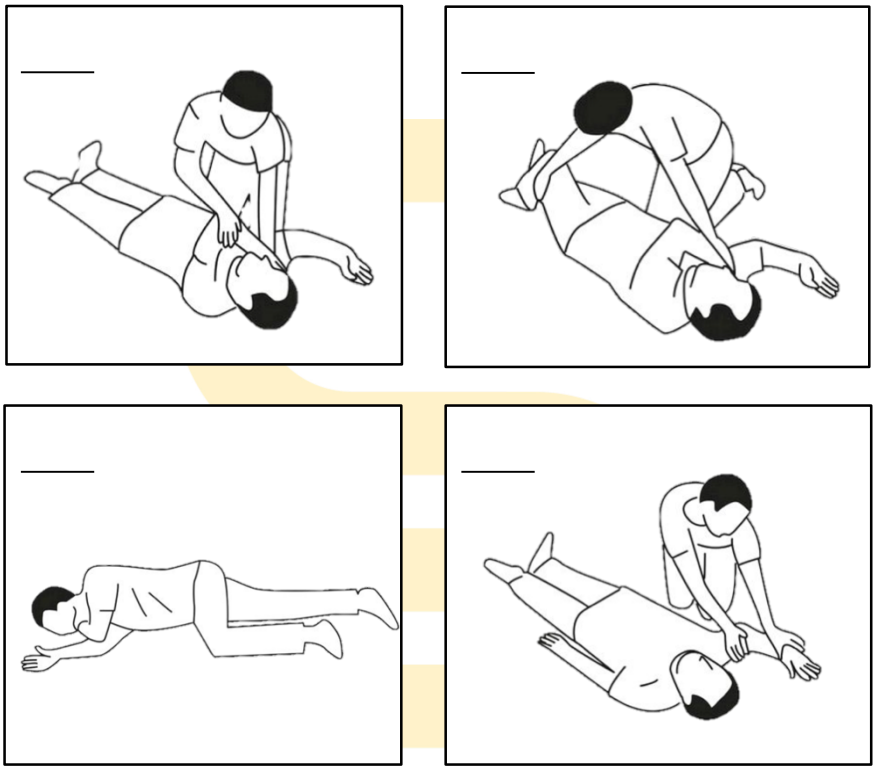
4. O que deves fazer se encontrar uma pessoa caída no chão?
   a. Devo deixá-la tal como está, porque ela só está a dormir
   b. Devo chamar a pessoa, falando alto, mas sem lhe tocar
   c. Devo chamar a pessoa, falando alto e abanando-a
   d. Nada, para me certificar que não faço nada errado

5. **Numera de 1 a 4**, sendo 1 o primeiro passo e 4 o último passo, o que deves fazer quando encontras alguém caído no chão.
   __ Pedir ajuda a alguém
   __ Verificar se está a respirar
   __ Garantir que estou em segurança
   __ Colocá-lo na Posição Lateral de Segurança

6. Em que posição deves estar para ver se a vítima está a respirar?
   a. De joelhos ao lado da pessoa, com a cara junto da sua boca e a olhar para o peito.
   b. De pé ao lado da vítima, a olhar para a sua boca e nariz
   c. De joelhos ao lado da pessoa, com a mão no peito e a olhar para a boca e nariz
   d. De pé, a olhar para todo o lado a ver se a vítima precisa de ajuda

7. Quando deves colocar alguém em Posição Lateral de Segurança?
    a. Quando essa pessoa está cansada
    b. Quando essa pessoa está em perigo
    c. Quando essa pessoa não responde, mas respira
    d. Quando essa pessoa não responde e não respira

8. **Numera de 1 a 4**, sendo 1 o primeiro passo e 4 o último passo, como colocar alguém na Posição Lateral de Segurança.



9. Qual é a maneira correta de fazer compressões torácicas?
    a. Com uma mão por cima da outra, na barriga
    b. Com as duas mãos lado a lado na metade inferior do esterno
    c. Com as duas mãos lado a lado, na barriga
    d. Com uma mão por cima da outra na metade inferior do esterno

10. Quando se pode parar de fazer compressões torácicas?
    a. Nunca se pode parar de fazer compressões
    b. Quando se está muito cansado e não se consegue continuar
    c. Quando começarem a doer os braços
    d. Quando quem está a fazer as compressões se quiser ir embora

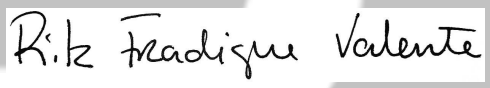
Obrigado pela tua colaboração!

APPENDIX 3 - AUTHORIZATION

Declaração

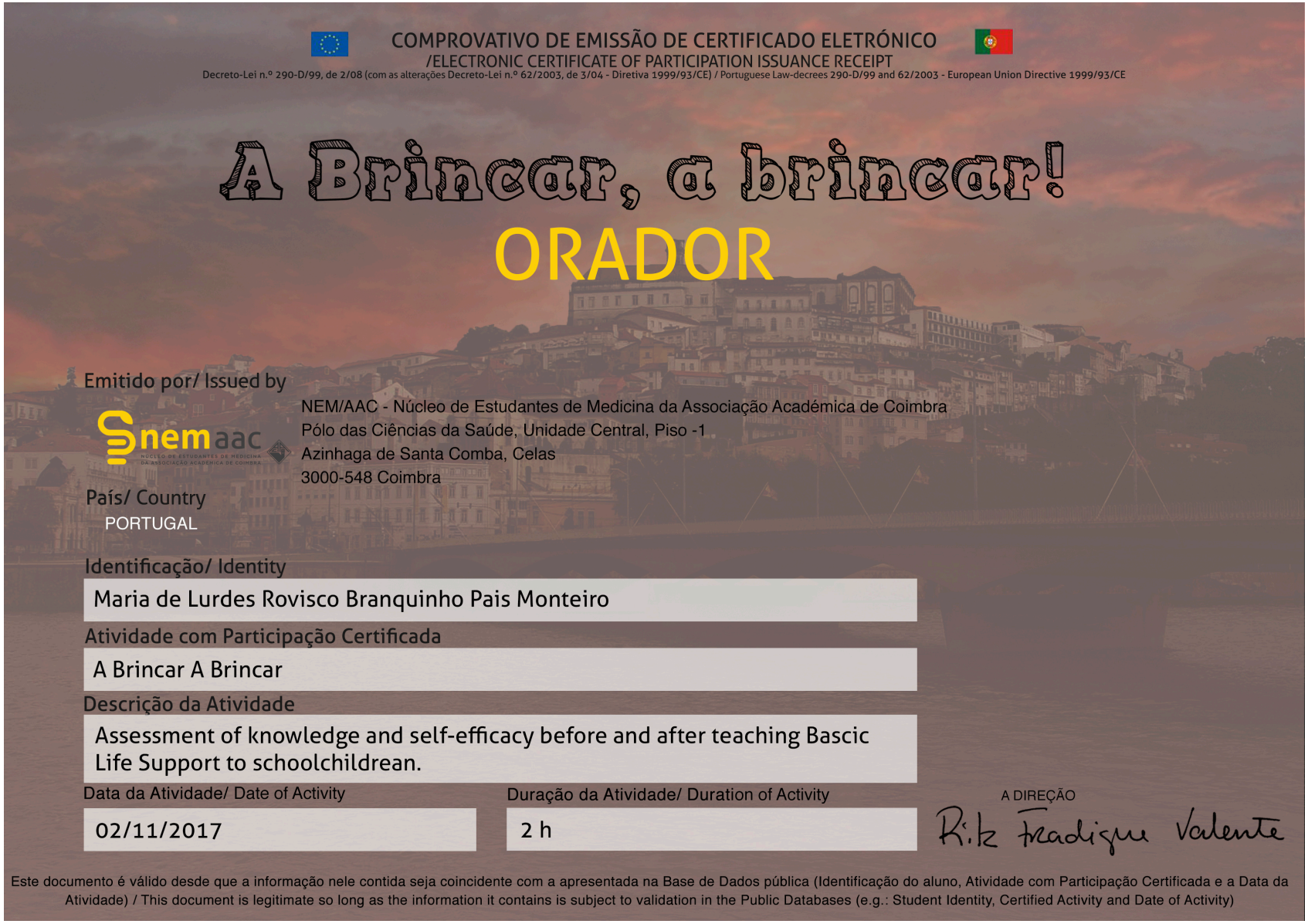
Eu, Ana Rita Moreira Fradique Valente, Presidente do Núcleo de Estudantes de Medicina da Associação Académica de Coimbra (NEM/AAC), venho por este meio declarar que Maria de Lurdes Rovisco Branquinho Pais Monteiro foi autorizada pelo NEM/AAC a realizar um estudo enquadrada na atividade "A Brincar, a Brincar" para o seu Projeto de Trabalho Final do Mestrado Integrado em Medicina.

Coimbra, 25 de outubro de 2016



(Ana Rita M. Fradique Valente,

Presidente NEM/AAC)



COMPROVATIVO DE EMISSÃO DE CERTIFICADO ELETRÓNICO
/ELECTRONIC CERTIFICATE OF PARTICIPATION ISSUANCE RECEIPT
Decreto-Lei n.º 290-D/99, de 2/08 (com as alterações Decreto-Lei n.º 62/2003, de 3/04 - Diretiva 1999/93/CE) / Portuguese Law-decrees 290-D/99 and 62/2003 - European Union Directive 1999/93/CE

A Brincar, a brincar!

ORADOR

Emitido por/ Issued by

nemaac

NEM/AAC - Núcleo de Estudantes de Medicina da Associação Académica de Coimbra
Pólo das Ciências da Saúde, Unidade Central, Piso -1
Azinhaga de Santa Comba, Celas
3000-548 Coimbra

País/ Country
PORTUGAL

Identificação/ Identity
Maria de Lurdes Rovisco Branquinho Pais Monteiro

Atividade com Participação Certificada
A Brincar A Brincar

Descrição da Atividade
Assessment of knowledge and self-efficacy before and after teaching Bascic Life Support to schoolchildrean.

Data da Atividade/ Date of Activity
02/11/2017

Duração da Atividade/ Duration of Activity
2 h

A DIREÇÃO

Este documento é válido desde que a informação nele contida seja coincidente com a apresentada na Base de Dados pública (Identificação do aluno, Atividade com Participação Certificada e a Data da Atividade) / This document is legitimate so long as the information it contains is subject to validation in the Public Databases (e.g.: Student Identity, Certified Activity and Date of Activity)