EDITORIAL

Schools: a community setting to target for training in cardiopulmonary resuscitation

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Knowing cardiopulmonary resuscitation techniques (CPR) means knowing how to save lives. Learning CPR is easy and can be done in only a few hours. Since its foundation, the Spanish Emergency Medicine and Emergency Care Society (SEMES) has been committed to the training of CPR as one of its fundamental pillars. It is known that thousands of persons die each year because of cardiac arrest simply for not having received medical treatment early enough. Eight out of every 10 extrahospital cardiac arrests occur at home, but CPR is only performed by a bystander in 15%. Early recognition of a cardiac emergency by a member of the family, an early call to the Emergency Medical Department (EMD) and early CPR are essential to save lives.

It has been demonstrated that with CPR programmes which include the teaching of the use of external automatic defibrillators (EAD) by laypersons implemented in specific public settings, the number of survivors of cardiac arrest due to ventricular fibrillation (VF) outside the hospital doubles in comparison with programmes based on making a rapid call to the EMD and the administration of CPR by specialised personnel[1]. In some studies survival after cardiac arrest may be 3- or 4-fold greater if CPR is carried out by citizens. Moreover, it has been shown that this CPR initiated by bystanders is clearly associated with a better quality of life for the survivors of a cardiac arrest[2].

In May 1973, one of the first national conferences on "Standards in CPR and emergency cardiovascular care (ECC)" was held in Washington DC (USA). One of its conclusions was that all schoolchildren after the fifth grade (10-12 years) should begin to receive some type of annual training in emergencies, accidents and CPR. Furthermore, it was established that efforts should be made by the authorities to achieve this objective in the shortest time possible[3].

Young people have two hands, learn easily, may be easily motivated, retain knowledge and skills, have no social pressure and occasionally need to feel like "heroes" who they often imitate.

Norway initiated the teaching of CPR to schoolchildren in 1960. Later the group of investigation of Peter Safar, one of the pioneers of the introduction of CPR manoeuvres in the care of cardiac arrest, demonstrated the effectiveness of the acquisition of basic CPR skills in youths from 15 to 16 years of age in 1978. Thereafter, they demonstrated that children from 10 to 12 years of age were able to perform the manoeuvres correctly in 100% of the cases using the self-training technique with an infantile manikin. Schools constituted the ideal framework for initiating the population in the knowledge and learning of CPR[4].

Spain has had pilot experiences, some of which have been published, in the teaching of CPR to children and have demonstrated that children are capable of learning basic CPR as quickly as adults. Youths are not only able to learn but can also facilitate and multiply their knowledge among the members of their families and friends.

Two of these studies are included in this issue of EMERGENCIAS. Both are interesting studies which take an in depth look at different aspects of CPR training to youths in schools in our country. In one study carried out in Galicia, the results of a survey undertaken in teachers preparing for a training project in their schools were analysed[5]. The different points of view of the teachers and healthcare personnel are interesting. While the first prefer the courses to be carried out by healthcare personnel, objectivity and the scientific evidence itself demonstrate that to perform a cyclic training programme duly trained teachers must give the courses. The reception of such a

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teaching activity on behalf of the teachers is good, although there may be certain distrust, probably due to the unfamiliarity with the teaching method. The training of CPR by DVD, which indicates when and how to perform the manoeuvres, is much more homogeneous and loses inter-instructor dependence and variability, making the work very easy.

The other study published in this issue analyses the preliminary results of the "Program of Cardiopulmonary Resuscitation in Secondary Schools (PROCES)" which has been developed over 5 years in Catalonia[6,7]. This programme, together with others developed in Madrid (Alertante Programme) and Aragón (SEMES-AHA) has been one of the pioneer studies carried out in Spain. The initiative itself is noteworthy, with posterior follow up and analysis of the educational results. The criteria that students learn better when the teachers themselves give the courses are reinforced. Although part of the learning is forgotten after one year, periodical recycling, maintaining the practicing of skills and using the methodology of seeing a DVD and practicing while watching throughout the course may increase retention of the techniques[8]. The number of students trained in PROCES is important and it is essential that the experience be maintained over time and that the authorities are directly implicated in this topic of capital importance, with its systematic inclusion in the school teaching curricula.

On being aware of this, the SEMES Secretary of Education decided to elaborate a National Plan for teaching of CPR in schools, aimed at teaching schoolchildren basic CPR manoeuvres since this training is one of the key elements for future adults in the protection of citizen health, thereby diminishing avoidable deaths and permanent sequelae.

The objectives of this plan include: the introduction of the teaching of basic CPR in the obligatory secondary school (ESO) to children after the age of 14, that is, in the second cycle of ESO to disseminate the knowledge of basic CPR to the population and improve the survival of cardiac arrest and reduce the sequelae of the survivors in Spain. First, teachers were trained and became in charge of training the students (after supervision of the first courses).

A secondary objective was to equip the schools first to carry out the intervention in children in general and, particularly persons with a greater risk of having a cardiac arrest, with this training strategy and extend CPR training to the remaining teachers, with minimum material requirements (emergency kit, external automatic defibrillator or EAD). Thus, each family would thereafter have a trained member who could diffuse the techniques among other members of the family.

Different studies have demonstrated that CPR training of the members of families of patients with cardiac risk has allowed an improvement in their survival in cases of having a cardiac arrest. These relatives of patients of high risk are very motivated to learn the CPR techniques. The learning of CPR at school by the younger members of the family would positively influence the remainder of the family to this respect[9].

Eighty percent of the people with sudden death are with a relative or have a friend nearby, and these people as well as all of us should know what to do. One of these things is to teach CPR to schoolchildren who may be the first witnesses to these events. The current educational trend focused on simplicity is aimed at reducing what should be taught in CPR courses and to do so in the least time possible, thereby facilitating massive training. Thus, it has been demonstrated that 30-minute CPR courses with personal manikins and DVD are as effective as classical 4-hour courses[10].

The strategy of implementation which has been designed must go through different phases: make the Board of Directors of SEMES and the Autonomic Presidents aware of this Teaching Plan, diffuse the plan among the members of SEMES, present the plan in the National Congress of 2008 in Salamanca (steps already taken), present the plan to the Ministry of Education and Science (MEC) and the Ministry of Health and Consumption (MSC), and obtain collaboration from other scientific societies integrated in the Spanish Council of CPR (CERCP), obtain collaboration from enterprises and the industry to achieve the viability of the training plan.

After the possible approval of the project by the corresponding ministries, the next phases will be: to establish a calendar of instructor training courses in the respective autonomic communities, give the instructor training courses according to the calendar established, tutorship of the first training courses to students by the teachers and evaluate the results. The social impact related to survival will have to be analysed. Society is sufficiently aware of the importance of CPR and the student setting is where a greater degree of illusion, altruism, will to live and lives saved will be achieved.

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