

la sociedad, como los años de vida ganados –o no perdidos– por las muertes evitadas, la productividad no perdida y el impacto social de las familias que finalmente deben soportar las pérdidas de estas muertes evitables asociadas. El DEA

utilizado de manera temprana en cualquier víctima de paro cardíaco de origen coronario –principal causa de muerte en el adulto–, establece una nítida diferencia en la supervivencia y en la recuperación libre de secuelas neurológicas (15).

A lack of coherence regarding Colombian basic reanimation policy

The Accident and Emergencies Regulating Centre (AERC) was set up 16 years ago in Bogotá, Colombia and assigned telephone line number “123” in 2005 (i.e. a single safety and emergency number (SSEN). It dealt with laudable and valuable action for coordinating and regulating how accident-related healthcare services are provided and how any part of the population affected by emergencies or disasters are attended (1,2). Since the beginning of this century it became a requirement that healthcare workers’ training must include elements regarding basic and advanced reanimation, evidently including the use of an automatic external defibrillator (AED) as part of management protocols (3).

Colombian Ministry of Health and Social Protection Resolution 1441/2013 (4) stated that AED must be provided for basic attention regarding out-of-hospital emergencies, updated/adjusted for Colombia regarding appropriate care requirements which have been demanded in other countries for a long time now, considering the high value placed on human life. Apparently under pressure from healthcare service providers claiming high implementation costs, the Ministry of Health and Social Protection surprisingly decided to withdraw the AED as a minimum requisite for providing this type of service through Resolution 2003/2014 (5). This being so, basic attention ambulances are not obliged to carry an AED from this year onwards.

The medical community has made energetic protests against this measure, considering that it threatens cardiac arrest patients’ fundamental rights regarding health and life. It has also highlighted the lack of coherence between Ministry demands regarding obligatory training during basic cardiopulmonary-cerebral resuscitation workshops for medical personnel and other emergency care providers and the measure for withdrawing the AED, a fundamental piece in basic management of cardiac arrest patients and the only tool available for immediately resolving ventricular fibrillation, this being the most frequently occurring initial rhythm of cardiac arrest seen in non-hospital environments (6).

Studies have shown the effectiveness of reanimation involving the use of AED (7,8). Reanimation guidelines (following international management guidelines) emphasise the chain of survival, described since 1991. One of its fundamental links is the availability and early use of AED (9). Evidence has been advanced stating that the success of defibrillation and, consequently, reanimation decreases rapidly as time elapses. If defibrillation is not applied early on, then a patient goes into asystole, having a poor prognosis and, consequently, dies (10).

There is no justification whatsoever for one of the determinants for providing this service being cost. AED is obligatory in many countries, not just in ambulances and hospital services but also in public places such as airports, schools, universities and shopping centres because of high regard for human life and as AED is considered a device which is effective, safe and easily handled by medical and non-medical personnel as well as its cost ranging from US\$1,500 to US\$2,000.

Are there any doubts about the value of human life in the era of cost-effectiveness studies? A successful case of basic and advanced cerebra-cardiopulmonary reanimation, including defibrillator, following an hour and a half of reanimation has been demonstrated in Colombia (11). Not using technologies which have been proved to be useful in medical emergency conditions and in places or situations where they are frequently required (i.e. ambulances) puts Colombia back more than 40 years regarding technological development for managing medical emergencies (12), increases the probability of death at first responder time and reduces potential life-years gained with effective, opportune management of out-of-hospital cardiac arrest, as has happened several times at the El Dorado airport which hosts a large number of travellers every day (13,14).

The Colombian Ministry of Health and Social Protection must insist on retraining and understand that cost-cutting regarding providing healthcare services favours the so-called third-party payers and reduces potential benefits for society,

such as life-years gained (or not lost) due to averted deaths, productivity which has not been lost and the social impact on families which ultimately must bear the loss due to such associated avoidable deaths. The early use of AED on any heart attack victim due to coronary disease (the main cause of death in adults) establishes a clear difference between survival and recuperation which is free of neurological sequelae (15).

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Referencias

- 1. Ministerio de la Protección Social. Resolución 1220 de 2010 del Ministerio de la Protección Social, “Por la cual se establecen las condiciones y requisitos para la organización, operación y funcionamiento de los Centros Reguladores de Urgencias, Emergencias y Desastres, AERC”. Diario Oficial. 2010 Abril 13;47679.
- 2. **Navarro-Vargas R.** Sobre la reanimación: una misión permanente. Revista Colombiana de Anestesiología. 2008;36:9-10.
- 3. Sudden cardiac death: strategies for survival-integration of BLS and ACLS. Ch 2. In ACLS Resource text for instructors and experienced providers. American Heart Association; 2008.
- 4. **Link MS, Atkins DL, Passman RS, Halperin HR, Samson RA, White RD, et al.** Part 6: Electrical Therapies Automated External Defibrillators, Defibrillation, Cardioversion, and Pacing. 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation. 2010;122:S706-19.
- 5. Ministerio de Salud y Protección Social. Resolución 1441 de 2013, “Por la cual se definen los procedimientos y condiciones que deben cumplir los Prestadores de Servicios de Salud para habilitar los servicios y se dictan otras disposiciones”. Diario Oficial. 2013 mayo 11;48787.
- 6. Ministerio de Salud y Protección Social. Resolución 2003 de 2014, “Por la cual el Ministerio de Salud y Protección Social define los procedimientos y condiciones de inscripción de los Prestadores de Servicios de Salud y Habilitación de Servicios de Salud, adoptando el Manual correspondiente”. Diario Oficial. 2014 mayo 30;49167.
- 7. **Leal-Forero LC, Martínez-Malo LC, Navarro-Vargas JR.** La reanimación cerebro cardiopulmonar: estado del arte. Rev. Fac. Med. 2014;62:149-55.
- 8. **Nichol G, Stiell IG, Laupacis A, Pham B, Maio VJD, Wells GA.** A cumulative meta-analysis of the effectiveness of defibrillator-capable emergency medical services for victims of out-of-hospital cardiac arrest. Ann Emerg Med. 1999;34:517-25.
- 9. **Nichol G, Hallstrom AP, Ornato JP, Riegel B, Stiell IG, Valenzuela T, et al.** Potential cost-effectiveness of public access defibrillation in the United States. Circulation. 1998;97:1315-20.
- 10. **Navarro JR, Garzón JF, Villarreal MJ.** Panorama del desfibrilador externo automático en el mundo. Actas Peruanas de Anestesiología. 2011;19:102-10.
- 11. American Heart Association. Manual de Proveedor de Soporte Vital Cardiaco Avanzado [Internet]. United States of America: American Heart Association [citado 2014 septiembre 12]. Disponible en: <http://goo.gl/GI5166>.
- 12. **García-Reyes J.** Reanimación cerebrocardiopulmonar prolongada exitosa en un paciente con muerte súbita: un reporte de caso. Revista Colombiana de Anestesiología. 2014;42:229-33.
- 13. **Jaggarao NSV, Grainger R, Heber M, Vincent R, Chamberlain DA, Aronson AL.** Use of an automated external defibrillator-pacemaker by ambulance staff. Lancet. 1982;320:73-5.
- 14. ¿Muerto en El Dorado? : Noticias UNO, La Red Independiente [Internet]. [citado 2014 septiembre 12]. Disponible en: <http://goo.gl/l2i4XX>.
- 15. El médico reanimador que no alcanzó a ser reanimado - Archivo - Archivo Digital de Noticias de Colombia y el Mundo desde 1.990 [Internet]. eltiempo.com [citado 2014 septiembre 12]. Disponible en: <http://goo.gl/xMnIWQ>.
- 16. **Gutiérrez-Rodríguez J, Arribas-López P, Caballero-Cubedo R.** La desfibrilación semiautomática: conceptos básicos, técnica y resultados. Capítulo 2. En Perales-Rodríguez de Viguri N. La Desfibrilación temprana: romper barreras para salvar vidas. Madrid: Arán Ediciones; 2004.