



Perspectives

Empowering the youth with national strategy: The imperative of basic life support training in combating sudden cardiac arrests

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In a remote town of Ampara, a tragic event unfolded during a school marathon: a 16-year-old boy collapsed and succumbed to a fatal cardiac arrest [1]. His sudden death underscored a critical gap in emergency preparedness and response—highlighting the pressing need for Basic Life Support (BLS) training among the youth, who are often first responders in such public emergencies. This incident is not isolated; it reflects a grim statistic of sudden cardiac arrests (SCA) and sudden cardiac deaths (SCD) that resonates globally [2]. Annually SCD claims for 15-20 % of all deaths, accounting for half of all cardiovascular-related fatalities [2-5]. The majority of sudden cardiac deaths are due to underlying arrhythmias such as ventricular fibrillation, pulseless ventricular tachycardia and asystole [5]. The main underlying aetiologies are ischaemic heart disease and other structural heart diseases such as cardiomyopathies [6].

The majority of sudden cardiac arrests occur as out-of-hospital cardiac arrests. Survival after out-of-hospital cardiac arrests is poor. In a UK study, survival to admission was 8.1% [7]. Survival to hospital discharge with good functional status was 7% in the United States [6]. Although this is an important healthcare concern, we lack comprehensive data on out-of-hospital cardiac arrests and SCDs in Sri Lanka.

Patients suffering from sudden cardiac arrest need immediate resuscitation and care according to international consensus and guidelines such as the American Heart Association and European Resuscitation Council [8]. Without cardiopulmonary resuscitation (CPR), the chance of survival reduces by 7–10 % in each minute [9]. A Swedish study, which included more than 30,000 cardiac arrests, found that CPR performed before the arrival of emergency medical services more than doubled survival at 30 days [10]. Therefore, prompt basic life support is one of the most proven ways to improve the outcomes of out-of-hospital cardiac arrests.

Different organizations worldwide and in Sri Lanka offer different basic life support training programmes. The college of anaesthesiologists and intensivists of Sri Lanka provides a comprehensive basic life support course under the European resuscitation council, which includes hands-on practical skill stations, demonstrations, and lectures. They have a special course for school children: 'Kids save lives' [9]. Professional colleges and hospitals also conduct several basic life support training programmes for different categories, including firefighters, police officers, lifeguards, and university and school children [12,13].

The Suweseriya ambulance service, government, and other nongovernment hospital emergency response

teams provide commendable service. However, according to the trauma bulletin of National Hospital of Sri Lanka, Colombo, only 3% of admissions to accident service were transported via the Suweseriya ambulance service in 2023 [14]. Improving those emergency response teams is also essential to improving outcomes of out-of-hospital cardiac arrests in Sri Lanka. Given the country's lack of emergency response teams, the community capable of basic life support will further justify the necessity of an organized basic life support programme.

The non-communicable disease unit of ministry of health with the college of emergency medicine, Sri Lanka Red Cross, and St. John's ambulance services has initiated the development of the national curriculum on basic first aid to streamline the haphazard basic first aid training conducted by various parties throughout the country [15].

Despite numerous initiatives by various organizations, including professional colleges and the ministry of health, Sri Lanka lacks a comprehensive, nationally coordinated Basic Life Support (BLS) programme for the general public and students. To truly enhance outcomes from out-of-hospital cardiac arrests, a unified national educational and training policy is essential. In that context, teaching basic life support to university and selected schoolchildren is likely a cost-effective strategy across the country in the long run.

The basic life support training can be arranged at two levels:

School-level training:

The target group can be middle-grade students (e.g., grade 9 or 10) as it will cover a relatively more significant number of students before leaving school. Relevant stakeholders such as relevant professional colleges, the ministry of education, the ministry of health, and St. John's ambulance service should formulate an age-appropriate basic life support programme. This programme may be conducted as a one—or two-day workshop in an appropriate centre.

For the students in grade 12, an additional 'booster' session can be conducted with a slightly modified ('advanced') basic life support programme, which may include automated external defibrillator use, etc.

The ministry of education should take measures to incorporate BLS and other necessary first aid into

relevant textbooks in a compulsory subject (e.g. science). An updated website with relevant learning materials for the national BLS programme should be maintained. School teachers who volunteer can initially be trained for basic life support at a central training centre. They will later serve as resource people. University students with basic life support training and other volunteer organizations, such as the Red Cross Society, may also contribute as trainers. The ministry of education, through their regional education offices, should coordinate the programme with a liaison of local resources such as hospital staff and higher educational institutions.

University level training:

As mentioned above, a standard basic life support programme at level the of university should be formulated with the contribution of all the stakeholders. This programme may include a one—or two-day workshop at the university. Initially, some selected students and university teachers can be trained as volunteer instructors in a national or regional training centre. The faculties of Medicine may take the initiative with relevant professional colleges.

Students can be given a suitable competence certificate upon completing the training programme. After an appropriate level of training at a central training centre, selected voluntary trainers can be offered internationally recognized licenses and certificates. This certification will be an incentive for them to acquire an important life skill.

Schools and universities should be supported with the necessary infrastructure. Hands-on training sessions should be arranged, and repeat sessions should be encouraged at the local level with local instructors. However, a national programme seems like a challenging target. As a first phase, a university-level pilot programme can be arranged with minimal cost and facilities. Gradually, these programmes can be intensified nationwide.

The government must spearhead the initiative, working closely with stakeholder organizations to establish a national Basic Life Support (BLS) programme. In addition to a national policy with a clear plan, it is essential to have adequate funding, human resources, and relevant infrastructure facilities. Launching such a wide-scale initiative presents several challenges: coordinating across diverse regions with varying

resource availability, achieving uniform training standards, and ensuring ongoing support and updates for the programme. To overcome these hurdles, as above, a phased implementation strategy could be adopted, starting with pilot programmes in key regions to refine the approach based on real-world feedback. Partnering with local educational institutions such as universities, and healthcare facilities can help decentralize training and make the programme more accessible. All the

volunteers and partner organizations need to be duly acknowledged. Additionally, securing government funding and exploring private partnerships can address financial constraints.

This is the call of the hour for all of us if we need to build a safer country. Furthermore, this will create a culture of preparedness and life-saving skills among the youth of Sri Lanka with a more resilient nation.

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