



Reply to correspondence article, correspondence on “Significance of automated external defibrillator in identifying lethal ventricular arrhythmias”

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We appreciate the important comments by Dr. Guan Yang Kang regarding limited public accessibility of automatic external defibrillator (AED) and its effect on the outcome of out-of-hospital cardiac arrest (OHCA). We recently published a paper in the *European Journal of Pediatrics* emphasizing the diagnostic value of AED in addition to its therapeutic efficacy in children with aborted sudden cardiac death (SCD) [1]. However, our study population included only those who survived OHCA and did not include those who died before coming to our attention. Although the absolute therapeutic benefit of AED in preventing SCD has been well established in both children and adults and the number of AED installments in public areas has dramatically increased in recent years, there are still significant barriers that hinder routine application of AED by laypersons (application that could have considerably increased the survival of OHCA) [2]. The reasons are multifold. Limited public accessibility and underutilization of AED are not only reported in metropolitan Shanghai, China [3], but also noted in other developed countries [4–6]. The actual public utilization of AED for OHCA is far lower than we expect. It

was reported that accessibility of AED is decreased by approximately one-half during evening, nighttime, and weekends [7]. Public bystanders have also reported emotional hesitancy or fear about applying AED to unresponsive patients [8]. The cost of AED installment and registration, ongoing maintenance, and continuous user training is substantial [9]. To overcome these problems, mutual understanding of this serious matter needs to be shared by physicians and other medical personnel (medical facilities), local government, and lay public.

It is of utmost importance to enhance public awareness that early application of AED by public bystanders can effectively save OHCA victims by initiating the chain of survival sooner. In fact, effective public education in Japan has significantly increased the public usage of AED and thus improved survivals of OHCA without neurological deficit [10, 11]. Legal registration of AED after installment, 24/7 accessibility, and dispatch services for AED location should be supported and well advertised for their availability [6]. Financial support to maintain and enhance the program is essential. These active collaborative efforts among medical personnel, local government, and lay public are warranted to improve the survival of OHCA.

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