

**Review Article**

**Conducting a FIMA Lifesaver Course in the COVID-19 Setting by IMAM in Malaysia**

Noor Hafizah Abdul Salim<sup>1,3</sup>, Aneesa Abdul Rashid<sup>2,3</sup> Ahmad Luqman Md Pauzi<sup>1,3</sup>  
Mohd Hisham Isa<sup>3,4</sup>

**Abstract:**

Every year, the Federation of Islamic Medical Association (FIMA) conducts a basic life support (BLS) course for the public, not just in one, but in several countries. It is held in mosques as a method of raising awareness on the importance of BLS among the public, apart from highlighting the function of a mosque as a place of obtaining knowledge. Traditionally, it was conducted as face-to-face training. However, with the 2019 novel coronavirus pandemic, the training was changed to a hybrid method to balance between the needs to teach BLS skills to the public and the necessity of avoiding the spread of infection. This article discussed the Islamic Medical Association of Malaysia (IMAM)'s experience in organizing a mass BLS course for public in the midst of the COVID-19 pandemic while utilising a small mosque as a hub of learning.

**Keywords:** basic life support, layperson, mosque, training, Malaysia

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**Background**

The Federation of Islamic Medical Association (FIMA) is a society that comprises of Islamic medical societies (IMAs) from around the world.<sup>1</sup> To date, it has members from 29 countries. The FIMA lifesaver project is reported to be a successful programme that focus on teaching basic life support (BLS) in the community.<sup>2</sup> Being setup at mosques around the world, the aim is to raise awareness on the importance of BLS among the public, while instilling the idea of the mosque being an institution for not only religious events but also factors that are important in the religion

such as education, health and bringing society closer with social events. The lifesaver project was initially the brainchild of the British Islamic Medical Association (BIMA) and began in 2014.<sup>3</sup> Due to the Lifesaver's program positive response along with essential needs worldwide to increase the bystander rate of cardiopulmonary resuscitation (CPR) for out-of-hospital cardiac arrest (OHCA), the program has evolved to a worldwide event. The Islamic Medical Association of Malaysia (IMAM) was one of the countries involved in the expansion.

**Cardiac Arrests and BLS**

1. Department of Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Malaysia
2. Department of Family Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Malaysia
3. The Islamic Medical Association of Malaysia (IMAM), (The office of IMAM Response & Relief Team), No 1-2, Jalan SP1, Selayang Point 68100 Batu Caves, Malaysia
4. Department of Emergency Medicine, Faculty of Medicine, Universiti Kebangsaan
5. Malaysia Medical Centre, Jalan Yaacob Latif, Bandar Tun Razak, 56000 Cheras, Kuala Lumpur, Malaysia

**Correspondence to:** Noor Hafizah Binti Abdul Salim. Department of Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Malaysia. Email: [noorhafizah\\_as@upm.edu.my](mailto:noorhafizah_as@upm.edu.my)

The global incidence of OHCA is reported to be 55 incidence per 100,000 person in a year <sup>4</sup>. In Malaysia, the leading cause of death because of cardiac arrest is ischaemic heart disease <sup>5</sup>. Furthermore, the rate of bystander CPR is still low in Malaysia <sup>6,7</sup>. Therefore, there is a dire need to improve the CPR literacy among public by providing a training of knowledge and psychomotor skills of basic life support. This is supported by Pan Asian Resuscitation Council Outcomes Study (PAROS) that showed only 22% of out-of-hospital cardiac arrest patients received bystander CPR in Malaysia <sup>7</sup>.

Prompt initiation of the chain of survival has been proven to increase survival rate for cardiac arrests <sup>8</sup>. The chain of survival are: 1) early recognition of signs of cardiac arrest, 2) early activation of emergency medical services, 3) early initiation of basic cardiopulmonary resuscitation, 4) early defibrillation and 5) early initiation of advance cardiac support. Initiating the early part of the chain depends on bystander involvement. A delay or break in any part of the chain will reduce the chance of survival in cardiac arrest<sup>8</sup>. Therefore, the necessity to train the community is of utmost importance.

### **Teaching BLS in the Pandemic**

The SARS-CoV-2 (COVID-19) outbreak, which began in Wuhan, China since October 2019 has led to the global pandemic and was declared as the 6<sup>th</sup> public health emergency of international concern by the World Health Organization (WHO) on 30<sup>th</sup> January 2020<sup>9</sup>. The Malaysian government had enforced several phases of movement control order (MCO) to curb the spread of COVID-19 virus. As the country moved to the phase of Recovery Movement Control Order (RMCO), some liberation was allowed. Following this, the FIMA lifesaver event was resumed.

Conducting a community training during the COVID-19 pandemic warrants precautionary measures to prevent the spread of the virus. The traditional teaching through face-to-face can still be conducted with strict adherence to the safety protocol (Hisham et al. 2020).<sup>10</sup> The need to reach out to the community must be balanced with the safety of those involved. Therefore, IMAM conducted a hybrid module which combines face-to-face and online training. There are five

main objectives of the programme. The first objective is to unite the medical community in the task of serving the public. Secondly, improving community participation and confidence in facing a cardiac arrest situation. Next, promoting mosque as the hub for education and the place to unite the community. Subsequently, conducting a community basic cardiopulmonary life support training that adheres to infectious disease precaution and lastly, combining on-site and online training to reach a larger target population.

### **Planning and delivery of the Course**

#### *Planning*

##### *1. Trainers and organizer*

The programme was a collaboration between IMAM and three Malaysian Universities, namely Universiti Kebangsaan Malaysia (UKM), Universiti Putra Malaysia (UPM) and Universiti Teknologi MARA (UiTM). IMAM handled promotion of the event, recruiting participants, event location for onsite training and coordination of online platform and broadcasting. The universities were in charge of recruiting trainers, providing BLS training equipment, preparing teaching module, online live video demonstration of BLS skills and on-site face-to-face training.

##### *2. Advertisement*

The advertisement of event was made through several platforms, including social media such as Facebook and Instagram, flyers and posters. Registration of participants was made through organizer, google form and onsite registration. In order to adhere to standard operating procedure by the government of Malaysia in conducting face-to-face training, the number of participants was limited to 40 persons.

##### *3. Training module*

The focus of the training was on adult CPR, paediatric CPR and managing choking for adult and paediatric victim. The trainer performed a live demonstration of basic life support on manikins. Following each session, online participants were given question-and-answer session with the trainer. As for onsite training, four stations were allocated, equipped with trainers and BLS mannequin. Moreover, in this pandemic situation, the teaching of basic life support has been adapted, considering if the victim is infected with Covid-19.

4. *Venue*

Training place takes into consideration the size of the place relative to the number of participants at a time. Mosque was chosen in view of its spacious corridor, good aeration and being the place of community gathering. The layout is provided in figure 1. At each station, distance between participants, management of participants flow and management of mannequin is detailed out in table 1.

*Delivery of the course*

1. *Precautionary measures to prevent the spread of 2019-nCoV infection.*

In order to prevent the spread of infection, several factors concerning the participants, place of training, screening of COVID-19 infection symptoms, enforcement of hygiene and equipment handling was taken into consideration.

2. *Participants and organizers preparation*

All participants, trainers and programme organizers were screened for possibility of COVID-19 infection based on history of fever, ILI symptom, recent travel and recent contact. Temperature will be taken, and those with fever were not allowed to enter the mosque. Hands need to be sanitized before and after each training session. Wearing a face mask was compulsory throughout the programme. Reaching large target population in teaching BLS while adhering to SOP for COVID-19 could be achieved through a combination of online and onsite training. Details of the participants and organisers are detailed in Table 2.

3. *Training Place and training station's management*

During the event, social distancing and avoidance of crowding were maintained at all times. The measures taken were limiting the number of onsite participants, organizers and trainers, conducting the training in an area with good ventilation and spacious enough to allow social distancing. The distance between each station was 10 meters. Additionally, the number of participants allowed in a station were limited to the number of available manikin, with a ratio of one to one between manikin and participants.

**Table 1: Onsite management in limiting spread of 2019-nCoV infection**

Item	Description
COVID-19 screening	All participants were screened for the possibility of COVID -19 infection based on history of fever, ILI symptoms, recent travel and recent contact with COVID-19 patients before entering the mosque
Temperature screening	Temperature were taken for all participants, facilitators and organizers before entering the mosque. Those with temperature are not allowed to enter.
Number of participants at a station	Each stations had only one entry and exit point to limit number of participants at one time. Participants were only allowed to enter the station area when manikin and instructor become available for training.
Ratio between manikin to participants	Only one participant to one manikin is allowed at a time
Mask	It was made compulsory for participants and instructors to wear mask at all time during the programme.
Hand sanitization	Hands need to be sanitized before and after each session
Manikin	All manikins are sanitized before and after usage of each participant.

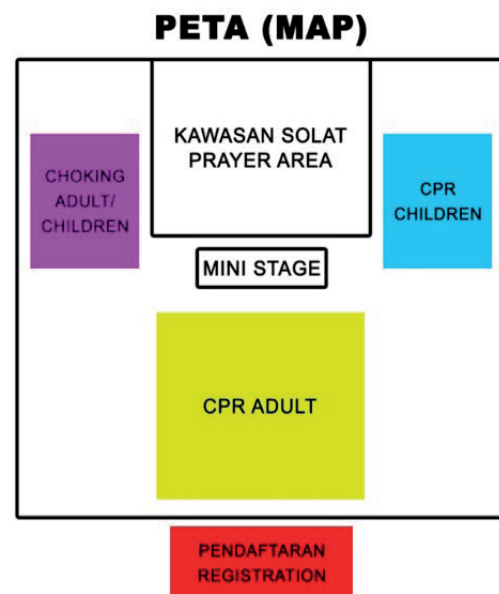


Figure 1: Map of onsite training area at Surau Al-Hjrah, Kota Warisan

**Table 2: Number of participants and volunteers**

	n	%
<b>volunteers n=44</b>		
Age mean (SD)	27.9 ( $\pm$ 5.82)	
Gender		
Male	18	40.00
Female	27	60.00
Medical Staff & Drs		
UPM	7	15.91
UiTM	10	22.73
UKM	5	11.36
IMAM	7	15.91
Students (UPM)	15	34.09
<b>Participants n=133</b>		
Online	100	75.19
Onsite	33	24.81

### Identifying Weaknesses in the Event

The COVID-19 pandemic has a significant impact in BLS training method, which was traditionally conducted through face-to-face method of learning. The running of a traditional BLS course is groups of people learning chest compression and ventilation through sharing of the same manikin with a simple personal face shield. It is particularly important that the risk of COVID-19 transmission is taken into consideration given that the training was done in the midst of the pandemic. The approach to our mass BLS training was changed to a hybrid approach of onsite and online training. This is in accordance with guidelines from American Heart association and UK resuscitation council.<sup>11</sup>

The hybrid approach adopted during this training was to limit the number of onsite participants but simultaneously spread the awareness to a large number of mass public through online participation. The factors to ensure successful hybrid session were seamless coordination between onsite and online organizer, an additional multimedia team for recording and streaming and multimedia platform with high viewer rating.

The main issues in conducting onsite training was social distancing and minimizing transfer of droplet. Among social distancing measures taken were selection of mosque with spacious area, the arrangement of the station to guarantee distancing, limitation in the number of participants in the stations and minimising the ratio between trainer and trainee. However, there were several challenges that we face. In ensuring the desired ratio of trainer

to trainee of 1:1, the number of mannequins has to be increased. This was achieved through the joint resources of three universities in providing the mannequin. Furthermore, additional manpower needed to oversee the flow of participants in and out of a station in view of limited placement in each station. This was achieved with the help of medical students from one of the universities. As we know, COVID-19 virus can be transmitted through contact, droplet and airborne transmission.<sup>12</sup> This outbreak has negative impacts on public perceptions and attitude towards CPR.<sup>13</sup> So, this module that has been produced should give confidence to the general public that there are safe ways to provide CPR to the victim. Apart from that, the initiatives to reduce the risk of infection during training session was strictly follow the training protocol which were screening of participants for COVID-19 symptoms, ensuring all participants and trainers were wearing facemask, use of hand sanitizers before and after handling the manikin, sanitizing the manikin after each use and exclusion of mouth-to-mouth ventilation during practice sessions.

### Conclusion

Conducting mass BLS training in a pandemic environment is unique and challenging. There are multiple angles that need to be taken into consideration. Minimizing risk, maximizing benefit, good communication and collaborative working are key factors in ensuring the success of this training. Lastly, think outside the box, be receptive to new ideas and adaptable to circumstance.

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**Author's contribution:**

Conception: AAR, NHAS

Collection and assembly of data: AAR

Writing manuscript: AAR, NHAS, ALP, MHMI

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