

# Spreading Mass Awareness in Cardiopulmonary Resuscitation over last three years in West Bengal, India

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## Abstract

**Background:** Lack of Cardiopulmonary Resuscitation (CPR) Awareness is a big health challenge in India. Among India's population, less than 2% are aware of Cardiopulmonary Resuscitation (CPR). About 4,280 people per one lakh population are getting cardiac arrest per year in this country. Every minute 112 people are succumbing to cardiac arrest. **Methods:** CPR Mass Awareness Programs are being conducted in different parts of India to spread the knowledge and skills of basic life support among the common people as well as the health care providers. The CPR week is observed every year around 21st July to commemorate the birth anniversary of Dr Anand Shandilya, a torch bearer in this journey of IAP CPR Mass Awareness activities in India. Presently, three different CPR Mass Awareness Programs are being organized. IAP CPR Mass Awareness Program for Health care providers (Sanjeevni). Table 1 Hands on training in IAP CPR following e-Sanjeevni, i.e. an e-BLS module (CPR training: Digital module) with online videos and post- test developed during COVID 19 pandemic Table 2 [1] and Non-medical persons certificate course in IAP CPR (CPR Aware Citizen). Table 3 **Results:** 3633 participants with 1319 Health care providers, 487 MBBS students and 2087 non-medical persons were trained in the skills of basic life support by hands on practice on CPR manikins in different parts of West Bengal following a structured course.

**Keywords:** Cardiopulmonary resuscitation, rescue breathing, high quality CPR, Mass Awareness Program.

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## INTRODUCTION

Cardiopulmonary resuscitation (CPR) is a lifesaving procedure in any victim with sudden cardiac arrest which may occur in a variety of situations, both in and out of hospital circumstances. Sudden cardiac arrest in adults is often due to cardiac causes including rhythm abnormalities like ventricular fibrillation or pulseless ventricular tachycardia. Major cause of cardiac arrest in children is due to respiratory failure and/or shock. A victim of cardiac arrest has the best chance of recovery if the CPR is initiated by the person standing next to him, immediately on recognition of the condition. [2] Majority of cardiac arrest occurs at home and it is witnessed in 85% of cases. 95% of those who experience sudden cardiac arrest, die because of not receiving timely intervention. CPR has to be initiated immediately upon recognition of sudden cardiac arrest. [3] Every minute delay in initiation of CPR increases the chance of mortality by 17%. The hands-only CPR recommendation applies to both untrained bystanders and first responders. It is always better to try than to do nothing at all. The

difference between doing something and doing nothing could be someone's life.

IAP ALS BLS group is actively involved in ensuring globally acceptable evidence-based guidelines on resuscitation, and makes a strong partner with similar bodies.[4]

### Goal

- Neurologically intact survival of a child/adult with cardiac arrest, following an integrated approach..

### AIMS AND OBJECTIVES

- Prevention and reduction of mortality
- If confronted with the collapse victim, adhere to the standard protocol
- To enhance the cognitive and psychomotor capabilities of the health care providers as well as common people by providing pre-course material and hands on training
- Developing the leadership qualities & learning to work as a team [5]

## MATERIALS AND METHODS

- Pre course material was shared with the participants in the form of online videos

### Courses available under the IAP CPR Mass Awareness Program

- IAP CPR Mass Awareness Programs for Health Care Providers, Sanjeevni. Table 1
- Hands on training in IAP CPR following e-Sanjeevni for MBBS students. Table 2
- Non-Medical Persons Certificate Course in IAP CPR. Table 3

**Period of study:** July 2022 to August 2025

### Training Aids and Equipment

- Manikin with CPR rate and depth monitor
- Prestan adult CPR torso- 4 in number and Prestan Infant CPR manikins - 6
- Manikin without CPR rate and depth monitor
  - Laerdal Little Anne – 2
  - Laerdal Baby Anne – 2
- Automated External Defibrillator (AED) – 2
- Ambulatory manual breathing unit (AMBU)
  - Adult (1 litre) – 6
  - Pediatric (500 ml) – 6
  - Infant (250 ml) – 6
- Barrier device for mouth-to-mouth breathing – 2
- Sanitizer and gauge pieces
- Mattress and bedsheets
- Laptop with LED projector, screen and audio- visual facility
- Sitting accommodation for participants

### Inclusion Criteria:

Doctors, Interns, MBBS Students, Staff Nurse, Nursing students, Ayush Doctors, School and college students, teachers, parents of children with special needs, Scientists, Coast guards, Police (CID), BSF Jawans, Bharat Scouts, Sulabh workers as well as laypersons were included in this study.

According to the educational background and/or professional skills the participants were entitled to respective courses as mentioned above.

### Exclusion criteria:

Individuals with any bodily pain or recent major surgery and/or injury that made him/her unfit to provide CPR were excluded.

**Duration of training:** 2 hours

**Participants:** Minimum 20 and maximum 200 per session

**Instructors:** IAP BLS accredited instructors, 4-6 in number for each MAP

**Course fees:** Nil

## RESULTS

The data thus obtained after conducting courses over last 3 years from July 2022 till August 2025 was tabulated and analyzed. 3633 participants including 1319 Health care providers, 487 MBBS students and 2087 non- medical persons were trained in the skills of basic life support.

**Table 1: IAP CPR Mass Awareness Programs for Health Care Providers, Sanjeevni**

Centre	No. of courses	Participants
Tamralipto Govt. Medical College, Purva Medinipur	1	115
Medical College, Kolkata	4	285
Golden Jubilee Hall, Kolkata	2	60
Narayana Superspeciality Hospital, Howrah	1	41
IPGMER & SSKM Hospital, Kolkata	1	150
NRS Medical College, Kolkata	1	35
IAP CPR Centre, AIIMS, Kalyani	2	130
Apollo Multispeciality Hospital, Kolkata	2	95
Naihati State General Hospital, 24 PGS(N)	2	37
Fortis Hospital, Anandpur, Kolkata	1	61
Calcutta University Institute Hall, Kolkata	1	150
Galaxy Health Care Centre, Newtown	2	120
<b>Total</b>	<b>20</b>	<b>1279</b>

**Table 2: Hands on training in IAP CPR following e-Sanjeevni**

Centre	No. of courses	Participants
Jagannath Gupta Institute of Medical Sciences, Budge budge	1	107
Institute of Child Health, Kolkata	1	40
ICARE Institute of Medical Sciences & Research, Haldia	1	120
<b>Total</b>	<b>3</b>	<b>267</b>

**Table 3: Non-Medical Persons Certificate Course in IAP CPR**

Centre	No. of courses	Participants
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IAP CPR Centre, AIIMS, Kalyani	3	150
Tajpur, Purba Medinipur	1	47
Modern High School for Girls, Kolkata	1	61
Variable Energy Cyclotron Centre, Kolkata	1	80
Saha Institute of Nuclear Physics, Kolkata	1	100
Gokhale Memorial Girls' School, Kolkata	1	200
South Point School, Kolkata	1	100
Dhatrigram Balika Vidyalaya, Bardhaman	1	38
Ballygunge Govt School, Kolkata	1	110
Bhaktivedanta National School, Mayapur	4	400
Hindol (NGO), Ruby Kolkata	2	87
Eastern Railway Hospital	2	156
Samya Foundation, Kolkata	1	92
BJ Block, Salt Lake	1	40
CID, Bhawani Bhawan, Kolkata	1	75
Divine Nursing Home, Kolkata	1	40
St Xavier's College, Kolkata	1	200
St John's Ambulance Brigade, Sealdah Division	1	71
Bengal Institute of Business Studies, Kolkata	1	40
<b>Total</b>	<b>26</b>	<b>2087</b>

Table 4: Participants for IAP CPR Mass Awareness Programs

Doctors	160
Interns	162
MBBS Students	487
Staff Nurses	519
Nursing Students	176
Ayush Doctors	150
School Students	784
College students	40
School Teachers	125
Parents of children with special needs	108
Scientists	182
Coast guards	31
Police officers (CID)	75
BSF Jawans	60
Bharat Scouts	85
Sulabh Workers	190
Laypersons	299
<b>Total</b>	<b>3633</b>



Figure 1: IAP CPR Mass Awareness Program for Nurses on 17.07.2023 at Medical College, Kolkata





Figure 2: Non-medical persons certificate course in IAP CPR on 17.12.2023 for local residents, with Hindol (NGO), Ruby, Kolkata



Figure 3: Non-medical persons certificate course in IAP CPR for Bharat Scouts on 23.07.2023 at Eastern Railway Hospital, Liluah



Figure 4: Non-medical persons certificate course in IAP CPR for BSF Jawans on 13.08.2022 at AIIMS, Kalyani



Figure 5: Non-medical persons certificate course in IAP CPR for school students on 04.05.2025 at Bhaktivedanta National School, Mayapur

## DISCUSSION

### Achievements in 2022-2025

1. Trained doctors, MBBS and Nursing students [6], interns, nurses & paramedical staff, school and college students, teachers [7], scientists, office staffs, BSF Jawans, Scouts, parents of children with special needs, ambulance drivers, sulabh workers, coast guards and common people. Table 4.
2. Establishment of IAP CPR Center in July 2022 and IAP ALS Centre in February 2025 at AIIMS, Kalyani
3. Old CPR manikins were replaced.
4. Trained 22 new BLS and ALS instructors to strengthen our team.
5. Included 4 nursing instructors in CPR training programs
6. Availability of CPR application for use on mobile device both for training as well as use during the emergency situation.
7. Availability of Adult CPR Torso with Q CPR feedback device to assess the quality of CPR training

### Challenges faced while conducting the Mass Awareness Programs

1. Hands on training in child CPR is mandatory in Pediatrics curriculum for MBBS students as per NMC guidelines. The Nursing staffs need CPR training for LaQshya and MusQan accreditation.

2. With increased awareness regarding the need for CPR training, the number of participants is increasing. Hence, we need to train and involve more instructors to provide for the increasing need.
3. Funds are needed for conducting the MAP, especially for transport to remote and far off places with the manikins and other teaching aids. MAPs are run under IAP charity program and there is no provision for any course fees or sponsorship. Hence, we need financial support from IAP for continuation of this noble initiative to serve the community at large.
4. The online registration of participants needs to be encouraged. Proper documentation of the pretest and post-test scores is necessary.
5. Due to unavailability of electricity in village schools, the power point presentation and videos on CPR could not be displayed but hands on training could be successfully provided on the manikins with live demonstration.
6. Unavailability of audiovisual facility in few courses as they were conducted in open grounds. It was overcome by hands on demonstration of CPR and practice on manikins.
7. Lack of follow up of the participants trained in CPR

### Plans for 2025 - 26

1. Reach the sea beaches, hilly and remote areas and train the local people with skills of basic life support



2. To promote and facilitate resuscitation-based research in India.
3. Understand the impact of these programs on the participants and the need for addressing them at frequent intervals to keep them updated and motivated.
4. Establish new CPR Centers in all states.
5. Include new instructors to cater larger population

## CONCLUSION

Training the common people in the skills of basic life support is the need of the hour so that none of the cardiac arrest victims goes unattended. Further research is needed to establish the impact of this training on common citizens; the challenges faced in real-life situations and to find out the outcome measures.

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