Basic Life Support training is internationally accredited module primarily drawn for nursing and medical professionals. A similar simpler version without pharmacotherapy is designed for lay persons also. A professional who becomes more knowledgeable and skillful after going through Basic Life Support training can apply these skills in emergency thus preventing the catastrophic disaster for a patient in the hospital and in community. There are various agencies providing Basic Life Support training for nurses. As the staff nurses are the frontline workers at all areas in the hospital, knowledge and skills acquired by the Staff Nurses after the training will be presumably more effective in resuscitating the client who experiences cardiac arrest in hospital or in community. With the passage of time the effectiveness of training may remain intact for some or longer time depending upon various factors like the pre-knowledge and skill level acquired before the training, knowledge and skill level acquired during the training, frequency of reinforcement, number of cardiac arrest cases that occur in the health care system, their area of work like Emergency, Intensive Coronary Care Unit, Intensive Care Unit, Wards etc.

Sudden Cardiac Arrest (SCA) victims can survive if bystanders act immediately. The American Heart Association uses four links in a chain - the ‘Chain of Survival’.

- Early recognition of the emergency and activation of the emergency medical services.
- Early bystander CPR: immediate cardiopulmonary resuscitation (CPR) can double or triple the victim’s chance of survival from ventricular fibrillation in sudden cardiac arrest.
- Early delivery of a shock with a defibrillator: CPR plus defibrillator within 3 to 5 minutes of collapse can produce survival rates as high as 49 to 75 percent.
- Early advanced life support followed by post resuscitation care.

A medical professional (doctor/nurse/paramedic) trained in Basic Life Support can perform 3 or possibly all 4 of these time-sensitive actions for the victims of ventricular fibrillation in sudden cardiac arrest. It is essential for health professionals to know the Basic Life Support sequential assessments and actions. Health professionals including staff nurses may be taught how to use available resources for dealing with disasters and emergencies, when called for. The individuals trained in Basic Life Support will become an important member of health care provider in community as well as an useful member for society.

The author who also has an extensive experience of working as a nurse in clinical as well as various administrative setups, felt that if the hospital staff does not know what to do in emergency, rather than being a help they can become an unnecessary hindrance in dealing with these casualties. In the current scenario the author felt a dire need to evaluate the effectiveness of training provided by American heart Association for staff Nurses in Basic Life Support. The objective was to see the effectiveness of Basic Life Support training skills to a mixed ability group of staff nurses from different group of Hospitals.

The course in Basic Life Support will train the staff nurses to recognise cardiac arrest, perform effective cardio pulmonary resuscitation, as well as deal with other immediate life threatening events such as choking and serious bleeding.

Basic Life Support

Basic Life Support certification is a relatively short training course given health professionals to help revive, resuscitate, or sustain a person who is experiencing cardiac arrest or respiratory failure of some sort. This could include a drowning victim, heart attack or stroke patient, or any scenario where breathing or heartbeat have been compromised.

Good quality Basic Life Support results in better survival. Basic Life Support is a core competence of nurses but despite regular refresher training, the quality of Basic Life Support is often poor and the reasons for this are not well known.
Cardio Pulmonary Resuscitation

The American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care was developed in the year 2010. Need for high quality CPR is focused upon:

- A compression rate of at least 100 per minute.
- A compression depth of at least 2 inches (5 cm).
- A compression depth of at least 1.5 inches (4 cm) in children.
- Single rescuer compression to ventilation ratio 30:2.
- Rescue breaths 8 to 10 per minute.

A change in the Basic Life Support sequence of steps from A-B-C (Airway, Breathing, Chest compressions) to C-A-B (Chest compressions, Airway, Breathing) for adults, children, and infants (excluding the new born) is recommended. By changing the sequence to C-A-B, chest compressions can be started almost immediately whereas positioning the head and achieving a seal for mouth to mouth or rescue breathing etc. may take time.

Basic life support is usually described as a sequence of actions, and this continues to be true for the lone rescuer. Most healthcare providers, however, work in teams, and team members typically perform Basic Life Support actions simultaneously. For example, one rescuer immediately initiates chest compressions while another rescuer gets an automated external defibrillator (AED) and calls for help, and a third rescuer opens the airway and provides ventilations. Two new parts in the 2010 American Heart Association Guidelines for Cardio Pulmonary Resuscitation and Emergency Cardiac Care are Post–Cardiac Arrest Care and Education, Implementation, and Teams.

A. Post Cardiac Arrest Care

1. Optimise cardiopulmonary function after Return of Spontaneous Circulation (ROSC)
2. Evacuate to an appropriate hospital
3. Identify and treat acute coronary syndrome and other reversible causes
4. Control temperature to optimise neurologic recovery
5. Prevent multiple organ dysfunction by avoiding excessive ventilation and hyperoxia.

B. Education, Implementation and Teams

Few Important points to remember:

1. The current two-year certification period should include periodic assessment of rescuer knowledge and skills.
2. By standers willing to perform CPR must go through formal training
3. Hands only (compression only) should be taught to those who are not able to perform conventional CPR
4. Use of AED should be taught to all
5. In basic life support training team work and leadership skill should be included
6. During the examination only written test may not elicit desired competency level, performance assessment is also needed.

Elimination of “Look, Listen, and Feel for Breathing”

The CPR sequence begins with compressions (C-A-B sequence). Therefore, breathing is briefly checked as part of a check for cardiac arrest; after the first set of chest compressions, the airway is opened, and the rescuer delivers 2 breaths.

Chest Compression Rate (At Least 100 per Minute and Depth)

CPR is an important determinant of return of spontaneous circulation and survival with good neurologic function. The adult sternum should be depressed at least 2 inches (5 cm). Compressions create blood flow primarily by increasing intrathoracic pressure and directly compressing the heart. Compressions generate critical blood flow and oxygen and energy delivery to the heart and brain.

Chest compressions are emphasised for both trained and untrained rescuers. The bystander should provide Hands-Only (compression-only) CPR for the adult who suddenly collapses, with an emphasis to ‘push hard and fast’ on the centre of the chest, or follow the directions of the emergency medical dispatcher.

Activation of Emergency Response System

The Nursing staff should not delay activation of the emergency response system but should obtain 2 pieces of information simultaneously: the Nursing staff should check the victim for response and check for no breathing or no normal breathing. If the victim is unresponsive and is not breathing at all or has no normal breathing (i.e. only agonal gasps), the Nursing staff should activate the emergency response system and retrieve the AED.
if available (or send someone to pick it up). If the Nursing staff does not feel a pulse within 10 seconds, he or she should begin CPR and use the AED when it is available.

**Team Resuscitation**

Some resuscitations start with a lone rescuer who calls for help, whereas other resuscitations begin with several willing rescuers. Training should focus on building a team as each rescuer arrives or designate a team leader if multiple rescuers are present. For this reason, Basic Life Support health care provider training not only teaches individual skills but also teaches rescuers to work in effective teams.

**In-Hospital Use of AEDs**

In hospitals where defibrillators are used infrequently or where Nursing staff cannot recognize rhythm, the use of AED facilitates early defibrillation.

**Electrode Placement**

For ease of placement and education 3 alternative pad positions (anterior-posterior, anterior–left infrascapular, and anterior–right infrascapular) is considered on the basis of individual patient characteristics.

**Manikins**

As the practice of closed chest CPR became an essential part of clinical practice, the training for chest compression with Asmund Laerdal’s manikin became possible. The recording Resusci Anne skill-meter manikin was launched, with the recording properties, with a printer support.

**Ambulance**

The driving force behind initiating the paramedic ambulance program was to improve patient survival by treating life threatening cardiac arrhythmias when cardiac arrest occurs. For patient who is in ventricular fibrillation, electrical defibrillation is the most required item at that moment.

**Nurse and BLS Training**

There are various researches being done on Nurses Perceptions on attempting CPR in an emergency. The author wants to describe how nurses deliver Quality CPR.

A study was conducted on ‘Effects of training in cardiopulmonary resuscitation on competence and patient outcome’ by Curry and Gass (1987) in two medium-sized nonteaching community hospitals to determine the rate of deterioration of knowledge and skills in cardiopulmonary resuscitation (CPR) among physicians and nurses, the accuracy of their perceptions of their knowledge and skills, the effects of practice on retention and the effect of CPR training on mortality. The participants’ knowledge and skills were measured before and immediately after training, 6 months after and 12 months after training. Information on all attempts of CPR involving hospital staff was collected from medical records and from interviews with the participants.

A total of 31 physicians and 54 nurses were followed by the authors during the study. Six months after training there was no difference in CPR knowledge or skills between the physicians and the nurses. In both groups CPR skills had deteriorated to near pre-training levels. By 6 months the physicians’ knowledge had deteriorated to a level not significantly different from that before training. The nurses maintained a significant improvement in knowledge test scores at 12 months over those before training (p = 0.037). The physicians had an accurate perception of their knowledge but not their skills 6 months and 12 months after training, whereas the nurses did accurately perceive their knowledge or their skills after training.

The study concluded that experience with CPR did contribute to post-training knowledge or skills in either group. The probability of survival was greater when BLS was begun within 4 minutes of arrest than when it was begun after 4 minutes, regardless of whether advanced cardiac life support was begun within 10 minutes.

A quasi-experimental research was done to investigate the ‘retention of basic cardiopulmonary resuscitation skills and knowledge by qualified nurses following a course in professional development’ by Broomfield R. Nineteen of the nurses participating in the research were qualified staff undertaking the English National Board (ENB) 923 course in Professional Development, which included a refresher on basic CPR skills and included some discussion regarding advanced techniques.

The findings of the research reflect results similar to previous research undertaken and discussed in the literature review, suggesting that retention of skills and knowledge quickly deteriorates if not used or updated regularly. Therefore this research supports the importance of CPR.
refresher courses on a regular basis (Broomfield, 1996).

**Recommendations**

1. A well-drawn Basic Life Support and Advanced Cardiac Life Support programme should be included in the syllabus of Indian Nursing Council for all grades and levels of nursing courses.

2. This should be implemented by all institutions, colleges and schools of nursing authorities with strong commitment and conviction.

3. Refresher courses should be periodically planned for all levels of health care workers.

4. Cardiologists, intensivists and other doctors working with these staff nurses/sisters should invest time and energy to teach them regularly and reinforce at frequent intervals.

5. When students are in community for community projects the initiatives should be taken by the trained staff to train the student nurses so that they can help the community from catastrophic disasters.

6. Frequent reinforcement of training is recommended.

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**Conclusion**

The effectiveness of Basic Life Support training will give rise to change in the skill for younger professionals. Despite these hurdles the author has found an overall keenness to learn and improve technical skills in nurses at all levels. Results of training can be much more enhanced if institutional commitment is linked to training pursuits and ‘protected teaching time’ is ensured.

**References**


5. Broomfield R. A quasi-experimental research to investigate the retention of basic cardiopulmonary resuscitation skills and knowledge by qualified nurses following a course in professional development. *J Adv Nurs.* 1996 May; 23(5): 1016-23


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**Guidelines for Authors**

The Nursing Journal of India (NJI) invites contributions for publication including research articles, short reports, review articles, opinions and any other material that may be relevant/related to Nursing Practice, Management, Education or Training.

The articles should follow the following sequence: Title; Name(s) of author(s) with designation; Complete address for correspondence; Abstract (in research articles); Introduction or background; Literature Review (in short); Methodology; Results and Discussion; Conclusion; References - recent references (5-10) should be used. Ideally, the articles should be 1500 to 2000 words long. Illustrations, diagrams, photographs should be preferably in black and white; if in colour, these should have good reproducibility.

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