

## **Introduction**

The heart a hollow muscular organ is located in the center of the chest. The right and left sides of the heart each have an upper chamber (atrium), which collects blood and pumps it into a lower chamber (ventricle), which pumps blood out (**Paul, 2006**) . The heart is the organ that pumps blood, with its life-giving oxygen and nutrients, to all tissues of the body. If the pumping action of the heart becomes inefficient, vital organs like the brain and kidneys suffer, and if the heart stops working death occurs within minutes. Life itself is completely dependent on the efficient operation of the heart( **Richard, 2007**) .

Heart disease is a general term that refers to any disease or group of conditions affecting the structure and functions of the heart and has many root causes. For example, coronary heart disease, hypertension, heart failure, congenital heart disease, disorders of the heart valves, heart infections, and heart arrhythmias . There are many kinds of heart disease, and they can affect the heart in several ways (**Richard, 2007**). According to (**American Heart Association, 2005**) Heart failure (HF) is a major cause of morbidity and mortality in the United States, with more than 5 million people being diagnosed with this disease. Each year, there are approximately 550,000 newly diagnosed cases of HF and nearly 1 million related hospital discharges for this.

Cardiac arrest refers to a sudden profound disturbance in the heart's rhythm that causes the heart to stop beating completely or slow to the point where the life is unsustainable .Cardiac arrest is often caused by an abnormal heart rhythm called ventricular fibrillation (VF). When VF develops, the heart quivers and doesn't pump blood. The patient in VF

cardiac arrest needs cardio pulmonary resuscitation and delivery of a shock to the heart, called defibrillation. Defibrillation eliminates the abnormal VF heart rhythm and allows the normal rhythm to resume. Defibrillation is not effective for all forms of cardiac arrest but it is effective to treat VF, the most common cause of sudden cardiac arrest( **Verma, 2007**).

No statistics are available for the exact number of cardiac arrests that occur each year. It's estimated that more than 95 percent of cardiac arrest victims die before reaching the hospital. In cities where defibrillation is provided within 5 to 7 minutes, the survival rate from sudden cardiac arrest is as high as 30–45 percent. (**American Heart Association , 2005**).

Cardiac arrest one of the main causes of death in Egypt. It represents(282,456) deaths per one million people (**WHO , 2004** ) .

Cardiopulmonary resuscitation (CPR) is a procedure to support and maintain breathing and circulation for a person who has stopped breathing (respiratory arrest) and whose heart has stopped (cardiac arrest). CPR is performed to restore and maintain breathing and circulation and to provide oxygen and blood flow to the heart, brain, and other vital organs. CPR should be performed if a person is unconscious and not breathing. CPR must be performed within four to six minutes after cessation of breathing so as to prevent brain damage or death. It is a two-part procedure that involves rescue breathing and external chest compressions. To provide oxygen to a person's lungs, the rescuer administers mouth-to-mouth breaths, then helps circulate blood through the heart to vital organs by external chest compressions (**Knoop,2001**).

According to the American Heart Association, early CPR and defibrillation combined with early advanced emergency care can increase

survival rates for people with a type of abnormal heart beat called ventricular fibrillation by as much as 40%. CPR by standers may prolong life during deadly ventricular fibrillation, giving emergency medical service personnel time to arrive( **Fallon, 2006**).

Intensive care nurse functions as the nurse leader. The ICU nurse is responsible for directing and coordinating all nursing roles., Coordinates resuscitation efforts in collaboration with the physicians, serves as a resource for the nurse recorder, assures paperwork is complete and distributed appropriately. Nurses are often faced with life and death situations and their ability to act quickly and efficiently is of paramount importance (**Viklund , 2008**).

The nurse play a vital role in the efforts to resuscitate a patient. As mentioned ,the nurse often is one first assesses the patient initiates CPR calling of the team . The patient's primary nurse as should be present to answer questions about the arrest . Roles of the nurses who respond to the arrest situation include continuing CPR, monitoring heart rhythm and other vital sings, defibrillating ,administering drugs, recording of events, controlling any crowds, and notifying the attending physician and family members (**Finn,2004**).

### **Significance of the study**

Cardiopulmonary resuscitation one of the most emergency management and the nurse has a pivotal role and should be highly qualified in performing this procedure so that the investigator of the study will assess nurses performance during this procedure . The researcher finding would be hopeful in planning and managing nursing care during cardiopulmonary resuscitation in both units. As well as training adequately the personal responsible for the provision of such care , that finding is also hoped . There will be general attention and motivation for farther investigation into this topic as well as the lack of local researcher that concern with such problem necessitate the condition of this study .