

# **PUBLIC PERCEPTION OF A HEART ATTACK**

- Dr. Yuba Raj Limbu  
*Cardiologist*

A projected rise in a global cardiovascular death is anticipated over the next coming decades. Coronary Heart Disease (CHD) is a leading killer among all cardiovascular deaths. More than a million Americans experience a heart attack each year and more than one third of them are fatal.<sup>1</sup> A global death from CHD alone is accounted more than 7 million people each year.<sup>2</sup> By 2020 it is predicted that CHD mortality surpass infectious disease mortality and will claim 25 million lives annually around the world.<sup>3</sup> The dramatic rise in mortality due to heart attack over the next coming decades warrants public prompt awareness and recognition of heart attack signs and symptoms for the prevention of preventable deaths due to time delay.

## **Heart attack risk factors:**

Certain known risk factors comprise the peril of majority CHD and heart attacks. Some of those risk factors are modifiable and some are not. In men after the age of 45 and in women after the age of 55 the risk of heart attack increases significantly. Family history of early CHD and heart attack, father or brother diagnosed before the age of 55 and mother or sister diagnosed before the age of 65, is also responsible to increase the risk of heart attack. Ethnic vulnerability will be defined more clearly in future. Despite those some non-modifiable risk factors, many of the CHD and heart attack risk factors are modifiable. Hypertension, diabetes mellitus, hypercholesterolemia, obesity, cigarette smoking and sedentary life style are modifiable risk factors. Some of those risk factors contribute independently, and some enhances the risk of heart attack. A presence of a cluster of these risk factors indicates the high risk of CHD and heart attack.

## **Signs of a heart attack:**

Many of the heart attack signs are not typical as depicted in a commercial mass media. Almost one fourth of heart attack events occur without feeling of chest pain.<sup>4</sup> Chest pain, shortness of breath, feeling feverish, nausea or vomiting, and sweating are warning signs of heart attack. Some heart attacks are severe and intense, while some occur with only mild chest discomfort. Chest pain or radiating pain to arm, shoulder, neck, jaw or back, shortness of breath, nausea or vomiting, sweating, light headedness and weakness are most described heart attack symptoms. Warning signs and symptoms of heart attack varies in each individual.

## **Public knowledge of a heart attack;**

Generally, knowledge of heart attack is perceived through mass media in general population. Mass media in which heart attack is depicted as a sudden and intense event that causes to a person collapse and probably die.<sup>5</sup> There is a widespread myth of heart attack deaths in general population. Lay public heart attack awareness is not adequate and knowledge of heart attack signs and symptoms is deficient.<sup>6-8</sup> Chest pain or discomfort is the most commonly named heart attack sign or symptom by the general population of

economically established regions,<sup>6,7,9</sup> whereas chest pain is reported as a second a second most common heart attack symptom preceded by fainting or collapsing named by lay public of a developing country like Nepal.<sup>7</sup> Chest pain, shortness of breath, dizziness, sweating, palpitation, lethargy, nausea or vomiting and fainting or collapsing are the symptoms of heart attack named by general public. Interestingly Nepalese general population could not report any radiating pain,<sup>7</sup> while more than 50% participants of established economy region reported radiating pain (arm pain or numbness, jaw or neck pain etc) of heart attack.<sup>6,9</sup> Only 22.4% of Nepalese participants could identify chest pain as a heart attack symptom,<sup>7</sup> whereas more than 75% respondents of developed part of the world could identify chest pain as a heart attack symptom.<sup>6,9,10</sup> In reality majority of heart attack patients seek medical care with the complaint of chest pain. In one study<sup>10</sup> it is reported that a mismatch between symptoms experienced and those expected occurred in 58% of population and 12.5% had no idea of what a heart attack would be like. In our study,<sup>7</sup> 21.3% participants who were aware of heart attack could not name any heart attack symptoms. Gender and ethnic difference on the recognition of heart attack is also reported.<sup>11</sup>

Overall public can name different heart attack symptoms, but the knowledge of the complex constellation of heart attack symptoms is deficient in general population. An individual may experience either single or a cluster of heart attack signs and symptoms during acute onset of heart attack. Sometimes heart attack symptoms may be severe and intense and sometimes it may be mild discomfort. Severe and intense events draw attention of patient and helpers to seek the urgent medical management, but mild discomfort or some atypical warning signs of heart attack cause unnecessary delay to hospital arrival time to seek medical management. Sometimes heart attack symptoms are misinterpreted<sup>5</sup>, and some patients underestimate the seriousness of symptoms and wait for symptoms to go away.<sup>12</sup>

Early management, either medical (thrombolysis) or invasive strategy, and restoration of coronary patency greatly reduces the mortality. Both medical and invasive strategies are time dependent. If the time of presentation is less than 3 hours after the onset of heart attack, then the effectiveness of either therapeutic strategy is similar. So the patient's perception of heart attack warning signs and symptoms and treatment seeking behavior play a paramount role for the time dependent management of heart attack. Previous studies<sup>6-9</sup> have documented lack of heart attack awareness and the knowledge of wide range of heart attack symptoms in general population. A modestly successful in increasing the general public's knowledge of the complex constellation of heart attack symptoms was described in a community intervention trial.<sup>13</sup> Public health educational programs are warranted to increase the heart attack awareness and knowledge of heart attack symptoms to decrease the fatalities caused by delay in presenting at a hospital after the acute onset of heart attack symptoms.

## References:

1. Ornato JP. Hand MM. Warning signs of a heart attack. *Circulation* 2001; 104:1212-13.

2. The atlas of heart disease and stroke. WHO. The Hanway Press, London 2004.
3. Global burden of cardiovascular disease. Heart Disease: A Textbook of Cardiovascular Medicine 7<sup>th</sup> Edition. W. B. Saunders company, USA 2005
4. Limbu YR. Painless heart attack. Annual report. Shahid Gangalal National Heart Centre 2004; 48-50.
5. Ruston A, Clayton J, Calnan M. Patient's acting during their cardiac events: qualitative study exploring differences and modifiable factors. Br Med J 1998; 316: 1060-65.
6. Smith KL, Cameron PA, Meyer A, *et. al.* Knowledge of heart attack symptoms in a community survey of Victoria. Emerg Med 2002; 14: 255-60.
7. Limbu YR, Malla R, Regmi SR, *et. al.* Public knowledge of heart attack in a Nepalese population survey. Heart Lung 2006; 35: 164-69.
8. Donohue RT, Haefeli K, Moore F. Public perception and experiences of myocardial infarction, cardiac arrest and CPR in London. Resuscitation 2006; 72: 70-79.
9. Goff DC, Sellar DE, McGovern PG, *et. al.* Knowledge of heart attack symptoms in a population survey in United States. The REACT trial: Rapid Early Action for Coronary Treatment. Arch Intern Med 1998; 158:2329-38.
10. Horne R, James D, Petric K, *et. al.* Patients' interpretation of symptoms as a cause of delay on reaching hospital during acute myocardial infarction. Heart 2000; 83: 388-93.
11. Barnhart JM, Cohen O, Krammer HM, *et. al.* Awareness of heart attack symptoms and lifesaving actions among New York city area residents. J Urban Health 2005;82: 207-15.
12. McKinlay S, Moser DK, Dracup K. Treatment seeking behavior for acute myocardial infarction in North America and Australia. Heart Lung 2000; 29: 237-47.

Goff DC, Mitchell P, Finnegan J, *et. al.* Knowledge of heart attack symptoms in 20 US communities. Results from the rapid early action for coronary treatment community trial. Prev Med 2004;38: 85-93.