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A STUDY ON AWARENESS OF HEART ATTACK (HA) SYMPTOMS & AVAILABILITY OF TRAINING IN CPR AT RURAL SETTINGS

Cardiology

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ABSTRACT

The onset of Heart Attack (HA) and proper immediate action have a significant impact on the morbidity and mortality of patients, as patients who undergo successful reperfusion have shorter ischemia time [1]. HA typically manifests as chest pain or discomfort that may spread to the arms, neck, jaw, and back and is accompanied by difficulty in breathing and sweating. Furthermore, in some diabetic or elderly patients, HA can occur silently and with atypical symptoms, such as abdominal pain. Importantly, there can be gender differences in the symptoms [2]. The study was conducted at a tertiary care hospital in Pune, Maharashtra, with a sample size of 100 rural residents over 18 years of age. People suffering from cardiovascular diseases visit the Cardiology OPD, and undergo diagnostic and therapeutic procedures such as angiography and 2D Echocardiography. On analysis of the data it is seen that "diagnostic tests to rule out heart attack" (5% responded "Yes"). For "Shortness of Breath" (90 % "No" and 10% answered "Yes"), "Sudden heaviness after meal" (45 % "Yes" whereas 55 % gave "No"). "witnessed someone collapsing" (90% for "No"and 10% for "Yes")."Sudden Sweating"(25% "Yes" and 75% "No"). "risk factors to HA" (50 % Population answered "Yes" and 50 % "No").Based on the data from our study, the population studied, being rural residents have low awareness of CPR training. This is in stark contrast with other populations who prioritize such life saving techniques related to cardiac care as seen in [12]. Hence training programs and CPR camps should be conducted for school children and the general population. Our participants were aware about getting themselves tested and were willing to get diagnosed for cardiovascular disease, which is similar to pattern seen in [19]. In conclusion, this study shows some awareness of the community regarding HA symptoms and CPR.

KEYWORDS

Awareness, Heart Attack, Symptoms, Risk factors, Chest Pain, Diagnosis.

INTRODUCTION:

The onset of Heart Attack (HA) and proper immediate action have a significant impact on the morbidity and mortality of patients, as patients who undergo successful reperfusion have shorter ischemia time [1]. HA typically manifests as chest pain or discomfort that may spread to the arms, neck, jaw, and back and is accompanied by difficulty in breathing and sweating. Furthermore, in some diabetic or elderly patients, HA can occur silently and with atypical symptoms, such as abdominal pain. Importantly, there can be gender differences in the symptoms [2]. Longer prehospital delay can harm the patient, as 30 min delay can increase - year mortality by 7.5%. Annually, thousands of people die or suffer permanently because no appropriate action is taken within the appropriate time window needed for resuscitation to respond to HA symptoms. HA is a time-dependent disease in whic diagnosis is made promptly after the onset of symptoms. Early diagnosis of this condition and early hospital admission is correlated with reduced HA complications as it leads to improved delivery of emergency treatments. Treatment within the golden hour in Myocardial Infarction has shown to have better outcomes which is backed by substantial evidence [3].

Pre-hospital delay, known as delay in diagnosis by patient due to psychological, financial, delay in calls for an ambulance or health care assistance, and delaying transportation to a hospital. This delay may occur due to a lack of awareness of HA symptoms, which increases death rates. Other reasons for delay are denial, fear, lack of healthcare facilities, and unwarranted trust in self-administration, and several patients may fear embarrassment if they report to the hospital needlessly [4].

Bystander CPR has proven to be beneficial to patients suffering from out of hospital cardiac arrest, by increasing the chance of survival in hospital [5]. Formal and refresher training, helps increase skills of CPR. The training received or quality of CPR can influence good neurological recovery of patients in the hospital [6]. The purpose of this study is to assess contemporary awareness, knowledge and perception related to Heart Attack in the rural population visiting Cardiac OPD.

METHODOLOGY:

The study was conducted at a tertiary care hospital in Pune, Maharashtra, with a sample size of 100 rural residents over 18 years of age. Patients suffering from all cardiovascular diseases visit the Cardiology OPD, and undergo diagnostic an therapeutic procedures such as angiography and 2D Echocardiography. Patients walking into the OPD for different cardiac- related issues were interviewed in the Cardiac OPD. Patients visiting the Cardiology OPD were informed about the objectives of the study and consent was obtained from them before enrollment in the study.

A structured questionnaire was developed and validated by expert cardiologists, focusing on demographic characteristics including history of hypertension, family experience, work environment, and sources of information about past hypertension, diabetes, coronary artery disease, or hyperlipidemia. Social habits such as smoking and alcohol consumption, were also included. A total of 15 items was used to assess the level of awareness of hypertension symptoms and appropriate action in response. Respondents were asked about sudden pain in the jaw, neck, back, chest, arms, or shoulders, and difficulty breathing.

RESULTS:

After analysis of 100 respondents who consented to take part in the survey, 95% of our sample population was not aware of the tests to rule out heart attack (Angiography,

Electrocardiography and 2D- Echo) only 5% of the population responded "Yes" to the question. 80 participants of the survey were aware of the availability of diagnostic tests in their area for heart attack and 20 responded as being not aware about the tests available. 90% of the study group had never witnessed someone suddenly collapsing due to a heart attack and 10% did see anyone collapsing.

When asked about the symptoms of Heart Attack, the participants selected "Chest pain" being the most known with (100%), Pain in Jaw, Neck and Back (0%), Sweating (40%), Chest Heaviness (12%), Difficulty in breathing (25%), Left Arm was the second most commonly known symptom at (60%) after chest Pain.When the participants were asked about "Shortness of Breath" being a symptom, 90 % responded as "No" for it being a symptom and 10% answered a "Yes". "Sudden heaviness after meal" was known to 45 % whereas 55 % gave a response of "No". When asked about "Sudden Sweating"as a possible symptom of heart attack, the symptom was known to only 25% of the population with 75% not knowing or not having adequate

awareness of these lesser known symptoms.

Interestingly, even the understanding of risk factors to HA was poor: 50 % Population answered "Yes" for Obesity/ Hypertension / Diabetes as being a risk factor to cause heart Attack and 50 % answered with a "No" for the same.

Figure 1: Demographics of patients visiting Cardiac OPD

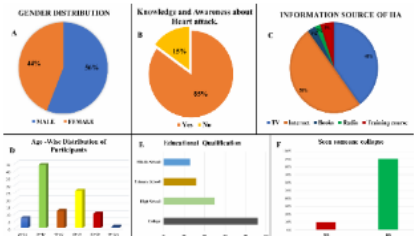
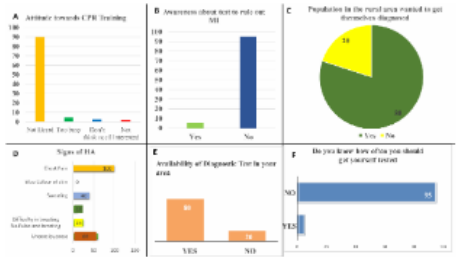


Figure No 2: Response to Questionnaire



DISCUSSION:

The current research was conducted among the rural population in a tertiary hospital to assess their awareness in response to the signs and symptoms of a HA. The study shows the limited awareness about symptoms of HA, as the participants were unable to identify certain symptoms of HA, such as "Pain in Jaw, Neck and Back", "Chest Heaviness" and "Difficulty in Breathing". [7] also reported low awareness of uncommon symptoms. [8] reports poor knowledge among the participants, and their awareness of calling the emergency helpline. [9] also reported low awareness of all symptoms of HA. [10,11] similar population-based activities or training should be undertaken to improve people's awareness. Educating patients as well as caregivers of the signs and less understood symptoms of HA, will help in early hospitalization or hospitalization as soon as symptoms are recognized.

Based on the data from our study, the population studied, being rural residents have low awareness of CPR training. This is in stark contrast with other populations who prioritize such life saving techniques related to cardiac care as seen in [12].

Hence training programs and CPR camps should be conducted for school children and the general population. Our study population was neither ignorant nor knowledgeable about the risk factors associated with heart attack, which is similar to [13] in which the population could identify major risk factors of cardiovascular disease but awareness of age, role and gender and modifiable factors was less, creating a gap in knowledge which needs to be addressed to tackle CVD burden.

Implementing point of care cardiac related diagnostic testing (HA) at local PHCs with transportation facilities provided to the nearest hospital (Comprehensive center) to cut down the pre-hospital admission times. In our study, the majority of the participants were unaware about availability of tests in their locality. According to [14] early identification of myocardial infarction (MI) for implementing timely treatment and improving outcomes is very crucial. Point-of-care testing allows for immediate decision-making regarding transfer to comprehensive cardiac centers for further intervention, such as percutaneous coronary intervention (PCI), which has shown to significantly reduce mortality rates compared to delayed intervention [15]. Transportation facilities from PHCs to nearest hospitals equipped with comprehensive cardiac car facilities ensures that patients identified with serious cardiac conditions can receive appropriate care without delay and is associated with improved clinical outcomes as seen in [16,17]. Study [18] also shows other factors associated with prehospital delay.

Majority of our participants were aware about getting themselves tested and were willing to get diagnosed for cardiovascular disease, which is similar to the pattern seen in [19]. The choice to undergo preventive health screening is influenced by a variety of preventive and motivational factors. As a result, obstacles to accessing health screening services should be removed and the design of these programs should be enhanced [19].

LIMITATIONS:

Small Sample Size: The study's small sample size may limit the generalizability of findings to broader rural populations, as it might not adequately capture the diversity of demographics, socioeconomic statuses, and geographic variations within rural
settings.

Biased Representation: Due to the small sample size, there's a risk of biased representation, where certain demographic groups or geographic areas within the rural setting may be overrepresented or underrepresented, skewing the study's conclusions about awareness of heart attack symptoms and availability of CPR training.

Single Centre Setting: Conducting the study in a single center within a rural setting may not provide a comprehensive view of the entire rural population's awareness levels and access to CPR training. Results may be influenced by local factors specific to that particular center, which may not be representative of other rural areas.

CONCLUSION:

In conclusion, this study shows some awareness of the community regarding HA symptoms and CPR. Targeted educational initiatives to enhance community knowledge about lesser known HA symptoms, and CPR training should be provided within rural areas to enhance survival rates and reduce burden of heart attack.

CONFLICT OF INTEREST: There is no conflict of interest.
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