CARDIAC ARREST IN THE YOUNG: CAUSES, RISKS, AND THE IMPORTANCE OF IMMEDIATE INTERVENTION

Tolibova Shahlo

Rajat Choudhary

Karabayeva Xilola

Samarkand State Medical University

Department of Biochemistry

Pastdargam Medical College

Abstract *Cardiac arrest, a leading cause of sudden death, is becoming increasingly common among young individuals, particularly university students. The rise in cases is attributed to lifestyle factors, including poor dietary habits, lack of physical activity, and high levels of stress. Sudden cardiac death in young people can often be traced to underlying, undiagnosed hereditary conditions such as hypertrophic cardiomyopathy or long QT syndrome. Early recognition of cardiac arrest and immediate intervention, including CPR and defibrillation, significantly increase survival chances. This study explores the causes, risks, and importance of rapid intervention in cases of cardiac arrest, particularly in young people (Smith et al., 2020)*

Key words: *Cardiac arrest, young, people, older adults*

Relevance Cardiac arrest is a serious public health issue, especially in younger populations. While traditionally associated with older adults, increasing evidence points to a rising incidence of sudden cardiac death among young individuals, often due to undiagnosed heart conditions (Fischer & Zhang, 2021). Early detection and intervention are crucial in saving lives, yet the rates of bystander CPR and defibrillator usage remain low, especially in non-hospital settings (Jones et al., 2019). With the growing prevalence of risk factors such as obesity, physical inactivity, and stress, the need for greater awareness and preparedness is vital,

particularly in educational institutions where young adults spend significant amounts of time (SCA Foundation, 2020).

Purpose of the Study The purpose of this study is to examine the increasing prevalence of cardiac arrest among young people, identify the genetic and lifestyle factors contributing to sudden cardiac death, and evaluate the importance of immediate medical intervention. The study also aims to emphasize the need for widespread public education on the recognition and management of cardiac arrest, including CPR and the use of automated external defibrillators (AEDs) (SCA Foundation, 2020). Furthermore, this study investigates the preparedness of educational institutions in managing such emergencies and the role of targeted training and equipment availability in improving survival rates (Jones et al., 2019).

Research Materials and Methods This study is a review of scientific and clinical literature published from 2015 to 2024, sourced from databases such as PubMed, Scopus, and ResearchGate. The research focuses on the causes of sudden cardiac arrest (SCA) in young individuals, particularly the genetic conditions like hypertrophic cardiomyopathy and long QT syndrome, as well as lifestyle factors such as stress, poor diet, and lack of physical activity (Smith et al., 2020; Nguyen et al., 2021). Studies were selected based on their exploration of the genetic and environmental factors leading to cardiac arrest in young populations, and the effectiveness of early intervention methods such as CPR and AED use (Thompson et al., 2019). The review also examines data on the preparedness of universities and colleges in handling such emergencies, including the availability of AEDs and the implementation of CPR training programs (SCA Foundation, 2020). Statistical analysis was used to synthesize findings on survival rates based on timely interventions and the role of public awareness campaigns in improving outcomes (Anderson & Clark, 2020).

Results The review confirmed that **hypertrophic cardiomyopathy** is the most common cause of sudden cardiac death (SCD) in young people, followed by **long QT syndrome** and other genetic arrhythmias like **Brugada syndrome** and **Wolff-Parkinson-White syndrome** (Fischer & Zhang, 2021). Additionally,

commotio cordis—a traumatic chest impact—can trigger **ventricular fibrillation** in athletes (Nguyen et al., 2021). Lifestyle factors such as **poor diet**, **stress**, and **lack of exercise** are contributing to the rise in cardiovascular issues among young people (Jones & Lee, 2019).

Early intervention, including **CPR** and **AED use**, significantly improves survival rates, but only a small percentage of SCA victims receive immediate help (SCA Foundation, 2020). Public education and training in CPR and AED use are crucial to improving outcomes, particularly in university settings where cardiac arrest incidents are rising (Baker et al., 2018).

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