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## IMPACT OF A WORLD HEART DAY COMMUNITY CARDIAC CAMP ON CARDIOVASCULAR RISK AWARENESS: CONTRIBUTIONS OF CLINICAL PHARMACISTS

### Introduction

Cardiovascular diseases (CVDs) represent a major public health challenge worldwide and remain the leading cause of mortality and morbidity across both developed and developing nations. According to the World Health Organization (WHO), cardiovascular diseases account for nearly 17.9 million deaths annually, representing approximately 32% of all global deaths, with a substantial proportion occurring in low- and middle-income countries.<sup>[1]</sup>

India, in particular, is experiencing a rapid epidemiological transition, characterized by a rising prevalence of non-communicable diseases, including coronary artery disease, hypertension, stroke, and diabetes mellitus.<sup>[2]</sup>

This growing burden is further compounded by lifestyle transitions, urbanization, physical inactivity, unhealthy dietary patterns, tobacco use, and inadequate health awareness.

Rural and tribal populations remain disproportionately affected due to limited access to healthcare facilities, poor socioeconomic conditions, low health literacy, and inadequate preventive healthcare services. Early detection and prevention strategies, especially at the community level, are therefore critical to reducing cardiovascular morbidity and mortality. In this context, health awareness and screening camps serve as effective tools for identifying individuals at risk, disseminating health education, and promoting preventive behaviors.

World Heart Day, observed annually on September 29, provides a global platform to raise awareness about cardiovascular health and emphasize preventive strategies. Aligning with this objective, the Department of Pharmacy Practice, Nirmala College of Health Science, organized a cardiac awareness and screening camp titled “Hridhayamritham” at Kallichithra Tribal Village, Varandarapilly. The camp aimed to assess cardiovascular risk factors, provide free medical consultation, deliver patient-centered counseling, and promote heart-healthy lifestyle practices. The active involvement of clinical pharmacists and pharmacy students highlighted the expanding role of pharmacists in community-based preventive healthcare.

### Background of the Health Camp

India's tribal population constitutes approximately 8.6% of the total population and continues to face significant health disparities compared to the general population.<sup>[3]</sup> Cardiovascular risk factors such as hypertension, obesity, diabetes mellitus, dyslipidemia, and tobacco use are increasingly being reported among tribal communities,



challenging the traditional perception that these populations are largely protected from lifestyle diseases.<sup>[4]</sup> However, due to inadequate screening, most cardiovascular conditions remain undiagnosed until advanced stages.

Kallichithra Tribal Village, located in Varandarapilly, Thrissur district, represents a typical rural-tribal setting where access to regular healthcare services is limited. The community primarily depends on government health centers and outreach programs for medical support. Recognizing the need for preventive cardiovascular care in this population, the Department of Pharmacy Practice conceptualized and implemented a cardiac awareness camp as part of its community outreach and social responsibility initiatives.

The camp was conducted on 29 September 2025 in observance of World Heart Day. It was approved by affiliated academic authorities. A total of 25 pharmacy students, under the supervision of faculty members, actively participated in the program. Free outpatient consultation was provided by a qualified medical practitioner, ensuring comprehensive evaluation and appropriate guidance for participants. The background rationale of the camp was rooted in the principles of primary prevention, early detection, and community empowerment through health education.

### Structure and Organization of the Health Camp

The cardiac awareness camp was systematically structured to ensure efficient delivery of healthcare services and optimal utilization of available resources. Prior to the camp, coordination was established with local community leaders to facilitate participation and ensure community acceptance. The venue was arranged to accommodate registration,

screening, consultation, and counseling activities in an organized manner.

### Registration and Data Collection

Participants were initially registered, and basic demographic details such as age, gender, and relevant medical history were recorded. This step enabled structured documentation and helped in identifying individuals with known cardiovascular risk factors or comorbidities.

### Screening and Assessment

The screening component included measurement of vital and anthropometric parameters such as blood pressure, body mass index (BMI), height, weight, pulse rate, and random blood glucose levels. Standardized instruments and validated procedures were used to ensure accuracy and reliability of measurements. These parameters served as preliminary indicators of cardiovascular risk.

### Medical Consultation

Individuals with abnormal findings were referred for free medical consultation. The consulting physician assessed clinical findings, reviewed previous medical history where available, and provided appropriate advice on further investigations, treatment, or referral to higher healthcare centers if necessary.

### Counseling and Health Education

Health education sessions were conducted in a culturally appropriate and patient-friendly manner. Informative leaflets focusing on heart health, risk factors, warning signs of cardiac diseases, and preventive strategies were distributed. Interactive counseling sessions ensured participant engagement and clarity of understanding.

### Role of the Clinical Pharmacist

The role of the clinical pharmacist in the cardiac awareness camp was multifaceted and extended



beyond traditional dispensing responsibilities.<sup>[5]</sup> Clinical pharmacists served as key healthcare professionals involved in screening, counseling, medication review, and patient education.

### Patient Assessment and Medication Review

Clinical pharmacists collected medication histories from participants with known hypertension, diabetes, or cardiovascular conditions. They assessed medication adherence, identified potential drug-related problems, and provided counseling on proper medication use. This intervention was particularly valuable in preventing medication errors and improving therapeutic outcomes.

### Interpretation of Screening Results

Pharmacists assisted in interpreting screening results such as blood pressure and blood glucose levels. They helped patients understand the clinical significance of abnormal values and reinforced the importance of timely medical follow-up.

### Lifestyle Modification Counseling

A major contribution of clinical pharmacists was lifestyle counseling. Participants were educated on modifiable risk factors, including diet, physical activity, smoking cessation, and stress management. Pharmacists emphasized the role of preventive measures in reducing long-term cardiovascular risk.

### Community Engagement and Health Promotion

Clinical pharmacists played a vital role in bridging the gap between healthcare providers and the community. Their approachable nature facilitated open communication, enabling participants to discuss health concerns freely. This interaction fostered trust and enhanced the effectiveness of health education.

## **Observations and Challenges**

### Observations

The camp revealed a notable prevalence of undiagnosed hypertension, elevated blood glucose levels, and overweight status among participants. Several individuals were unaware of their cardiovascular risk status prior to the screening. Lifestyle factors such as physical inactivity, high salt intake, and tobacco use were commonly observed.

The positive response and active participation of the community reflected the effectiveness of outreach programs in improving health awareness. Participants expressed interest in learning more about preventive healthcare and follow-up services.

### Challenges

Despite the overall success of the camp, several challenges were encountered. Limited health literacy and lack of awareness about chronic diseases posed barriers to effective communication. Language differences and cultural beliefs initially affected participant engagement. Additionally, the absence of advanced diagnostic facilities limited the scope of on-site assessment.

Logistical constraints, including time limitations and resource availability, also posed challenges. Ensuring long-term follow-up in a transient and resource-limited population remained a significant concern.

### Lifestyle and Dietary Recommendations

Lifestyle and dietary counseling formed a core component of the camp's preventive strategy. Participants were advised to engage in regular physical activity, such as walking for at least 30 minutes daily, to improve cardiovascular fitness. Smoking and alcohol cessation were strongly encouraged, highlighting their association with cardiovascular morbidity.

Dietary recommendations focused on reducing salt intake, limiting saturated and trans fats, and increasing consumption of fruits, vegetables,



whole grains, and fiber-rich foods. Participants were encouraged to adopt balanced diets using locally available and affordable food options. Stress management techniques and adequate sleep were also emphasized as integral components of heart health.

### Follow-Up Activities of the Camp

Recognizing the importance of continuity of care, follow-up activities were planned for individuals identified as high-risk. Participants were advised to visit nearby primary health centers or tertiary care hospitals for further evaluation and management. Contact information of local healthcare facilities was provided to facilitate follow-up.

The organizing department proposed periodic follow-up visits and repeat screening camps to monitor health outcomes and reinforce lifestyle modifications. Collaboration with community health workers was recommended to ensure sustained engagement and adherence to preventive measures.

### Opportunities for Improvement

Future camps could be strengthened by incorporating advanced screening tools such as lipid profile testing, electrocardiography, and standardized cardiovascular risk assessment scales. Establishing a referral linkage system and maintaining electronic health records would enhance continuity of care. Capacity building of students and volunteers through specialized training programs could further improve service delivery.

### **Conclusion**

The Hridhayamritham cardiac awareness camp successfully demonstrated the effectiveness of community-based interventions in promoting cardiovascular health among tribal populations. The active involvement of clinical pharmacists

highlighted their expanding role in preventive healthcare and community health promotion. Early identification of risk factors, patient-centered counseling, and planned follow-up activities contributed to improved awareness and empowerment of the community. Such initiatives serve as valuable models for integrating pharmacy practice into public health programs and addressing the growing burden of cardiovascular diseases.<sup>[6]</sup>

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