



Community Heart Health Screening and Awareness Program on World Heart Day 2025 at Villupuram New Bus Stand: A Cross-Sectional Study

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Abstract: Background: Cardiovascular diseases are a leading cause of global mortality. Early detection and community awareness are crucial for prevention. Objective: To assess heart health status and raise awareness through a community screening program in Villupuram. Methods: Descriptive cross-sectional screening conducted on 29 September 2025. Convenience sampling of 706 participants; measurements included BMI and blood pressure by nursing students. Results: Among participants, 44.9% had normal BMI (<25), 42.1% overweight (25–30), and 13% obese (>30). Blood pressure results showed 60.3% normal, 18.7% elevated, 12.6% stage 1 hypertension, and 8.4% stage 2 hypertension. Conclusion: The study identified significant cardiovascular risk burden, underscoring the need for ongoing community screening and health education.

Keywords: World Heart Day; Cardiovascular risk; Body Mass Index; Hypertension; Community screening; Health education.

INTRODUCTION

Cardiovascular diseases (CVDs) are the leading cause of deaths worldwide, causing over 17 million deaths annually. India experiences a rising burden of CVD due to lifestyle changes, urbanization, and aging populations. Early detection of modifiable risk factors like hypertension and obesity through community screening is critical for prevention. World Heart Day, observed on September 29th annually and led by the World Heart Federation, aims to increase awareness and promote heart-healthy behaviors globally. The 2025 theme, “Don’t Miss a Beat,” stresses

regular health checks and lifestyle modifications. Community screening programs during this event serve as important tools for early risk identification and public education. This study reports on a community heart health screening and educational program conducted by the Medical Surgical Nursing Department and IQAC of E.S. College of Nursing, in collaboration with Villupuram Municipality, at Villupuram New Bus Stand on World Heart Day 2025. The goal was to screen for cardiovascular risk factors and provide health education to the general public.

MATERIALS AND METHODS

Study Design and Setting: A descriptive cross-sectional study was conducted on 29 September 2025 at Villupuram New Bus Stand, coordinated by the Medical Surgical Nursing Department and IQAC, E.S. College of Nursing, in collaboration with Villupuram Municipality.

Participants and Sampling: Convenience sampling was used to enroll 706 voluntary participants aged 18 years and above. The Demographic characteristics such as age and gender were recorded. Sample Size Justification Although no formal a priori sample size calculation was performed, the final sample of 706 participants is in line with comparable community health screenings enabling representative cardiovascular risk assessment.

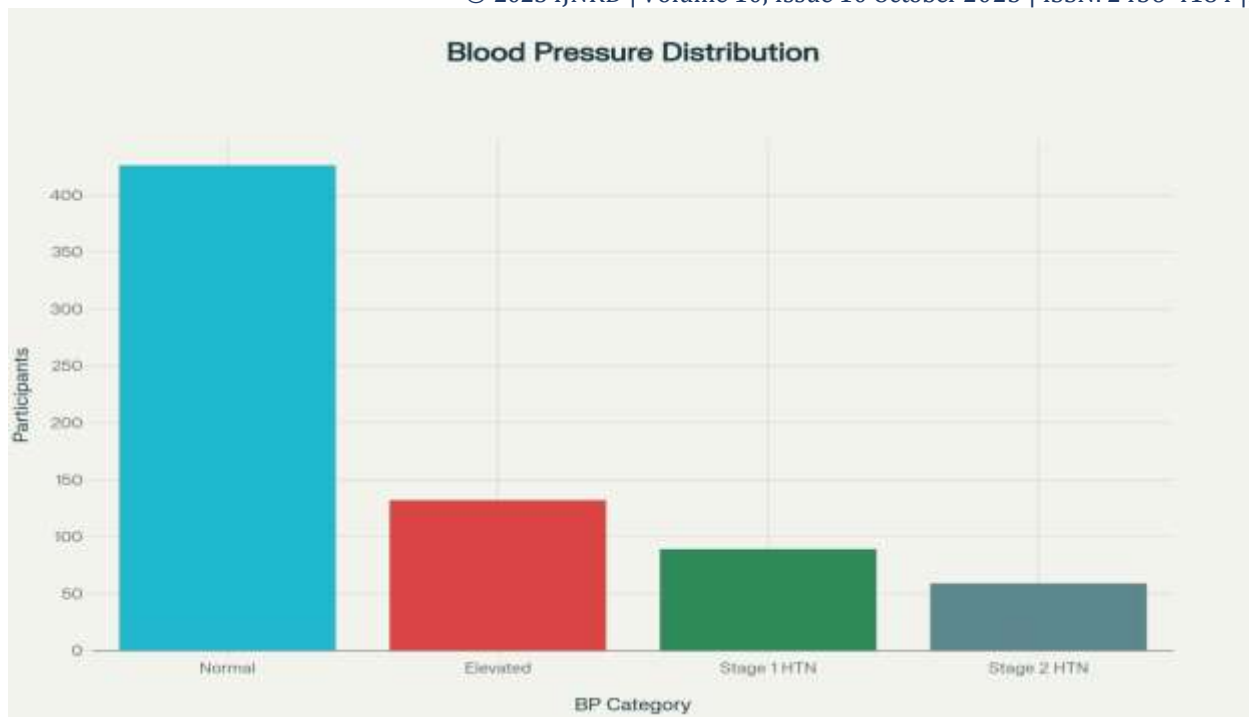
Ethical Considerations: The program was approved by institutional and municipal authorities. Verbal informed consent was obtained prior to screening. Participant confidentiality was maintained.

Data Collection Procedures: Trained undergraduate and postgraduate nursing students measured height and weight using calibrated stadiometers and digital scales, calculating BMI as $\text{weight(kg)/height(m)}^2$. Blood pressure was measured using sphygmomanometers after at least 5 minutes of rest in a seated position.

Data Analysis: Descriptive statistics were calculated using spreadsheet software: frequencies and percentages for categorical variables, means and standard deviations for continuous variables. BMI was categorized as under 25 (normal), 25–30 (overweight), above 30 (obese). Blood pressure was classified per clinical guidelines.

Results: Demographics of the 706 participants, 424 (60.1%) were male and 282 (39.9%) female. Age groups: <30 years (134), 31–40 years (239), 41–50 years (227), and >50 years (106). BMI Classification Normal/Underweight (<25): 317 (44.9%) Overweight (25–30): 297 (42.1%) Obese (>30): 92 (13.0%) Blood Pressure Classification Normal: 426 (60.3%) Elevated: 132 (18.7%) Stage 1 Hypertension: 89 (12.6%) Stage 2 Hypertension: 59 (8.4%) Health Education Engagement All participants received brief interactive sessions on heart health, emphasizing diet, physical activity, and routine monitoring.

Research Through Innovation



Discussion: This community-based screening revealed a considerable proportion of participants at risk for CVD through overweight/obesity and hypertension. The prevalence of elevated blood pressure and obesity is consistent with national and regional epidemiological trends. Early identification allows timely referral and promotes lifestyle changes necessary to mitigate risk. The involvement of nursing students is commendable for health promotion and community engagement, fostering preventive healthcare models. Limitations include convenience sampling and single-site design that may limit generalizability. Further multi-site longitudinal studies should be considered.

Conclusion: The World Heart Day 2025 screening at Villupuram effectively identified prevalent cardiovascular risk factors and increased awareness in the community. Regular screenings and continuous health education remain vital tools against the growing burden of cardiovascular diseases.

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