Epidemiology and Clinical Trends of Aortic Valve Disease in India: A Comprehensive Analysis of Prevalence, and Surgical Aortic Valve Replacement (SAVR) Utilization

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TITLE:

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INTRODUCTION:

Aortic valve disease (AVD), including aortic stenosis and aortic regurgitation, is an increasingly significant cardiovascular disorder in India. The rising burden of AVD is attributed to demographic transitions, lifestyle changes, and improved longevity. Severe, untreated AVD can result in considerable morbidity and mortality. Surgical Aortic Valve Replacement (SAVR) remains the gold standard for severe AVD, and its utilization has grown with advances in cardiac surgery and healthcare infrastructure

Despite these advancements, India faces unique challenges such as disparities in healthcare access, regional differences in disease burden, and limited comprehensive epidemiological data. Most available information is derived from published studies and select regional data, highlighting the need for a synthesized national perspective. This study aims to analyse secondary data from published literature and existing reports to provide a comprehensive overview of AVD epidemiology and clinical trends in SAVR utilization across India

RESEARCH QUESTIONS:

1. What are the current prevalence rates of aortic valve disease in India, and how have trends in SAVR utilization-including procedural volumes and outcomes-evolved over recent years?
2. What demographic, geographic, and socioeconomic disparities exist in the diagnosis and treatment of aortic valve disease, and what are the implications for healthcare planning and policy?

OBJECTIVES:

- To estimate the prevalence of aortic valve disease in India using secondary data sources
- To analyse trends in SAVR utilization, including patient demographics, clinical outcomes, and procedural volume changes over time
- To identify geographic and socioeconomic disparities affecting diagnosis and treatment of AVD
- To provide recommendations for improving AVD management and SAVR accessibility in India

MATERIALS AND METHODS:

Study Design: Narrative Literature Review

Study Population:

- Inclusion Criteria: All patients with aortic valve disease (aortic stenosis or regurgitation) and/or who have undergone SAVR in India, as reported in secondary sources
- Exclusion Criteria: Studies or reports lacking demographic or clinical outcome data; non-Indian populations

Duration of Study: Three months

Sample Size: All eligible cases reported in secondary sources (published studies, reports).

Data Collection Procedure: Systematic literature review and extraction of relevant epidemiological and clinical data from secondary sources.

OPERATIONAL DEFINITIONS:

- Aortic Valve Disease (AVD): Includes clinically diagnosed aortic stenosis and/or aortic regurgitation.
- SAVR Utilization: Number of surgical aortic valve replacement procedures performed, as reported in secondary sources.

ETHICAL CONSIDERATIONS:

- As this is a secondary research study, no direct human participation is involved
- All data will be sourced from publicly available and ethically approved studies
- Data privacy and confidentiality will be maintained by anonymizing all extracted information
- Proper citations and acknowledgments will be provided for all sources

IMPLICATIONS OF RESEARCH:

This research will provide a comprehensive overview of the burden and trends of aortic valve disease and SAVR in India. The findings will help policymakers and healthcare providers identify gaps in care, allocate resources more effectively, and design targeted interventions to improve early diagnosis and equitable access to surgical care, ultimately enhancing cardiovascular outcomes for the Indian population.

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