COMPARATIVE ANALYSIS OF BLOOD PRESSURE ISSUES IN POST-AMPUTATION INDIVIDUALS AND NON-AMPUTEES:

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INTRODUCTION

The Unseen Burden of Amputation

- Amputation is a profound life-altering event, extending beyond physical disability.
- Common causes: Trauma, diabetes, vascular conditions, malignancy.
- **Key Challenge**: While physical consequences are addressed, effects on cardiovascular health, particularly Blood Pressure (BP) regulation, are underexplored.
- **Unique Challenges for Amputees:**
  - Autonomic nervous system disruptions
  - Chronic pain and phantom limb sensations
  - Reduced mobility & altered social roles
  - Psychological stress (anxiety, depression, social isolation)
  - Barriers to healthcare access
- These factors intersect with environmental, economic, and cultural determinants, potentially compounding BP dysregulation.
- **Our Goal:** To bridge this knowledge gap with a multidimensional public health lens, especially in the Indian context.

PROBLEM STATEMENT - WHY THIS STUDY MATTERS

- Hypertension is a critical global health concern.
- Limited understanding of how BP issues manifest in individuals with limb amputations.
- Current clinical protocols rarely incorporate amputation status in BP surveillance.
- Amputees face unique risk factors:
- Physiological: Autonomic dysregulation, chronic pain, reduced activity.
- Socio-environmental: Stigma, financial dependence, unemployment, poor healthcare access.
- **Implications:** Underserved, underdiagnosed, or mismanaged care, leading to preventable complications (stroke, heart failure).
- **Urgency in India:** Increasing amputations due to trauma/diabetes; disability remains neglected in public health.

PURPOSE AND OBJECTIVES OF THE STUDY

PURPOSE

To conduct a comprehensive comparative analysis of BP regulation in individuals with limb amputations and matched non-amputees, investigating the broader determinants influencing these outcomes in amputees.

KEY OBJECTIVES:

- To assess the prevalence and patterns of hypertension in individuals post-amputation compared to non-amputees.
- To analyze mental health, psychosocial stress, and pain perception as correlates of BP regulation in amputees.
- To evaluate the role of environmental, cultural, and economic determinants in shaping access to hypertension-related care and self-management.
- To identify barriers and facilitators to effective BP control in amputees and suggest inclusive, context-sensitive strategies.

RESEARCH METHODOLOGY

Study Design: Cross-sectional Comparative Study

- Approach: Mixed-methods (Quantitative clinical data + Qualitative survey responses)
- Duration: 3 months
- Setting: Field-based data collection in urban and rural India, coordinated by Spark Minda Foundation (rehabilitation centers and community outreach).

Study Population (Total N=160):

- Group A (Cases): 80 individuals (18–65 years) with limb amputations (min. 3 months post-surgery).
- Group B (Controls): 80 individuals (18–65 years) non-amputees.

Sampling Technique: Purposive sampling

KEY FINDINGS

Parameter
Mean Systolic BP (mmHg)
Mean Diastolic BP (mmHg)

Interpretation:

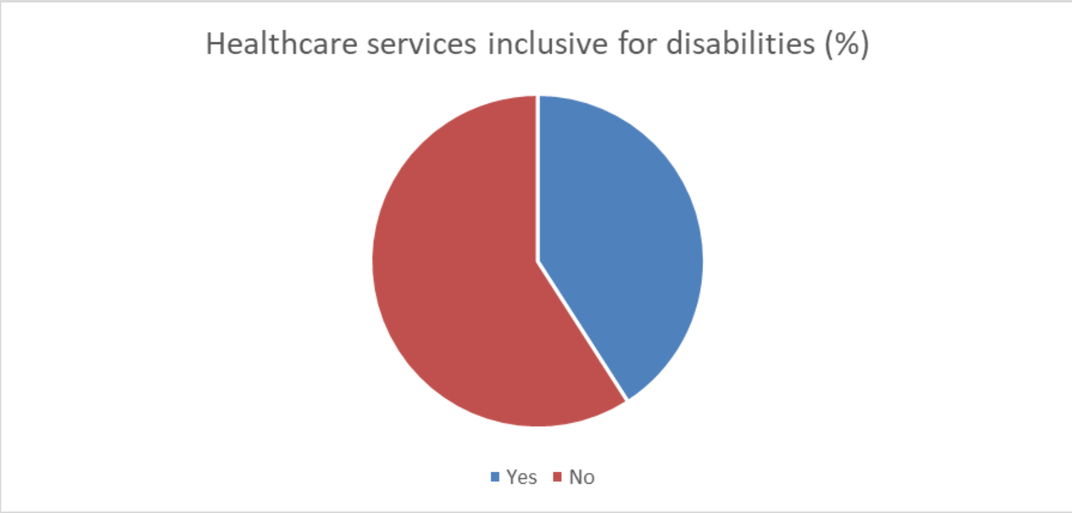
- Amputees exhibit significantly higher mean BP values, placing them at higher cardiovascular risk.
- The prevalence of hypertension among amputees is alarmingly high, suggesting potential under-diagnosis and under-treatment.
- This disparity is likely due to chronic inflammation, poor adherence, autonomic imbalance, and lifestyle disruptions post-amputation.

MENTAL HEALTH AND STIGMA

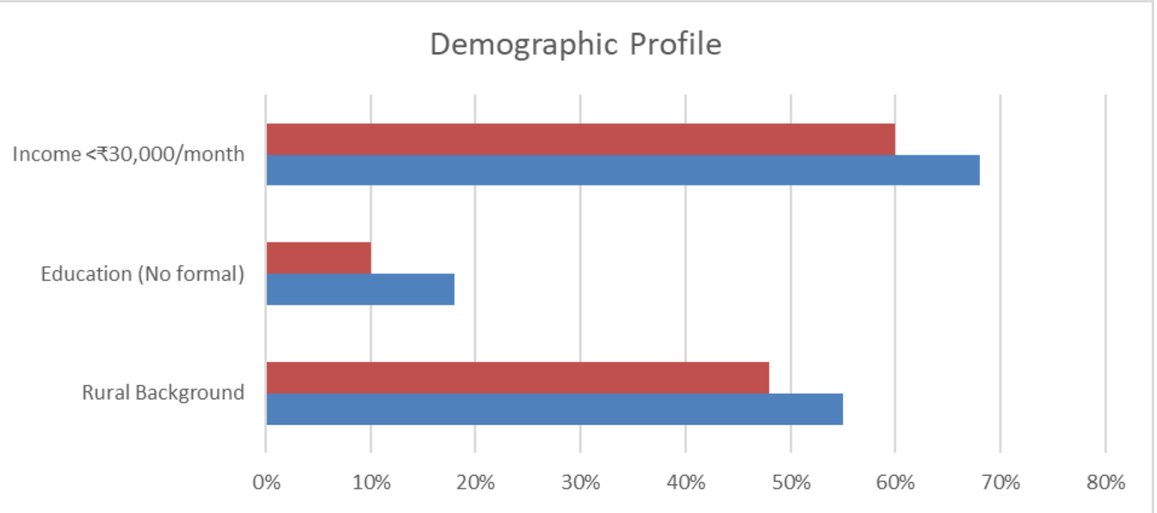
- Amputees reported significantly lower mental well-being scores, indicating higher psychological burden.
- A substantial 60% of amputees reported experiencing stigma or discrimination, a factor absent in the non-amputee group.
- Such experiences can lead to social withdrawal, lower treatment adherence, and exacerbated mental health challenges, worsening cardiovascular outcomes.

KEY FINDINGS - HEALTHCARE ACCESS AND SOCIOECONOMIC FACTORS

- Major gaps in healthcare inclusivity for amputees, with over half reporting access difficulties.
- Cultural/religious beliefs significantly influence care-seeking in amputees.
- Less than half of amputees perceived healthcare services as inclusive.
- Amputees face disproportionately higher rates of poverty and unemployment, directly impacting access to and affordability of care.

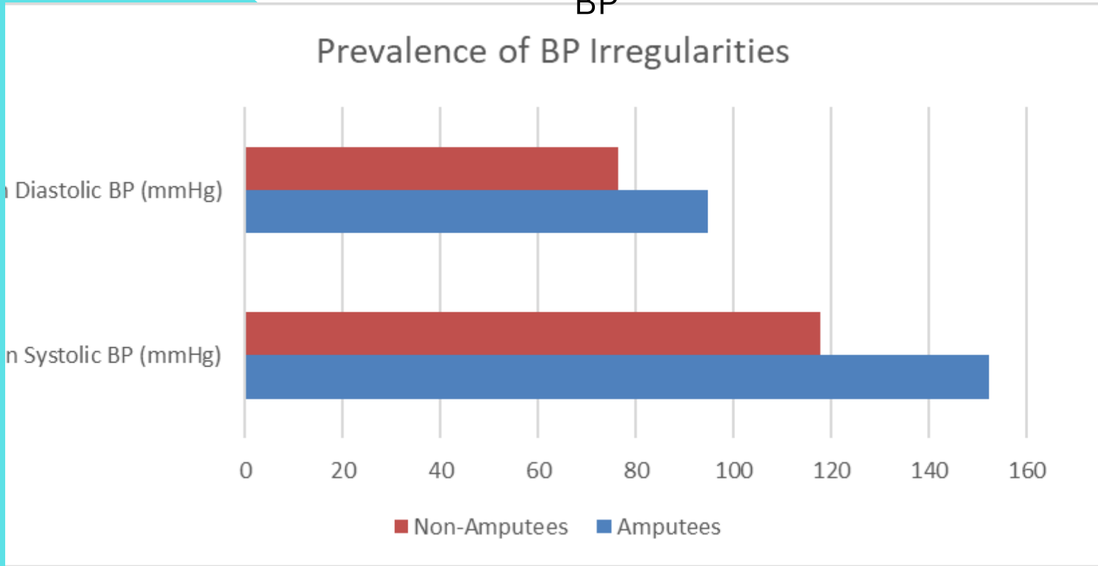


Health Access and Cultural Determinants

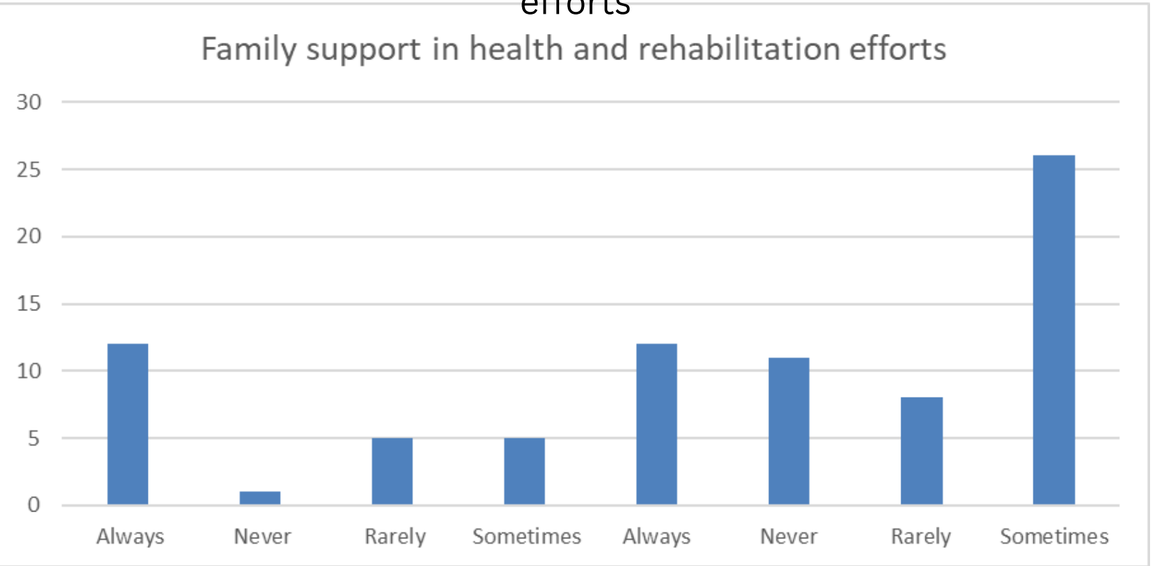


Demographic Profile

Prevalence of BP



Family support in health and rehabilitation efforts



Parameter
Physically Active ≥30 min/day (at least once a weel

Interpretation:

- Amputees are slightly less physically active, likely due to mobility challenges, pain, or lack of prosthetic access.
- Interestingly, non-amputees showed significantly higher rates of irregular medication adherence. This might suggest amputees, due to their severe condition, are more motivated to comply, or have more frequent medical interactions.

DISCUSSION -THE FINDINGS

- **Profound Disparities: F**indings reveal deep disparities in physical health (BP), mental health, healthcare access, socioeconomic status, and cultural determinants between amputees and non-amputees.
- **Multifactorial Nature of BP Issues:** Hypertension in amputees is not solely a clinical issue; it is deeply intertwined with psychosocial, cultural, and economic dimensions.
- **Stigma and Mental Health:** The high prevalence of stigma and compromised mental well-being among amputees creates a barrier to overall health and treatment adherence.
- **Systemic Barriers to Healthcare:** Accessibility issues, cultural beliefs, and economic hardships significantly impede amputees' ability to receive timely and appropriate care.

CONCLUSION

- This research highlights the compounded vulnerabilities faced by individuals with limb amputations, extending beyond physical impairment to psychological distress, social stigma, and systemic exclusion.
- Amputation is a complex socio-cultural and economic challenge demanding a comprehensive, integrative response.
- Multisectoral approach: Bridges clinical care with community engagement, policy reform, and socio-cultural transformation.
- Paradigm Shift: Advocate for health systems that recognize and respect the dignity, rights, and diverse needs of amputees.
- **Future Goal:** To foster an inclusive society where all individuals can thrive, irrespective of physical disability, contributing to SDG 3 and universal health coverage.

THANK YOU!