

Research Synopsis

Title Page

Title: Trends in the Adoption of Minimally Invasive Surgical Devices in Indian Healthcare

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Abstract

This study explores the adoption trends of Minimally Invasive Energy-Based Surgical Devices (MIESDs) such as Electrosurgical Units (ESUs), Harmonic Scalpels, and Vessel Sealers in Bhopal's healthcare sector. The objective was to understand clinical, economic, and organizational factors that influence the usage of such devices in Tier-2 cities.

Using a mixed-method approach (survey + interviews), data was collected from surgeons, biomedical engineers, and procurement officers. Results showed a high familiarity with these devices but unequal adoption across public and private hospitals due to factors such as cost, training gaps, and budget constraints. The study suggests actionable strategies like enhanced training, cost-effective procurement, and better vendor support for broader adoption.

Introduction

India's healthcare system is embracing **Minimally Invasive Surgery (MIS)** due to its ability to reduce patient trauma, recovery time, and hospital stay. While metro cities have embraced this transition, Tier-2 cities like Bhopal are catching up slowly due to logistical, financial, and training limitations. This research investigates the **adoption patterns, barriers, and drivers** of energy-based MIS tools to provide actionable insights for manufacturers and healthcare institutions.

Objectives/Aims of the Study

- To assess the level of adoption of minimally invasive energy devices in Bhopal.
- To identify clinical, financial, and operational barriers to adoption.
- To evaluate the role of training, vendor support, and procurement policies.

To understand end-user (surgeons, OT staff) perceptions regarding device effectiveness and usability.

Methodology

Research Design

Design: Descriptive Cross-Sectional Study

Approach: Mixed Methods (Quantitative + Qualitative)

Sample Size: 40 participants

Stakeholders:

- Surgeons (15)
- Biomedical Engineers (10)
- OT Nurses (10)
- Procurement Officers (5)

Sampling Technique: Purposive and Convenience Sampling

Tools: Google Forms, In-person interviews

□ **Data Analysis:** MS Excel and Thematic Coding

Expected Outcomes

- Practical insights into **MIS adoption challenges** in Tier-2 cities.
- Evidence-based recommendations for **training, procurement, and vendor engagement**.
- Support strategic efforts of manufacturers like Winglobe Healthcare in **improving market penetration**.
- Contribution to healthcare policy discussions on **device accessibility and adoption**.

Timeline (Week-by-Week Work Division)

Week	Tasks & Activities
1	Initiate literature review; identify key themes
2	Complete detailed literature review; summarize findings
3	Collect secondary data (industry reports & case studies)
4	Organize collected data; begin initial thematic analysis
5	Deepen thematic analysis; identify key trends & gaps
6	Develop conceptual model based on analyzed data
7	Formulate comprehensive brand strategy framework
8	Draft Introduction & Literature Review sections
9	Draft Methodology & Expected Outcomes sections
10	Draft Abstract & compile References section
11	Finalize full report; edit for clarity & coherence
12	Prepare final document; conduct final proofreading & submission

References

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4. **AiMeD (Association of Indian Medical Device Industry).** (2022). *White Paper on Barriers to Adoption of Surgical Devices in India*. <https://aimedindia.com>
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