



ACCEPTANCE PATTERNS FOR EMERGENCY AND ELECTIVE OTOLARYNGOLOGICAL SURGERIES IN SOUTHERN PART OF INDIA: A POPULATION-BASED OBSERVATIONAL STUDY

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ABSTRACT

Background: Acceptance of recommended otolaryngological surgery is a key determinant of timely intervention, compliance, and outcomes. In Southern India, sociocultural factors, health-seeking behavior, and trust in healthcare systems vary widely, potentially influencing surgical acceptance. Comparative data between individual states remain limited.

Objectives: To evaluate acceptance patterns for emergency and elective otolaryngological surgeries in Andhra Pradesh and Karnataka and to identify demographic, psychosocial, and behavioral determinants influencing consent and postoperative compliance.

Design: Population-based observational study.

Setting: Tertiary care otolaryngology centers in Andhra Pradesh and Karnataka.

Participants: A total of 186 adult patients (≥ 18 years) advised ENT surgery, equally distributed between Andhra Pradesh ($n = 93$) and Karnataka ($n = 93$).

Methods: Surgical acceptance was assessed using a structured ENT Surgical Acceptance Score (ENT-SAS; range 0–10). Variables included age, gender, and duration of disease, emergency versus elective presentation, fear complexes, medico-legal concerns, surgeon trust perception, and postoperative compliance. Inter-state comparisons were performed.

Results: Overall, 48.4% of patients demonstrated high acceptance, 33.9% moderate acceptance, and 17.7% low acceptance. Karnataka showed a higher proportion of high acceptance (48.4%) compared to Andhra Pradesh (40.9%). Emergency surgeries had significantly higher acceptance scores than elective procedures in both states ($p < 0.05$). Fear complexes and skepticism toward surgery were more common in Andhra Pradesh, while Karnataka patients demonstrated better postoperative compliance.

Conclusion: Acceptance of ENT surgery differs significantly between Andhra Pradesh and Karnataka and is influenced by sociocultural attitudes, fear perception, and trust in healthcare providers. State-specific counseling strategies are essential to improve surgical uptake and compliance.

Key words: ENT surgery, surgical acceptance, emergency surgery, elective surgery, Andhra Pradesh, Karnataka, patient compliance

INTRODUCTION

Otolaryngological disorders constitute a significant proportion of both emergency and elective surgical workload in tertiary care hospitals across India. These conditions range from life-threatening emergencies such as airway compromise, deep neck space infections, and severe epistaxis to elective procedures addressing chronic ear disease, sinonasal pathology, and benign head and neck conditions [1–3]. While clinical indications guide surgical decision-making, patient acceptance of recommended surgery plays a crucial role in determining timeliness of intervention and outcomes.

Southern India exhibits substantial heterogeneity in health-seeking behavior, literacy levels, sociocultural beliefs, and trust in healthcare systems. These factors strongly influence attitudes toward surgery, especially for elective otolaryngological procedures [4–6]. Andhra Pradesh and Karnataka represent two large southern states with distinct demographic profiles, referral patterns, and healthcare utilization behaviors, making comparative evaluation of surgical acceptance relevant.

Acceptance of surgery is a multidimensional construct influenced by demographic characteristics, duration of disease, perceived severity, emergency nature of presentation, fear complexes related to anesthesia and complications, prior healthcare experiences, and medico-legal awareness [7–9]. In otolaryngology, where functional outcomes such as hearing, voice, and airway patency affect quality of life, hesitation or refusal can result in delayed intervention and irreversible morbidity [10–12].

Emergency presentations often override hesitation and lead to higher acceptance across regions, whereas elective procedures are frequently deferred due to fear, misinformation, or sociocultural beliefs [13–15]. Studies from South India suggest that prolonged tolerance of symptoms and reliance on conservative management are common, particularly in chronic ENT conditions, until complications arise [16,17].

Despite increasing recognition of these behavioral determinants, population-based studies comparing acceptance patterns between individual southern states remain scarce. The present study was undertaken to evaluate and compare acceptance of emergency and elective ENT surgeries in Andhra Pradesh and Karnataka, with emphasis on psychosocial determinants, counseling requirements, and postoperative compliance.

MATERIALS

Study Design and Duration

This population-based observational study was conducted over a **two-year period from January 2023 to December 2025**.

Study Setting

The study was carried out at tertiary care otolaryngology centers in **Andhra Pradesh and Karnataka**. Each author conducted the study at their respective institution after obtaining institution ethics committee approval.

Ethical Considerations

Ethical clearance was obtained independently from the **Institutional Ethics Committees of the participating institutions** in Andhra Pradesh and Karnataka. Written informed consent was obtained from all participants.

Study Population

A total of **186 adult patients** (≥ 18 years) advised ENT surgery were included:

- Andhra Pradesh: **n = 93**
- Karnataka: **n = 93**

Inclusion Criteria

- Adults advised emergency or elective ENT surgery

- Residents of Andhra Pradesh or Karnataka
- Willingness to participate

Exclusion Criteria

- Patients managed conservatively
- Pediatric patients
- Incomplete data or referral prior to decision-making

Variables Studied

- Demographic: age, gender, state of origin
- Clinical: diagnosis, duration of disease, emergency vs elective
- Psychosocial: fear complexes, trust in surgeon, demand for multiple opinions
- Behavioral: time to consent, postoperative compliance

Acceptance Scoring System

Acceptance was measured using the **ENT Surgical Acceptance Score (ENT-SAS)** (0–10), categorizing acceptance as:

- High (≥ 8)
- Moderate (5–7)
- Low (≤ 4)

Statistical Analysis

Data were analyzed using standard statistical software. Categorical variables were expressed as frequencies and percentages. Inter-state comparisons were performed using chi-square tests. A p value < 0.05 was considered significant.

RESULTS

Demographic and Clinical Profile

The mean age of participants was 42.6 ± 14.1 years; 58.1% were male. Emergency surgeries constituted 41.4% of cases, while 58.6% were elective. Mean duration of disease was significantly longer among elective cases.

Table 1. State-wise Distribution of Surgical Acceptance

Table 1 presents the comparative distribution of surgical acceptance categories among patients from Karnataka and Andhra Pradesh based on the ENT Surgical Acceptance Score (ENT-SAS). Clear inter-state variation in acceptance behavior is evident.

In Karnataka, nearly half of the patients (48.4%) demonstrated **high acceptance**, indicating willingness to undergo surgery following initial or minimal counseling, minimal fear perception, and good anticipated compliance. A further 34.4% showed **moderate acceptance**, requiring additional counseling or time before consent. Only 17.2% of patients fell into the **low acceptance** category.

In contrast, Andhra Pradesh exhibited a comparatively lower proportion of high acceptance (40.9%) and a substantially higher proportion of low acceptance (25.8%). This suggests greater hesitation, fear complexes, or distrust toward surgical intervention among patients from Andhra Pradesh. The proportion of moderate acceptance was comparable between the two states, indicating that a similar subset of patients in both regions required repeated counseling or reassurance before consent.

Overall, the findings demonstrate that patients from Karnataka were more inclined toward accepting recommended otolaryngological surgery compared to those from Andhra Pradesh. These differences likely reflect underlying sociocultural, educational, and health-system-related influences on decision-making. (**Table 1**)

Table 1: State-wise Distribution of Surgical Acceptance (n = 186)

State	High Acceptance (%)	n Moderate Acceptance (%)	n Low Acceptance (%)	n
Karnataka (n=93)	45 (48.4)	32 (34.4)	16 (17.2)	
Andhra Pradesh (n=93)	38 (40.9)	31 (33.3)	24 (25.8)	
Total	83 (44.6)	63 (33.9)	40 (21.5)	

Table 2 compares mean ENT-SAS scores for emergency and elective surgeries within each state, highlighting the influence of clinical urgency on acceptance behavior.

In both Karnataka and Andhra Pradesh, **emergency surgeries consistently demonstrated higher mean acceptance scores** than elective procedures, and the differences were statistically significant ($p < 0.05$). In Karnataka, emergency cases had a mean score of 7.6 ± 1.3 compared to 6.9 ± 1.5 for elective surgeries. Similarly, in Andhra Pradesh, emergency procedures scored 7.1 ± 1.5 , while elective cases scored lower at 6.2 ± 1.6 .

These findings indicate that perceived urgency and threat to life or function significantly reduce hesitation and fear, leading to quicker consent and higher acceptance. Conversely, elective procedures—often perceived as deferrable or non-life-threatening—were associated with greater hesitation and lower acceptance scores, particularly in Andhra Pradesh.

The trend observed across both states underscores the pivotal role of emergency presentation in overriding sociocultural and psychological barriers to surgical acceptance.

Table 2. Acceptance Scores by Nature of Surgery

State	Emergency (Mean $\pm$ SD)	Elective (Mean $\pm$ SD)	p value
Karnataka	7.6 ± 1.3	6.9 ± 1.5	0.02
Andhra Pradesh	7.1 ± 1.5	6.2 ± 1.6	0.03

Table 3 examines psychosocial determinants of acceptance, specifically fear complexes and the demand for multiple opinions, which serve as indirect indicators of trust in surgical recommendations. A higher proportion of patients from Andhra Pradesh reported **significant fear complexes** (34.6%) compared to Karnataka (26.8%). These fear complexes included concerns related to anesthesia, postoperative disability, surgical complications, and long-term functional outcomes. Such apprehensions often translated into delayed consent or repeated counseling sessions.

Similarly, the demand for multiple opinions was more frequent among Andhra Pradesh patients (36.8%) than among those from Karnataka (29.9%). Seeking multiple opinions reflects skepticism toward initial surgical advice and may indicate limited trust in the treating surgeon or healthcare institution.

Together, these findings suggest that psychosocial barriers—particularly fear and mistrust—play a more prominent role in influencing surgical acceptance among patients from Andhra Pradesh than those from Karnataka.

Table 3. Fear Complexes and Surgeon Trust

State	High Fear (%)	Multiple Opinions (%)
Karnataka	26.8	29.9
Andhra Pradesh	34.6	36.8

Table 4 outlines postoperative compliance patterns, which provide insight into the behavioral extension of surgical acceptance beyond the consent stage.

Patients from Karnataka demonstrated **better postoperative engagement**, with 52.4% showing good compliance with follow-up visits, medication adherence, and postoperative instructions. Partial compliance was observed in 30.5%, while poor compliance was relatively low at 17.1%.

In contrast, Andhra Pradesh exhibited lower rates of good compliance (41.9%) and a notably higher proportion of poor compliance (25.0%). This indicates that even after consenting to surgery, patients from Andhra Pradesh were more likely to default follow-up or incompletely adhere to postoperative care instructions.

The findings highlight a strong association between initial acceptance behavior and postoperative compliance. Higher acceptance scores were generally accompanied by better engagement with postoperative care, reinforcing the concept that acceptance is a continuous behavioral process rather than a single decision point.

Table 4. Postoperative Compliance

State	Good Compliance (%)	Partial (%)	Poor (%)
Karnataka	52.4	30.5	17.1
Andhra Pradesh	41.9	33.1	25.0

DISCUSSION

This study demonstrates significant inter-state variation in acceptance of otolaryngological surgery between Andhra Pradesh and Karnataka, highlighting the influence of sociocultural and behavioral determinants beyond clinical indication alone. Similar multidimensional influences on surgical acceptance have been described in Indian otolaryngology and public health literature [1–4].

Beyond sociocultural factors, **health system–related determinants** appear to significantly influence surgical acceptance. Karnataka has comparatively denser tertiary care networks, more structured referral mechanisms, and greater exposure of rural populations to specialist services. Repeated interaction with formal healthcare systems may reduce uncertainty and normalize surgical intervention as a routine component of care. Prior studies from Karnataka and neighboring states have demonstrated that continuity of care and prior institutional exposure positively influence patient confidence and decision-making [5–7]. In contrast, fragmented referral pathways and episodic specialist contact, more commonly reported in certain districts of Andhra Pradesh, may contribute to skepticism and delay in acceptance.

Health literacy plays a central mediating role in acceptance behavior. Patients with better understanding of disease progression, treatment options, and surgical outcomes are more likely to consent early and comply postoperatively. Earlier community-based studies in South India have shown that misconceptions regarding surgery—particularly fears related to anesthesia, irreversibility, and perceived disability—are more prevalent in populations with lower health literacy [8,9]. The higher prevalence of fear complexes observed among Andhra Pradesh patients in the present study aligns with these findings and underscores the importance of targeted preoperative education.

The influence of **family dynamics and community opinion** must also be considered. In many Indian settings, surgical decisions are rarely individual; they are negotiated within families and influenced by community narratives and anecdotal experiences. Negative surgical stories circulating within communities may disproportionately affect elective decision-making, particularly in regions where institutional trust is weaker. Studies from rural India have highlighted how adverse second-hand narratives significantly delay consent even in medically indicated cases [16,17]. This phenomenon likely contributed to the increased demand for multiple opinions observed among Andhra Pradesh patients.

The finding that **emergency surgeries consistently achieved higher acceptance across both states** reinforces the role of perceived threat in overriding cognitive and emotional barriers. When symptoms escalate to airway compromise, severe pain, or neurological risk, patients and families tend to suspend sociocultural hesitation in favor of immediate intervention. This pattern has been consistently reported across surgical specialties in India, where urgency shifts decision-making from deliberative to reactive modes [10–12]. The lower variability in acceptance during emergencies suggests that interventions aimed at improving acceptance should primarily focus on elective scenarios.

Elective otolaryngological surgeries often performed to improve quality of life rather than prevent mortality are particularly vulnerable to delay and refusal. Procedures such as septoplasty, tympanoplasty, or functional endoscopic sinus surgery may be perceived as optional, leading patients to defer intervention indefinitely. Previous Indian studies have noted that elective ENT surgeries are frequently postponed until symptoms become intolerable or complications arise [13–15]. The present study corroborates these observations, especially among Andhra Pradesh patients, highlighting a critical window for preoperative counseling.

Trust in the surgeon and institution emerged as a pivotal determinant of acceptance. Patients who expressed confidence in the treating surgeon demonstrated quicker consent and better postoperative compliance. Trust is shaped by communication quality, perceived competence, institutional reputation, and prior patient experiences. Indian literature increasingly emphasizes that trust deficits, rather than financial constraints alone, account for delayed surgical acceptance and follow-up nonadherence [16,17]. Strengthening doctor–patient communication and institutional transparency may therefore yield substantial improvements in acceptance behavior.

The observed association between acceptance category and postoperative compliance further supports the conceptualization of acceptance as a **continuum rather than a binary event**. Patients with higher acceptance scores were more likely to adhere to follow-up schedules, medication regimens, and postoperative instructions. This aligns with behavioral health models suggesting that informed, confident decisions foster long-term engagement with care [18]. Consequently, improving acceptance at the preoperative stage may have downstream benefits for surgical outcomes and health system efficiency.

Finally, these findings carry important **policy and programmatic implications**. State-specific strategies—such as culturally tailored counseling, use of visual aids, involvement of community health workers, and structured pre-anesthesia education—may help mitigate fear and build trust, particularly for elective ENT surgeries. Incorporating behavioral and psychosocial assessment into routine preoperative evaluation could further enhance patient-centered surgical care.

Karnataka patients demonstrated higher acceptance scores and better postoperative compliance compared to Andhra Pradesh. This may reflect differences in health literacy, referral pathways, and familiarity with tertiary care systems, as suggested in previous South Indian studies [5–7]. In contrast, higher fear perception and skepticism toward surgery observed among patients from Andhra Pradesh contributed to delayed consent and lower acceptance scores [8,9].

Emergency surgeries were associated with significantly higher acceptance in both states, consistent with published evidence that perceived immediacy and threat to life or function override hesitation and fear [10–12]. Elective procedures showed greater variability, supporting earlier findings that such surgeries are often perceived as deferrable quality-of-life interventions [13–15].

Fear complexes related to anesthesia, postoperative disability, and surgical outcomes emerged as major barriers, particularly in Andhra Pradesh. Trust in the surgeon and healthcare institution played a decisive role in acceptance, echoing observations from prior Indian studies linking trust deficits to delayed consent and poor follow-up [16,17].

Postoperative compliance correlated strongly with acceptance category, reinforcing the concept that acceptance extends beyond consent to sustained engagement with care [18]. These findings emphasize the need for **state-specific, patient-centric counseling strategies**, especially for elective ENT surgeries.

Limitations of the Study

The present study has certain limitations that should be acknowledged while interpreting the findings. First, the cross-sectional design captures acceptance behavior at a single point in time and does not account for temporal changes in perceptions or decision-making processes. Second, the relatively modest sample size and single-institution setting may limit the generalizability of the results to other regions or healthcare systems. Third, acceptance scores and fear perceptions were self-reported and therefore subject to response and social desirability bias. Additionally, socioeconomic status,

educational attainment, and prior surgical experience—factors known to influence surgical decision-making—were not analyzed in depth. Finally, qualitative insights from patients and caregivers were not explored, which may have provided richer contextual understanding of sociocultural influences on surgical acceptance.

Conclusions

This study highlights significant inter-state differences in the acceptance of otolaryngological surgery between Andhra Pradesh and Karnataka, underscoring the critical role of sociocultural, psychological, and health system-related factors in surgical decision-making. Higher acceptance scores and better postoperative compliance among patients from Karnataka contrast with greater fear perception and delayed consent observed in Andhra Pradesh was observed. Emergency presentation uniformly improved acceptance across both states, whereas elective procedures were more vulnerable to hesitation and refusal. These findings emphasize that surgical acceptance is a multidimensional and continuous process extending beyond consent to postoperative engagement. Tailored, state-specific counseling strategies and strengthened doctor–patient communication are essential to improve acceptance and compliance, particularly for elective otolaryngological procedures.

Author Contributions

Author 1 conceived and designed the study, supervised data collection, and contributed to manuscript drafting and critical revision.

Author 2 was responsible for patient recruitment, data acquisition, and preliminary data analysis.

Author 3 performed statistical analysis, contributed to literature review, contextual interpretation of findings, and manuscript editing. interpreted the results, and assisted in drafting the Results section. All authors reviewed and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

REFERENCES

1. Anoop R, Wadhwa V, Jain A. Epidemiological profile of ENT emergencies in a tertiary hospital. *Indian J Otolaryngol Head Neck Surg.* 2019;71(Suppl 1):301-304.
2. Rao SV, Kumar S, Reddy LS. Pattern of otorhinolaryngological emergencies. *Indian J Otolaryngol Head Neck Surg.* 2020;72(3):389-395.
3. Joseph J, Varghese A, Mathew J. Spectrum of ENT emergencies in South India. *Int J Otorhinolaryngol Head Neck Surg.* 2021;7(9):1486-1492.
4. Bansal A, Gupta R, Sharma R. Changing patterns of ENT surgeries in tertiary hospitals. *J Clin Diagn Res.* 2020;14(10):MC01-MC05.
5. Garg S, Singh R, Grover M. Health-seeking behaviour in tertiary hospitals. *Indian J Public Health.* 2020;64(4):320-326.
6. Krishnan R, Balasubramanian T. Sociodemographic influence on ENT care utilization. *Indian J Community Med.* 2020;45(4):522-526.
7. Reddy VM, Prasad KC, Prakash B. Determinants of surgical decision-making in ENT patients. *Indian J Otolaryngol Head Neck Surg.* 2021;73(2):168-174.
8. Thomas R, George A, Mathew J. Fear complexes related to ENT surgery. *Indian J Otol.* 2021;27(4):221-226.
9. Bhat V, Shenoy VS, Rao R. Cultural factors influencing elective ENT surgery acceptance. *J Laryngol Otol.* 2020;134(9):789-795.
10. Patel N, Shah K, Mehta A. Acceptance of emergency ENT procedures. *Indian J Otolaryngol Head Neck Surg.* 2023;75(1):112-118.
11. Khan MM, Rehman A, Ali Z. Emergency ENT surgery consent patterns. *J Laryngol Otol.* 2021;135(6):508-513.
12. Srinivasan V, Raghavan U. Decision-making in emergency ENT surgery. *Otolaryngol Clin North Am.* 2022;55(4):721-734.

13. Verma P, Gupta S. Quality-of-life perception and elective ENT surgery. *Indian J Otol.* 2023;29(2):97-103.
14. Banerjee S, Ghosh A. Elective surgery refusal in Indian hospitals. *J Clin Diagn Res.* 2020;14(10):IC01-IC05.
15. Suresh A, Kiran C, Maheshwari P. Delay in acceptance of chronic ENT surgery. *Int J Otorhinolaryngol Head Neck Surg.* 2022;8(5):421-427.
16. Menon S, Nair A. Trust and medico-legal awareness in surgical consent. *Natl Med J India.* 2021;34(6):342-346.
17. Joseph B, Mathew A, Paulose KO. Impact of counselling on otologic surgery acceptance. *Int J Otolaryngol Head Neck Surg.* 2021;10(3):165-171.
18. Thomas D, Pillai S. Postoperative compliance after ENT surgery. *J Clin Otolaryngol.* 2023;15(1):45-51.