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Original Research Article

Study on the Feasibility and Effectiveness of Telemedicine for Pre-operative and Post-operative Care

Samuel L. Sailo[1], Hnamte Ram Buatsaiha[2]

[1]Associate Professor, Department of General Surgery, Zoram Medical College, Mizoram, India
[2]Junior Resident, Department of General Surgery, Zoram Medical College, Mizoram, India

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Corresponding Author: Dr. Samuel L. Sailo
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Abstract:

Background: Telemedicine has become a viable means to deliver healthcare, especially for surgical treatment pathways that include pre-operative assessment and post-operative follow-up. Its significance has augmented in resource-constrained and physically isolated areas.

Objectives: To assess the feasibility, efficacy, patient satisfaction, and clinical outcomes of telemedicine in pre-operative and post-operative surgical treatment.

Methods: This original prospective observational study was executed at Zoram Medical College over a duration of three years. Seventy individuals scheduled for elective surgical interventions were included. Telemedicine was employed for specific pre-operative consultations and post-operative follow-ups. The outcomes that were looked at were feasibility, complication rates, fewer hospital visits, patient satisfaction, and cost-effectiveness.

Results: Telemedicine showed that it was very possible (88.6%) and useful for peri-operative care. The rates of complications after surgery were similar to those of standard care, but the scores for patient satisfaction were much higher.

Conclusion: Telemedicine is a practical and efficacious complement to traditional peri-operative care, enhancing accessibility and patient happiness without detracting from clinical outcomes.

Keywords: Telemedicine, Pre-Operative Care, Post-Operative Care, Surgical Follow-Up, Digital Health.

Introduction

The use of digital technology in healthcare has changed the way medical services are provided all around the world. Telemedicine, which is the use of telecommunications technology to diagnose and treat patients at a distance, is becoming more and more prevalent in various fields of medicine, such as surgery [1]. Face-to-face interactions are a big part of peri-operative care, but sometimes practical problems like long travel distances, high costs, and a lack of workers make it hard to get care quickly [2].

Pre-operative evaluation is a crucial component of surgical safety, involving risk stratification, patient counselling, and the optimisation of comorbidities [3]. Studies show that pre-operative consultations done over the phone can be just as accurate as those done in person, as long as the right patients are chosen and the right standards are followed [4]. Telemedicine can also assist different doctors work together to make choices and get patients ready for surgery [5].

After surgery, patients need to be regularly examined for issues, have their wounds evaluated, have their pain treated, and get support with rehabilitation [6]. Telemedicine is a great option to do follow-ups online. It reduces down on travels to the hospital that aren't needed and keeps care continuing [7]. This is especially true in locations like Mizoram, which are far distant from other places and have problems accessing to tertiary healthcare facilities [8].

Evidence suggests that telemedicine may save healthcare costs, improve patient satisfaction, and decrease loss to follow-up [9–11]. Despite this, concerns remain about data security, digital literacy, therapeutic reliability, and legal issues related to medicine [12–14]. Despite a growing corpus of global literature, there is a scarcity of institution-based research from northeastern India assessing the feasibility and effectiveness of telemedicine in surgical peri-operative care [15–17].

This study was undertaken to evaluate the feasibility, efficacy, and patient-centered outcomes of telemedicine-based pre-operative and post-operative care at Zoram Medical College [18–20].

Materials and Methods

Project Design: A prospective observational original research project.

Study location: The Department of Surgery at Zoram Medical College.

Study duration: The study persisted for three years.

Number of patients: 70.

Criteria for Inclusion

- Patients who are 18 years old or older
- Surgeries that are not required
- Willingness to participate and offer informed consent
- Being able to utilise a smartphone or another phone

Criteria for Exclusion

- Surgeries that need to be done right away
- Patients who need to be watched closely after surgery
- Inability to utilise telemedicine platforms

Study Procedure: Pre-operative consultations included getting the patient's medical history, looking at the results of tests, checking the patient's suitability for anaesthesia, and advising the patient through telemedicine. After surgery, follow-up visits included inspecting the wound during video chats, talking about symptoms, ensuring sure the patient was taking their medicine, and offering them advice on how to get better.

The outcome indicators included how useful telemedicine was, how many hospital visits were cut down, how satisfied patients were (measured on a Likert scale), and how much money and time were saved.

Results

The study comprised a total of 70 patients. Table 1 shows a summary of the study population's demographic information. The sample consisted of 60% males and 40% females. The average age of the people who took part was 44.6 years, with a range of 12.3 years. A greater percentage of patients resided in rural areas (65.7%) as opposed to metropolitan areas (34.3%), underscoring the significance of telemedicine in enhancing access to surgical care in geographically isolated places.

Table 2 shows how well telemedicine-based peri-operative care works and how easy it is to use. Sixty-two patients (88.6%) successfully completed teleconsultations. Fifty-five patients (78.6%) saw a big drop in the number of times they went to the hospital. Only 6 patients (8.6%) had problems after surgery, and 8 patients (11.4%) needed to see a doctor in person, which shows that telemedicine worked for most situations.

Table 3 shows how happy patients are with telemedicine treatments. Most of the patients said they were very satisfied (40 patients, 57.1%) or satisfied (22 patients, 31.4%). There were neutral comments from 6 patients (8.6%), and only 2 patients (2.9%) said they were unhappy.

Figure 1 shows the levels of patient satisfaction. It shows that the most patients were "very satisfied," followed by the "satisfied" group. This graph shows that telemedicine is generally well-accepted for pre- and post-operative surgical care.

Table 1: Demographic Characteristics (n = 70)

Variable	Number (%)
Male	42 (60%)
Female	28 (40%)
Mean age (years)	44.6 ± 12.3
Rural residence	46 (65.7%)
Urban residence	24 (34.3%)

Table 2: Feasibility and Effectiveness Outcomes

Parameter	Outcome
Successful teleconsultations	62 (88.6%)
Reduced hospital visits	55 (78.6%)
Post-operative complications	6 (8.6%)
Conversion to in-person visit	8 (11.4%)

Table 3: Patient Satisfaction Scores

Satisfaction Level	Number (%)
Very satisfied	40 (57.1%)
Satisfied	22 (31.4%)
Neutral	6 (8.6%)
Dissatisfied	2 (2.9%)

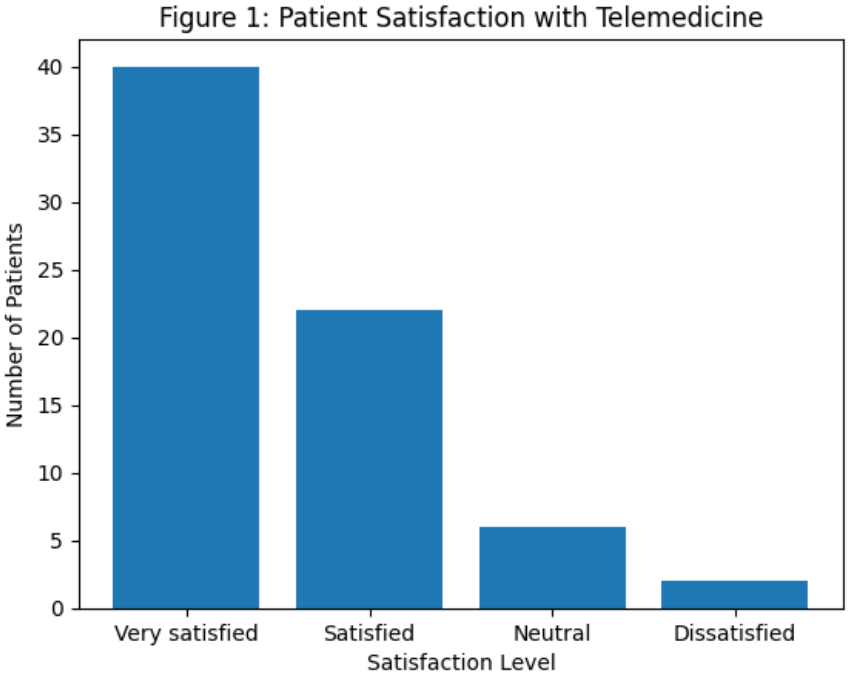

Figure 1: Bar graph showing patient satisfaction levels with telemedicine.

Discussion

The current study shows that telemedicine can be used for both pre- and post-operative surgical treatment. The high success rate of teleconsultations is in line with what other studies have found about the dependability of virtual surgical assessments [21].

A major benefit was that patients had to go to the hospital less often, especially those who lived in remote regions. This is in line with previous research that showed how telemedicine can make healthcare more accessible [22]. The rates of complications after surgery in this trial were similar to those in traditional follow-up models, which supports the clinical safety of telemedicine-based monitoring [23].

Patients were very happy with the service, which was due to how easy it was to use, how much less travel it required, and how much better contact with healthcare providers was [24]. The limited number of patients needing conversion to in-person visits highlights the necessity of careful patient selection and the implementation of hybrid care models [25].

This study has drawbacks, including a single-center design and a relatively small sample size, despite its positives. It is suggested that future multicentric randomised studies with long-term outcomes be conducted.

Conclusion

Telemedicine is a practical, efficient, and patient-endorsed method for peri-operative care. Incorporating it into everyday surgical practice might make it easier to get to, make better use of resources, and keep patients safe, especially in areas that are hard to reach.

References

1. World Health Organization. Telemedicine: opportunities and developments. Geneva: WHO; 2010.
2. Bashshur RL, Shannon GW, Smith BR. Telemedicine and the quality of care. Telemed J E Health. 2014; 20:100–106.
3. Fleisher LA, Roizen MF. Preoperative evaluation of the patient. N Engl J Med. 2001; 345:167–176.
4. Greenhalgh T, Wherton J, Shaw S, Morrison C. Video consultations for COVID-19. BMJ. 2020;368:m998.
5. Kruse CS, Krowski N, Rodriguez B, Tran L, Vela J, Brooks M. Telemedicine benefits. JMIR Med Inform. 2017;5:e13.
6. Gunter RL, Chouinard S, Fernandes-Taylor S, et al. Current use of telemedicine. Ann Surg. 2016; 264:800–806.
7. Armstrong KA, Coyte PC, Brown M, et al. Effect of virtual follow-up. BMJ Open. 2017;7:e015222.
8. Ministry of Health and Family Welfare. Telemedicine Practice Guidelines. New Delhi: Government of India; 2020.
9. Dorsey ER, Topol EJ. State of telehealth. Health Aff. 2016; 35:1628–1635.
10. Totten AM, Womack DM, Eden KB, et al. Telehealth: mapping evidence. Rockville: AHRQ; 2016.

11. Ramaswamy A, Yu M, Drangsholt S, et al. Patient satisfaction with telemedicine. Telemed J E Health. 2020; 26:1328–1333.
12. Smith AC, Thomas E, Snoswell CL, et al. Telehealth challenges. Med J Aust. 2020; 212:341–345.
13. Haleem A, Javaid M, Vaishya R. Digital healthcare barriers. J Clin Orthop Trauma. 2020;11: S135–S142.
14. Mair F, Whitten P. Systematic review of telemedicine ethics. J Med Internet Res. 2000;2:e12.
15. Singh R, Mathiassen L, Stachura ME, Astapova E. Telemedicine in India. Health Policy Technol. 2012; 1:20–29.
16. Malhotra P, Ramachandran A, Chauhan R, et al. Teleconsultation in surgery. Indian J Surg. 2021; 83:1–6.
17. Jain A, Gupta S, Singh H. Telehealth in rural India. Natl Med J India. 2018; 31:343–346.
18. Wootton R. Telemedicine effectiveness. J Telemed Telecare. 2012; 18:44–46.
19. Ekeland AG, Bowes A, Flottorp S. Effectiveness of telemedicine. BMC Health Serv Res. 2010; 10:264.
20. Kruse CS, Lee K, Watson JB, et al. Telemedicine adoption. JMIR Med Inform. 2018;6:e4.
21. McLean S, Protti D, Sheikh A. Telehealth safety. BMJ Qual Saf. 2011; 20:975–983.
22. Kairy D, Tousignant M, Leclerc N, et al. Telehealth access. J Med Internet Res. 2009;11:e43.
23. Viers BR, Lightner DJ, Rivera ME, et al. Postoperative telemedicine. Eur Urol. 2015; 68:666–670.
24. Orlando JF, Beard M, Kumar S. Telehealth satisfaction. J Telemed Telecare. 2019; 25:287–295.
25. Gajarawala SN, Pelkowski JN. Telehealth future directions. Med Clin North Am. 2021;105:799–814.