

# Telemedicine in Postoperative Follow-Up Care After Major Elective Gynaecological Surgery in Low Resource Setting: A Feasibility Study

Aastha Chaurasia<sup>1\*</sup>, Kiran Guleria<sup>1</sup>, Khan Amir Maroof<sup>2</sup>, Richa Sharma<sup>1</sup> and Alpana Singh<sup>1</sup>

<sup>1</sup>Department of Obstetrics & Gynaecology, University College of Medical Science and GTB Hospital, New Delhi, India

<sup>2</sup>Department of Community Medicine, University College of Medical Science and GTB Hospital, New Delhi, India

## \*Corresponding Author

Aastha Chaurasia, Department of Obstetrics & Gynaecology, University College of Medical Science and GTB Hospital, New Delhi, India.

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## Abstract

**Objectives:** To assess the feasibility of 'Tele-health Postoperative follow-up care Model' in terms of provider, process and service recipient and to identify barriers, facilitators, robustness, safety and acceptability of the model.

**Design:** Feasibility Study

**Setting:** UCMS and GTB Hospital, Delhi, India

**Population:** Patients admitted in gynaecology ward for major elective gynaecological surgery

**Methods:** Women undergoing major elective gynaecological surgery from May 2023 to November 2024 were enrolled for follow-up using a telehealth model, consisting of virtual visits on days 7, 14, and 30, and a physical visit on day 42. Participants completed Modified Quality of Recovery-15 (QoR-15) forms and satisfaction questionnaires.

**Main Outcome Measures:** Feasibility of telemedicine follow-up (virtual vs. physical visits), provider and recipient satisfaction scores, technological performance, barriers (connectivity issues, missed appointments), facilitators (time and cost savings), efficacy (successful care delivery, complications), safety, and acceptability (adherence, satisfaction, costs).

**Results:** It was feasible to complete the 'model' follow-up in 60 patients with average number of  $3.03 \pm 0.18$  virtual visits &  $1.17 \pm 0.41$  physical visits respectively. Patient satisfaction was scored at (4.81/5) while provider satisfaction ranged from 4.73 to 4.95/5 through this model. In addition, patients saved on an average 205 minutes and 343.50 INR. Complications were encountered in 13.3% cases; majority managed successfully. 88.30% patients preferred a similar follow-up telehealth model in future. Modified QoR-15 score progressively increased throughout visits.

**Conclusion:** Tele-health post-operative follow-up care model can be used as an upgradation to the existing postoperative services, even in low resource settings.

**Keywords:** Telemedicine, Postoperative Care, Gynaecological Surgeries

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## 1. Introduction

The CoVID 19 pandemic has resulted in several shifts in the traditional mode of healthcare delivery. The introduction and successful implementation of telemedicine has led to reduction in burden on hospitals & access to timely treatment decreasing the cost of travel and waiting time for patients; thus, improving the overall healthcare experience [1]. Telemedicine, having gained global recognition, is now being actively promoted and integrated into India's healthcare system. The rapid growth of the internet in India is significantly enhancing telemedicine by increasing accessibility and connectivity. The Indian government has implemented guidelines to standardize and strengthen telemedicine practices and integrate them into the public health framework [2]. Consequently, public hospitals are increasingly adopting telemedicine to improve healthcare access and overcome barriers like distance and limited resources.

The role of telemedicine in postoperative care is a promising domain. It helps clinicians in close monitoring of patients and early detection and treatment of postoperative complications as well as leads to decrease patient travel time, distance and cost along with a higher patient satisfaction rate without compromising clinical outcomes [1]. Telemedicine is now being used increasingly in different domains of surgical care to speed up and simplify preoperative imaging, work-up and consultation for patients. Prior to surgery, telemedicine consultations can often assist in identifying and resolving any obstacles to a healthy recovery at home [3].

Despite these advancements, the application of telemedicine in postoperative care- especially elective gynaecological surgeries, remains under researched. Women particularly in underserved and rural areas face unique challenge in accessing quality postoperative care, resulting in significant disparities in health outcomes. We proposed testing the feasibility of this model as an upgrade to our existing postoperative services. It will enable closer follow-up, early detection of complications, and streamlined communication, thereby improving patient outcomes and satisfaction and enhancing the overall postoperative care experience, close gaps in access and quality of care, thereby improving health outcomes and promote equity in healthcare delivery. The aim of this study was to assess the feasibility of Telemedicine in delivery of postoperative follow-

up care after major elective gynaecological surgery in a tertiary care hospital of a low resource setting.

## 2. Methods

The study was conducted in Department of Obstetrics and Gynaecology at University College of Medical Sciences & Guru Teg Bahadur Hospital, New Delhi between May 2023 to November 2024. The participants were recruited from the gynaecological wards of Guru Teg Bahadur Hospital.

### 2.1. Study Design and Sample Size

This was a feasibility study aimed at exploring the use of telemedicine in postoperative care for women undergoing elective gynaecological surgery for benign conditions in a low-resource setting. A sample size of 60 was chosen based on convenience, as no estimation or hypothesis testing was involved. The study did not account for a dropout rate, considering that dropouts themselves could be indicative of the feasibility of telemedicine in this context.

### 2.2. Inclusion and Exclusion Criteria

The inclusion criteria for the study consisted of women aged over 18 years who were undergoing major elective gynaecological surgery for benign conditions and were willing and able to provide informed consent. Participants were also required to be familiar with smartphones or internet-enabled devices and have access to 24/7 emergency healthcare. Women undergoing surgery for cancer, those requiring extended hospitalization beyond postoperative day 6, and those experiencing significant intra/postoperative complications (graded 3 or higher by the Clavien-Dindo Classification) were excluded from the study [4].

### 2.3. Tele-health Postoperative Follow-Up Model

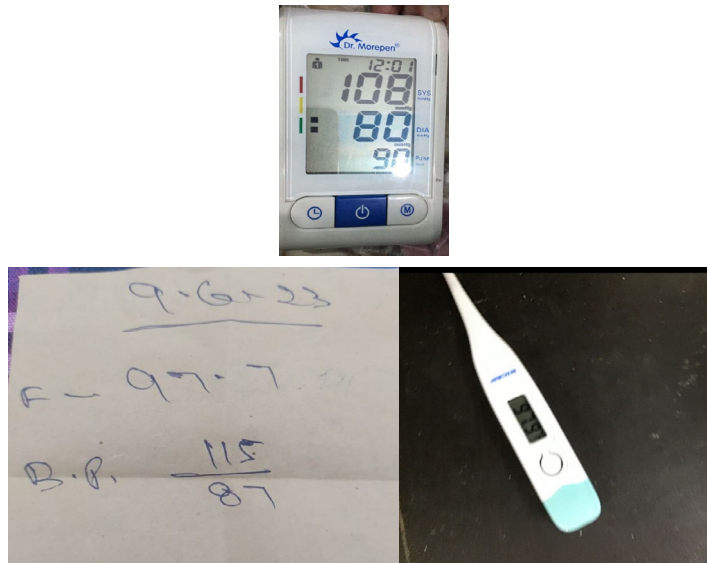
Postoperative care in our hospital (post discharge) usually includes an in-person visit for suture removal and overall recovery around day 10 and a more comprehensive follow-up and review of histopathology around four weeks post-surgery. This study aimed to replace these visits with telemedicine, evaluating feasibility, effectiveness, and patient satisfaction. The model consisted for 3 virtual visits at day 7,14 and 30 and 1 physical visit at day 45 postoperatively (Table 1).

NO. OF VISITS	TYPE OF VISIT	PROCEDURE OF CARE
1.	Post-Op Day 7 Virtual Visit 1	<ul style="list-style-type: none"> <li>• Patient identity verified.</li> <li>• The ‘Tele-postoperative follow-up care’ model re-explained.</li> <li>• Consent obtained.</li> <li>• Vitals and general well-being assessed.</li> <li>• Symptoms reviewed (bowel, bladder, fever, pain, bleeding, discharge, swelling).</li> <li>• Adherence to medication checked.</li> <li>• The level of return to normal activity and any problems faced discussed.</li> <li>• Counselling regarding diet, exercise, self-care, and red flag signs provided.</li> <li>• Dressing and surgical site health reviewed, and advice regarding suture removal given.</li> <li>• Treatment and medication reviewed.</li> <li>• Doubts of the patient addressed &amp; Reassurance provided.</li> <li>• Tentative date and details of the next visit shared.</li> <li>• Postoperative Quality of Recovery Scale (QoR-15) proforma filled by the patient.</li> <li>• Satisfaction scale proforma filled out by both the provider and the recipient.</li> </ul>
2.	Post-Op Day14 Virtual Visit 2	<ul style="list-style-type: none"> <li>• Identity reconfirmed.</li> <li>• Consent (implied/explicit) obtained.</li> <li>• Vitals and general well-being assessed.</li> <li>• Past and new symptoms (bowel, bladder, fever, pain, bleeding, discharge, swelling) and level of physical activity, diet and medications reviewed.</li> <li>• Wound site inspected virtually and reassurance provided.</li> <li>• Residual doubts addressed.</li> <li>• Tentative date and details of the next visit shared.</li> <li>• QoR-15 proforma filled by the patient.</li> <li>• Satisfaction scale proforma filled out by both the provider and the recipient.</li> </ul>
3.	Post-Op Day 30 Virtual Visit 3	<ul style="list-style-type: none"> <li>• Identity reconfirmed &amp; Consent (implied/explicit) obtained.</li> <li>• Vitals and general well-being assessed.</li> <li>• Past and new symptoms reviewed (bowel, bladder, fever, pain, bleeding, discharge, swelling).</li> <li>• Return to full diet and activity, along with any limitations or challenges faced, inquired.</li> <li>• Surgical site health reviewed.</li> <li>• Treatment reviewed &amp; reassurance provided.</li> <li>• Residual doubts addressed.</li> <li>• Tentative date and details of the physical visit were shared.</li> <li>• QoR-15 proforma filled by the patient.</li> <li>• Satisfaction scale proforma filled out by both the provider and the recipient.</li> </ul>
4.	6week post-Op One Physical Visit	<ul style="list-style-type: none"> <li>• Detailed health examination and patients experience assessed.</li> <li>• Past or new symptoms reviewed.</li> <li>• General physical examination, per abdomen (assessing surgical site health), and, if required, a per vaginum and per rectal examination performed.</li> <li>• Treatment reviewed.</li> <li>• Residual doubts were addressed&amp; Reassurance provided</li> <li>• Additional visits, if required, fixed as per hospital protocols.</li> <li>• QoR-15 proforma filled by the patient.</li> <li>• Satisfaction scale proforma filled out by both the provider and the recipient.</li> </ul>

**Table 1: Proposed ‘Tele-Health-Postoperative Follow-up Care’ Model**

Patients were first screened based on the eligibility criteria. Once they met the criteria and agreed to participate & gave informed consent, their details were recorded in structured Proforma. Each participant received a ‘Patient Information Sheet’ either in physical or virtual form, where they learned about the “Tele-

health Postoperative Follow-Up Care Model” and how virtual visits would work. They were also shown how to use the required technology, like taking their vitals, clicking pictures and setting up video calls. Before each visit, patients were asked to measure their pulse, blood pressure, and temperature.

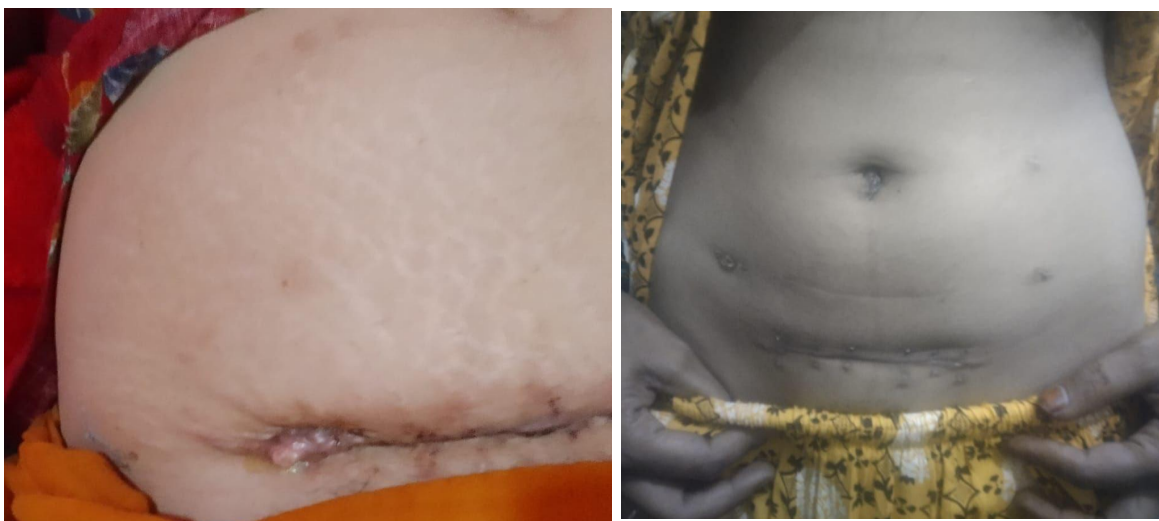


**Figure 1: Picture of Vitals Shared by Patient**

They were encouraged to use a smartphone or computer with a stable internet connection for the consultations.



**Figure 2: Screenshots of Ongoing Video Consultation**



**Figure 3: Surgical site Health Assessment During Consultation**

Informed written consent was obtained from all participants, with implied consent for patient-initiated teleconsultations and explicit consent, documented via email, text, audio/video messages, or verbal agreement, for healthcare provider-initiated consultations. In emergency situations, patients were instructed to contact the Tele-health provider, and if unable to do so, were advised to visit the Gynae-casualty of the Department of Obstetrics and Gynaecology at GTB Hospital.

2.4. Data Collection

Sociodemographic and clinical data were collected at recruitment using a case record form, while participant satisfaction was assessed through questionnaires with Likert scale responses after both virtual and physical visits. Recovery was evaluated using the Modified QoR-15 scale, adapted to include gynaecological complications, focusing on physical, emotional well-being, and issues like pain, fever, and vaginal bleeding.

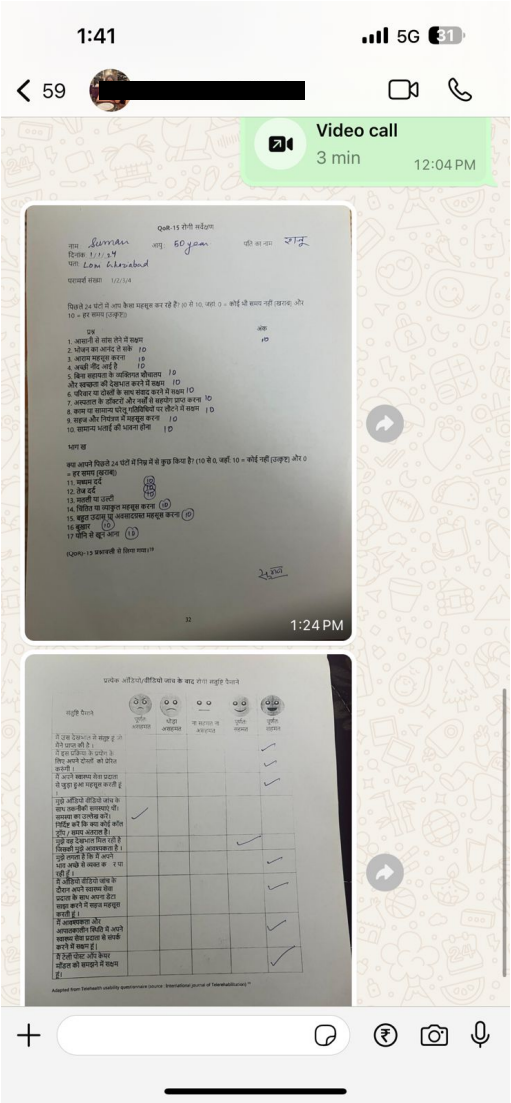


Figure 4: Filled QoR-15 and Satisfaction Scale Performa sent by Patient

2.5. Study Outcomes

The primary outcomes of the study assessed the feasibility of the Tele-health postoperative follow-up care model through the number of virtual and physical visits, provider ability to deliver and accept the model, compliance, difficulties faced, and satisfaction after each virtual visit. It also evaluated technological parameters at both ends, the average time taken to assess and manage each case, recipient understanding and satisfaction through feedback surveys, and the model's impact on postoperative care, quality of

life, and future preference.

Secondary outcomes included barriers such as phone/internet connectivity, missed appointments, and the difference between self-assessment and physical examination, while facilitators like psychological/social support, time and money saved in travel were also considered. Robustness was measured by the quality of audio/video, call drops, time lags, and power supply, while efficacy focused on safe and effective postoperative care, handling minor



health issues, Modified QoR-15 scores, and return to physical activity. Safety was assessed by postoperative morbidity (fever, pain, surgical site infections, haemorrhage, unscheduled visits, readmissions), and acceptability was measured by satisfaction with the model, adherence to schedule, and cost of service.

2.6. Data Management and Analysis

Data related to primary and secondary outcomes were collected using a structured pretested proforma, with one form used for each virtual session. The data was analysed using SPSS 20.0, with results for primary and secondary outcomes presented in both tabular and graphic formats. Satisfaction scores for both the provider and recipient were assessed using Likert scales and presented as

mean, standard deviation, and percentage. Postoperative recovery (Modified QoR-15) scores are also presented in similar formats. Responses to open-ended questions were analysed using thematic analysis.

3. Results

A total of 104 patient undergoing gynaecological surgery were screened for eligibility out of which 82 were found eligible for the study however 22 had to be excluded due to meeting one or more exclusion criteria (unwilling to participate, intra and postoperative complications). Finally, 60 eligible women were recruited and completed the study.

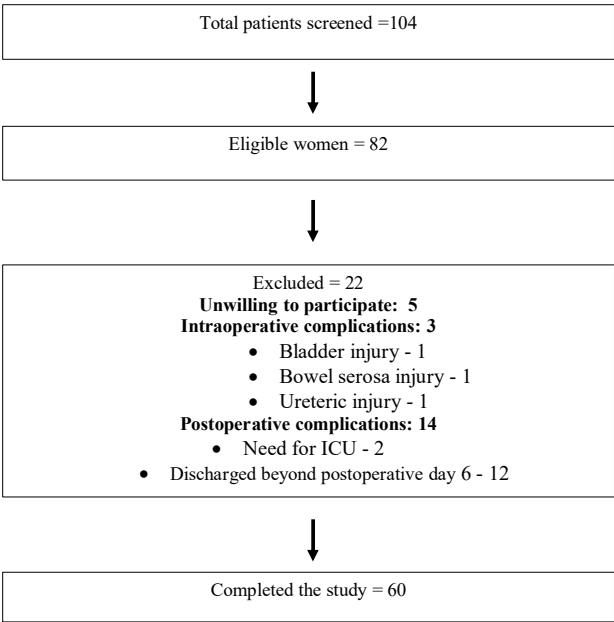


Figure 5: Participant flow Chart

Most participants were urban residents (71.7%), homemakers (90%), with an average age of 39.08 years. The mean BMI was 25.05 kg/m.2, with over 50% classified as overweight. Common

procedures included abdominal hysterectomy (21.67%) and vaginal hysterectomy (18.33%). Most patients (78.3%) were discharged within five days post-surgery (Table 2).

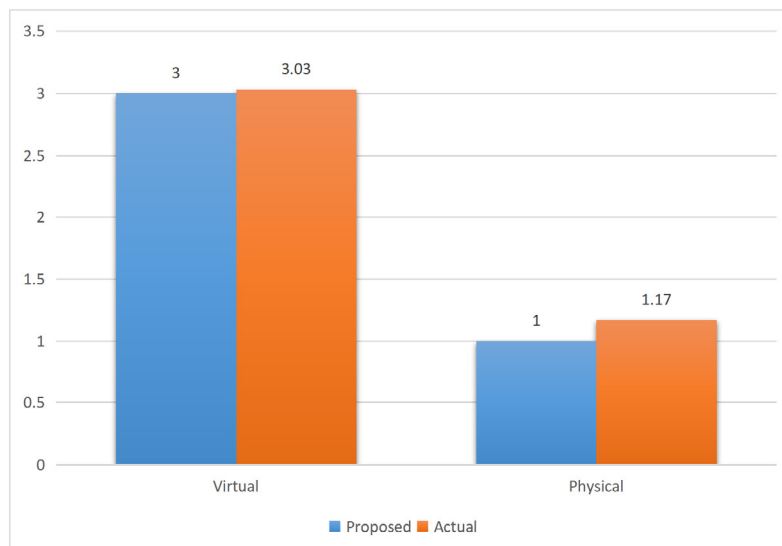
Characteristics	Study population (n=60) No. (%)	
Maternal Age (years) mean±SD	39.08 ± 10.31	
Maternal Age		
<20	01	01.70
20-30	12	20.00
31-50	42	70.00
>50	05	08.30
Religion		
Hindu	41	68.30
Muslim	17	28.30
Others	02	03.40
Residence		
Rural	17	28.30
Urban	43	71.70

Socio-economic status		
Upper Lower	04	06.70
Lower Middle	23	38.30
Upper Middle	33	55.00
Education		
Illiterate	12	20.00
Primary	08	13.30
Secondary	29	48.30
Higher Secondary	06	10.00
Graduate & Beyond	05	08.40
Occupation		
Homemaker	54	90.00
Others	06	10.00
Distance from health facility (Kilometres)		
<5	19	31.67
5-10	25	41.67
10-50	12	20.00
>50	04	06.66
Mode of transport		
Public	48	80.00
Private	12	20.00
BMI (kg/m²) Mean±SD)	25.05 ±3.16	
BMI		
<18.5	04	06.67
18.5-24.9	21	35.00
25-29.9	32	53.33
30-34.9	03	05.00
35-39.9	00	00.00
Cyst Excision with Vaginal Cyst Excision		
Diagnostic Hystero- laparoscopy	09	15.00
Exploratory Laparotomy	02	03.33
Hysteroscopy	05	08.33
Hysterectomy with or without salpingectomy		
• Abdominal	13	21.67
• Laparoscopic	04	06.67
• Vaginal	11	18.33
Cystectomy-		
• Laparoscopic	06	10.00
• Open	02	03.33
Abdominal Myomectomy	07	11.67
Cyst excision	01	01.67
Type of Anaesthesia		
General	14	23.30
Spinal	10	16.70
Combined spinal-epidural	34	56.70
Saddle	02	03.30
Postoperative day of discharge		
<3	18	30.00

3-5	29	48.30
6	13	21.70

**Table 2: Sociodemographic, Clinical and Surgical Characteristics of the Study Population (n=60)**

Patients successfully completed an average of 3 virtual visits (mean time: 7.2 minutes for the first visit, reducing to 4.16 minutes by the third) and 1 physical visit.



**Figure 6: Proposed Vs. Actual Visits**

There were no unscheduled visits. Providers rated their satisfaction with telehealth highly, with mean scores across visits for effective clinical decision-making (4.90/5), safety of virtual visits (4.93/5), and satisfaction with the technology (4.78/5). Overall satisfaction for physical visits was (4.81/5) (Table 3).

S. No.	Question	Satisfaction score (out of 5)		
		Virtual Visit I	II	III
		Mean± SD	Mean± SD	Mean± SD
1	The telemedicine technology was adequate to conduct today's visit.	4.73 ± 0.44	4.95 ± 0.22	4.78 ± 0.42
2	Clinical decision making was successfully accomplished in virtual visit.	4.82 ± 0.39	4.90 ± 0.30	4.93 ± 0.25
3	I am satisfied with today's virtual visit.	4.75 ± 0.47	4.85 ± 0.36	4.82 ± 0.39
4	I had technical issues with virtual visits.	0.65 ± 0.88	0.65 ± 0.73	0.47 ± 0.77
5	Virtual visits improve access to health services.	4.73 ± 0.44	4.82 ± 0.39	4.93 ± 0.25
6	It is easy to do virtual visits.	4.92 ± 0.27	4.78 ± 0.42	4.85 ± 0.36
7	I think the virtual visits are safe for patients.	4.87 ± 0.34	4.57 ± 0.50	4.93 ± 0.25
8	I think virtual visits are a positive change for patients.	4.95 ± 0.22	4.48 ± 0.50	4.87 ± 0.34
<b>Physical visit</b>				
S. No.	Question	Satisfaction score (out of 5)		
		Mean±SD		
1	Clinical decision making was successfully accomplished in physical visit	4.81±0.39		
2	I am satisfied with today's physical visit.	4.81±0.39		
3	I think the virtual visits are safe for patients.	4.81±0.39		
4	It is easier than virtual visits.	4.78±0.41		
5	I would like to follow up patients through virtual visit in future.	4.83±0.37		

**Table 3: Healthcare Provider's Perspective - Satisfaction Scores after Virtual Visits & Physical visit at end of Follow-up**

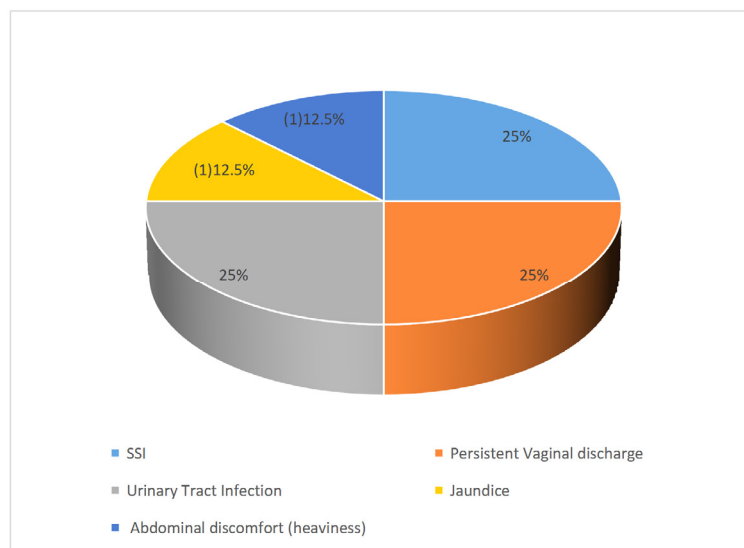


Patient satisfaction steadily increased across virtual visits, with overall satisfaction scores of (4.48/5), (4.75/5), and (4.80/5) for the first, second, and third visits, respectively. Comfort in connecting with the doctor improved from (4.37/5) to (4.75/5),

and understanding of the telehealth model rose from (4.45/5) to (4.98/5). After the physical visit, overall satisfaction was (4.81/5). 13.33% of patients experienced complications, all of which were successfully managed.

S. No.	Question	Satisfaction score (out of 5)		
		Virtual Visit I	II	III
		Mean± SD	Mean± SD	Mean± SD
1	I am satisfied with the care I have received.	4.48 ± 0.50	4.75 ± 0.43	4.80 ± 0.40
2	I will recommend this service to my friends.	4.43 ± 0.50	4.73 ± 0.44	4.73 ± 0.44
3	I feel comfortable connecting with the doctor.	4.37 ± 0.49	4.70 ± 0.49	4.75 ± 0.43
4	I had technical issues with virtual visits.	0.70 ± 0.72	0.75 ± 0.77	0.92 ± 0.94
5	I am getting the postoperative care that I need.	4.52 ± 0.50	4.68 ± 0.46	4.85 ± 0.36
6	I was able to express myself effectively.	4.60± 0.49	4.55 ± 0.50	4.45 ± 0.67
7	I feel comfortable sharing my data with my healthcare provider during virtual visits.	4.48 ± 0.50	4.52 ± 0.50	4.62 ± 0.55
8	I am able to contact my healthcare provider in case of need and emergency.	4.63 ± 0.49	4.77 ± 0.42	4.90 ± 0.30
9	I am able to understand the Tele Postop care model.	4.45 ± 0.5	4.83 ± 0.37	4.98 ± 0.12
Physical visit				
S. No.	Question	Mean±SD (Out of 5)		
1	I am satisfied with the care I have received.	4.81 ± 0.43		
2	I will recommend this service to my friends.	4.76 ± 0.53		
3	I feel comfortable connecting with the doctor.	4.61 ± 0.49		
4	I am getting the postoperative care that I need.	4.75 ± 0.47		
5	I was able to express myself effectively.	4.70 ± 0.61		
6	I am able to understand the tele post op care model.	4.90 ± 0.30		
7	I would opt Tele postop care model in future.	4.48 ± 0.74		

**Table 4: Patient Satisfaction Scores after Virtual Visits and Physical visit at end of Follow-up**

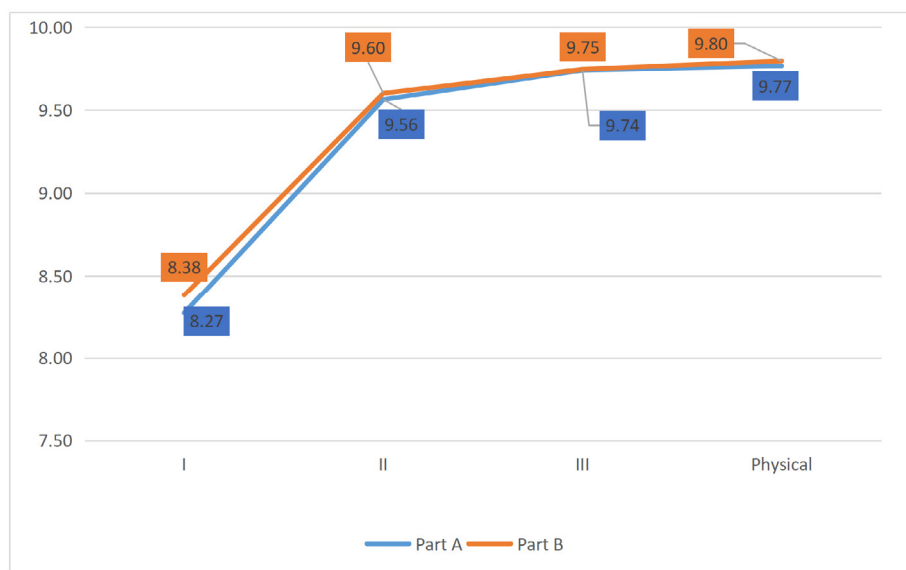


**Figure 7: Medical and Surgical Complications (n=6)**

Only two patients required readmission for management of urinary tract infection and jaundice. Scores improved significantly across visits. These scores reflect enhanced physical and emotional recovery through telehealth follow-ups. Average score across part A and B of questionnaire increased from (8.38/10,8.27/10) for first virtual visit to (9.80/10,9.77/10) at physical visit.

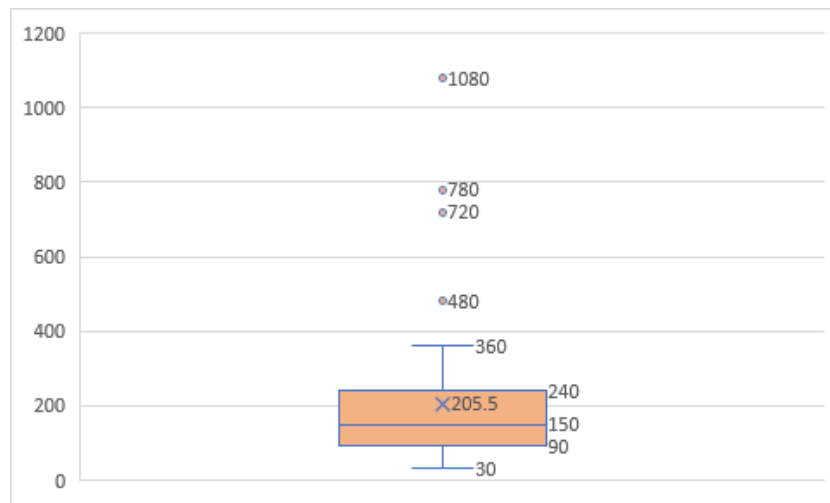
Part A (Scored out of 10) 0 to 10, where: 0 = none of the time [excellent] and 10 = all of the time [poor]				
Question	Virtual Visit I	II	III	Physical Visit
	Mean±SD	Mean±SD	Mean±SD	Mean±SD
1. Able to breathe easily	8.74 ± 0.45	9.67 ± 0.48	9.87 ± 0.35	9.89 ± 0.33
2. Able to enjoy food	8.14 ± 0.84	9.50 ± 0.51	9.64 ± 0.49	9.70 ± 0.47
3. Feeling rested	7.92 ± 0.75	9.47 ± 0.51	9.74 ± 0.45	9.79 ± 0.42
4. Have had a good sleep	7.92 ± 0.79	9.37 ± 0.49	9.57 ± 0.5	9.54 ± 0.51
5. Able to look after personal toilet and hygiene unaided	8.24 ± 0.79	9.65 ± 0.49	9.84 ± 0.38	9.87 ± 0.35
6. Able to communicate with family or friends	8.79 ± 0.83	9.62 ± 0.5	9.74 ± 0.45	9.75 ± 0.44
7. Getting support from hospital doctors and nurses	8.90 ± 0.88	9.64 ± 0.49	9.74 ± 0.45	9.74 ± 0.45
8. Able to return to work or usual home activities	8.04 ± 0.89	9.55 ± 0.51	9.87 ± 0.35	9.89 ± 0.33
9. Feeling comfortable and in control	8.05 ± 0.77	9.60 ± 0.50	9.75 ± 0.44	9.82 ± 0.4
10. Having a feeling of general well-being	8.04 ± 0.79	9.59 ± 0.50	9.70 ± 0.47	9.72 ± 0.46
Part B (Scored out of 10) 10 to 0, where: 10 = none of the time [excellent] and 0 = all of the time [poor]				
Question	I	II	III	Physical
	Mean	Mean	Mean	Mean
11. Moderate pain	7.84 ± 0.77	9.50 ± 0.51	9.80 ± 0.41	9.95 ± 0.22
12. Severe pain	8.42 ± 0.68	9.65 ± 0.49	9.92 ± 0.28	9.90± 0.31
13. Nausea or vomiting	8.90 ± 0.71	9.64 ± 0.49	9.87 ± 0.35	9.77 ± 0.43
14. Feeling worried or anxious	7.99 ± 0.80	9.59 ± 0.5	9.64 ± 0.49	9.67 ± 0.48
15. Feeling sad or depressed	8.15 ± 0.78	9.45 ± 0.51	9.44 ± 0.5	9.54 ± 0.51
16. Fever	9.37 ± 0.79	9.80 ± 0.41	9.72 ± 0.46	9.85 ± 0.37
17. Bleeding per vaginum	8.02 ± 0.80	9.60 ± 0.5	9.85 ± 0.37	9.90± 0.31

**Table 5: Modified QoR-15 Scale Score After I,II,III ( Virtual Visit ) & Physical Visit**

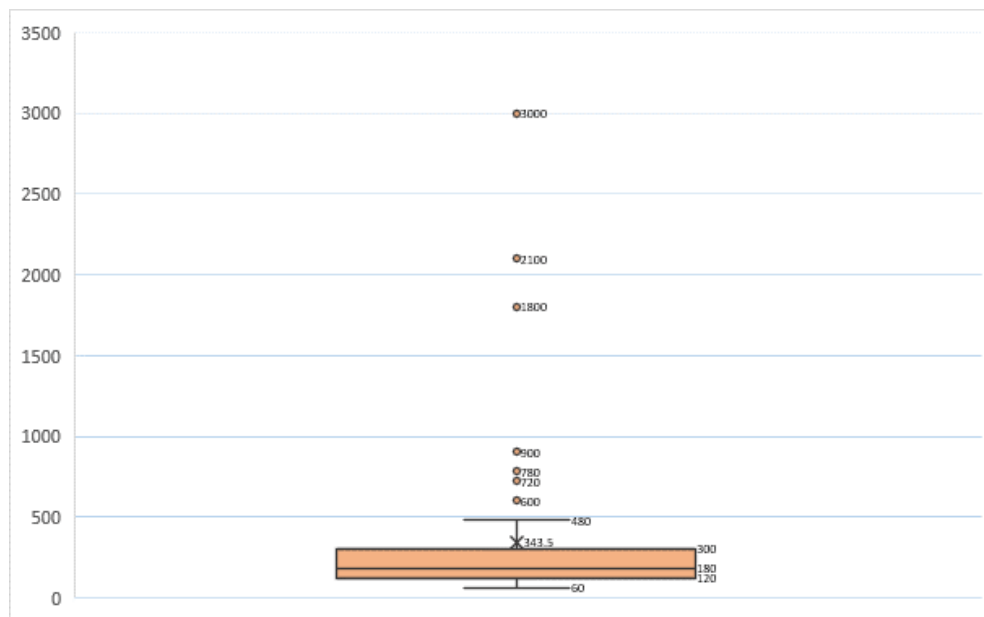


**Figure 8: Mean of Modified QoR-15 Scale Score of part A and B across 3 Virtual & 1 Physical Visit**

Patients saved an average of 205 minutes and INR 343 per visit.



**Figure 9: Total time Saved per Patient (Box Plot)**



**Figure 10: Total Money Saved per Patient (Box Plot)**

Adherence to scheduled visits was excellent (93.3%), with high-quality audio/video reported in 88.3% of cases.

Phone/Internet Connectivity	No.	Percentage
Excellent	56	93.30
Average	04	06.70
<b>Missed appointments</b>		
None	57	95.00
1	03	05.00
<b>Adherence to schedule</b>		
Excellent	56	93.30
Poor	04	06.70

**Table 6: Facilitators and Barriers to Implementation of Tele-Health Postoperative Follow-up Care Model. (n=60)**

Psychological and social support at home was universally present (100%).

Psychological and social support	No.	Percentage
Present	60	100

**Table 7: Psychological and Social Support at Home (n=60)**

Minor issues included call drops (6.7%) and time lags (13.3%), which were infrequent and did not significantly affect satisfaction.

Robustness of the process	No.	Percentage
Quality of Audio/Video Calls		
Excellent	53	88.30
Poor	07	11.70
Time Lag		
Present	08	13.30
Absent	52	86.70
Power supply		
Uninterrupted	55	91.70
Interrupted	05	08.30
No. of call drops (Mean ± SD)	1.8 ± 1.2	
No. of call drops		
None	55	91.60
1	04	06.70
2	01	01.70

**Table 8: Components of the Robustness of Process. (n=60)**

88.3% of patients expressed a preference for telehealth in future follow-ups. Most participants reported high levels of trust and ease in sharing their data (4.62/5) and felt confident accessing healthcare in emergencies (4.90/5). The model was characterized by high patient and provider satisfaction, improved accessibility, and significant time and cost savings, making it a promising approach to postoperative care in low resource setting.

#### 4. Discussion

This single-centre, prospective study examined the feasibility of using telemedicine for postoperative follow-up care after major elective gynaecological surgery in a low-resource tertiary care hospital. The tele-health model was effective in providing timely, cost-efficient, and accessible care without compromising clinical outcomes. While many studies have explored telemedicine in various surgical fields like gastrointestinal, cardiothoracic, urology, oncology, and orthopaedics, its application in postoperative gynaecology remains underexplored, especially in low- and middle-income countries (LMICs) like India [5-9].

Our findings are consistent with previous research. Van Noordegraaf et al. showed that eHealth interventions enhanced recovery and reduced time to return to work following gynaecological surgeries [10]. Similarly, Sharmila V et al., Sharma B et al. reported that mobile-based tele-consultation effectively reduced in-person visits while ensuring high patient satisfaction [10,11]. In this study, telemedicine saved an average of 205 minutes and ₹343 per patient, in line with findings from Gunter et al. and Sorwar et al [12,13].

The duration of virtual consultations decreased over time, from an average of 7.2 minutes in the first session to 4.16 minutes in the third, reflecting improved efficiency and familiarity with telemedicine among both patients and providers. This aligns with Radtke et al. and Mezes et al., who reported similar efficiency improvements in telemedicine interactions [14,15]. Additionally, no increase in postoperative morbidity or readmissions was observed, supporting findings that telemedicine outcomes are comparable to traditional care [16].

Despite low resource setting, only 7% of participants reported issues like call drops or time lags, demonstrating the robustness of the tele-health model. Moreover, nearly all patients had adequate psychological and social support at home, further reinforcing the suitability of telemedicine as a complementary approach to in-person care. Patient understanding and satisfaction with the tele-health model increased significantly, with 98% expressing confidence in the process by the third visit. Over 85% of participants were satisfied with their care and endorsed telemedicine as a preferred option for future follow-ups.

#### 4.1. Strength and Limitations

This study confirms that telemedicine can be a feasible and effective model for postoperative gynaecological care in low-resource settings. Future research should focus on expanding the model to other types of gynaecological surgeries, addressing technical challenges, and enhancing digital infrastructure and literacy in LMICs to optimize the benefits of telemedicine in postoperative surgical care.

## 5. Conclusions

This study demonstrates the potential of telemedicine to reduce health inequities in women's and reproductive health, particularly in low-resource settings. By evaluating its feasibility for postoperative follow-up care after major gynaecological surgeries, the research highlights telemedicine's ability to overcome barriers such as limited access, financial constraints, and logistical challenges. The study confirms that telemedicine is a safe, effective, and scalable solution, offering reduced costs, early detection of complications, and enhanced patient satisfaction. It provides a foundation for future research and standardized protocols. In conclusion, telemedicine offers a transformative, equitable, and patient-centred approach to improving women's health outcomes.

## Disclosure of Interest

The authors declare no conflicts of interest related to this study.

## Contribution to Authorship

AC and KG conceptualized the study, designed the methodology, and led the data collection process, data analysis and drafted the manuscript. AMK supervised the entire research process, ensuring adherence to scientific & ethical standards and provided critical revisions. RS and AS helped in data collection. All authors have read and approved the final manuscript and take responsibility for its accuracy and integrity.

## Details of Ethics Approval

Approval was obtained from the Institutional Ethics Committee-Human Resource (IEC-HR) (Ethics approval number-IECHR-2023-59-88) of University College of Medical Sciences, India.

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