

## Evaluation of an innovative counselling technique in alleviating the anxiety in the patients in surgery OPD - A Pilot Study

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### Abstract

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### Introduction

“This disease needs surgery” - These words bring a lot of anxiety and fear in the minds of most patients, who come to the surgery OPDs. As a result of this ‘fear of the unknown’ there is a decrease in the conversion of OPD to IPD / OT. Also, it adds to patient dissatisfaction and may have a negative impact on surgical outcome. Various studies have reported an incidence of pre-operative anxiety to be 60–92% in the patients undergoing surgery. Several other factors like age, sex, education level, financial status add to the decision making of a patient. However, patient counseling in the OPDs or preoperative period plays a vital role in alleviating the fear and anxiety associated with surgery.

Preoperative anxiety is widely recognized as a common and significant concern among adult surgical patients, with reported prevalence ranging from **11% to as high as 80%**, depending on the assessment tools used .(1) Elevated anxiety is associated with adverse outcomes, including increased anesthetic and analgesic needs, hemodynamic instability, prolonged recovery, and impaired postoperative satisfaction .(1)

Although pharmacological agents such as benzodiazepines, gabapentinoids, and beta-blockers are effective anxiolytics, they often carry risks—sedation, postoperative delirium, hypotension, and delayed recovery—that limit their ideal use, especially in outpatient settings. Non-pharmacological options, notably cognitive-behavioural therapy, guided imagery, hypnosis, music therapy, and aromatherapy, have shown efficacy with fewer side effects and greater patient acceptability (1)

Recent research has emphasized **psychoeducational interventions** led by nursing or allied health professionals. These programs typically include explanation of surgical procedures, coping strategies, relaxation exercises, and cognitive reframing, often delivered through group or individual sessions using pamphlets, multimedia, or structured counselling formats.(2) A 2024 pilot study on a nursing-led preoperative psychoeducation program highlighted the reduced hospital contact in same-day surgical admission contexts, underscoring the need for innovative outpatient counselling to support anxiety

reduction amidst shrinking preoperative face-to-face time .

Moreover, **virtual reality (VR) and video-based platforms** have emerged as novel educational tools. Video tutorials delivered before surgery consistently lower anxiety levels, improve hemodynamic stability, and reduce reliance on premedication, especially when paired with empathic counselling.(3) A 2025 systematic review of self-guided VR therapy confirmed positive outcomes for anxiety, phobias, and user satisfaction, although standard protocols and long-term effects remain under investigation.

Despite the wealth of these modalities, there remains a **gap in outpatient OPD settings**, particularly in applying structured **counseling techniques that integrate personalized education, therapeutic dialogue, and modern multimedia**. The proposed **innovative counselling technique** in this pilot study aims to bridge this gap by delivering tailored, empathic, outpatient-based counselling combining verbal education, relaxation training, and optional VR/video aids.

This approach responds to multiple needs: reducing preoperative anxiety without pharmacological risks; adapting to shorter pre-surgical patient contact in surgical OPDs; and leveraging cost-effective, scalable educational tools shown to enhance patient understanding and emotional preparedness .(4)

In this pilot study, we seek to evaluate feasibility, acceptability, and preliminary efficacy of the counselling technique in reducing anxiety levels among surgery OPD patients—thereby informing larger, controlled trials for implementation in ambulatory surgical pathways.

## Material and Methods

A non-randomized, comparative, pilot study was designed in Unit 1 of the Department of surgery of VAMCRH in 2024, taking sample size of 594. As a part of AETCOM training, students from phase III part II students (Final M.B.,B.S.), during the Doctor - Learner program were first demonstrated and then trained to counsel the patients (under the guidance of the unit head) needing elective surgeries such as hydrocele, hernia, gallstones, benign breast disease etc. on the manikins. This was used for the skill development and training of the students.

All patients between the ages of 18 - 60 years attending Unit 1 OPD at VAMCRH and those needing 'elective' surgery after were screened and included in this study group. All patients requiring emergency surgery were excluded from the study group. The counseling protocol was prepared - this included detailed information with regard to the type of surgery including major steps, duration, complications, type of anesthesia and blood transfusion, if necessary.

In the first one and half months, those screened were counseled in a traditional manner, while in the next one and half months these patients were counseled on manikin. Finally, the demographic details of the patients were noted and documented.

The change in satisfaction levels and anxiety levels post-counseling were assessed by the response of the patient on a five point 'Likert scale' questionnaire and for the anxiety (shown in Figure 1), on the 'VAS-A scale' respectively. The data was collected and analyzed using the SPSS 20 version.

## Results

A total of 594 patients were seen by Unit 1 from 01 June 2024. After screening of these patients, 174 (29.2%) patients were found to need elective surgery. Table 1 shows the distribution of the patients pre-operative diagnosis of the patients in each group. Patients who were offered the traditional counseling methods from 01 June to 15 July 2024 were 80(46%), and the rest 94 patients (54%) were counseled on the manikin from 16 July to 31 August 24, as per the counseling protocol.

In the traditional group, the mean age was 39 yrs, 47(58.8%) patients were male and 33 (41.2%) were females. In the manikin group the mean age was 37 yrs, 59 patients (62.8%) were male and the rest 35 (37.2 %) were females.

The post counseling VAS - A results (Table -1) revealed that the anxiety levels reduced significantly in the manikin group as compared to the traditional counsel group.

The satisfaction levels of the patients on Likert questionnaire revealed that 77% of the patients were satisfied or highly satisfied in understanding about the disease and the treatment being offered to them, in the manikin group as compared to 62% in the traditional group, which was a significant change.

The results also revealed that the number of the patients, who got converted from the OPD to the OT were significantly improved in the manikin group 40/94 (42.5%) as compared to 21/80 (26%) in the traditional counseling methods.

## Discussion

### Implications of Anxiety Reduction

The manikin-based counseling yielded a significantly higher proportion of patients in the low-anxiety category (36.2% vs. 20%) and a significant diminution of high-anxiety incidences (8.5% overall), underscoring its clinically meaningful impact on reducing preoperative anxiety.

These findings align with evidence on structured and visual counseling methods. For instance, use of anesthesia information sheets (AIS) in elective surgery reduced post-counseling anxiety scores (HAM-A 14.25 vs. 16.27;  $p=0.016$ ), highlighting benefits of structured visual aids in patient comprehension and emotional reassurance.(5)

Likewise, checklist-based counseling across surgical specialties has demonstrated reduced anxiety and enhanced satisfaction, supporting the efficacy of systematic, standardized preoperative education.(6)

### Clinical significance

Although direct evidence on manikin-based preoperative counseling is limited, our findings resonate with studies using simulation, multimedia, or virtual reality (VR) tools. VR has shown a moderate-to-large effect size in reducing preoperative anxiety among pediatric patients (SMD  $\sim -0.64$ ;  $p = 0.004$ ), though results vary in adults.(7) Similarly, audiovisual preoperative tours and educational videos have reduced anxiety and improved satisfaction in several adult surgical cohorts.(8)

Simulation-based and hands-on visual strategies—like a physical manikin coupled with guided explanation—likely offer tactile familiarity, improved mental modeling, and emotional comfort, explaining the observed anxiety reduction.

### Enhanced Patient Satisfaction

The manikin group's significantly higher satisfaction (77% vs. 62%) suggests that interactive, concrete educational modalities support patient engagement and comprehension. Similar improvements have been

reported in video-aided counseling and procedural familiarity studies .

Unlike every study, our study too has certain strength and limitations. The biggest strength was real world outpatient setting used with an operative intervention schedule. The sample size was bigger in comparison to the previously published studies. We also used a validated anxiety scale for this study.

Few limitations which can be noted in this study may include the short follow up period, which was done immediately post – counselling. Our study was limited to a single hospital, therefore multicentric study with larger sample size is recommended. Though initial screening was done but a non- randomized procedure was followed which may have introduced some bias.

### Comparison to Existing Techniques

While VR and multimedia interventions are promising, they often require technology and infrastructure. In contrast, manikin-based counseling is affordable, scalable, and trainable for low-resource outpatient settings. It retains the benefits of visual learning and simulation without major technological overhead.

Future multicentric studies, with randomization is required to provide more evidence on this topic. Inclusion of post operative pain, recovery speed and hospital stay can be included. Larger sample size with cost effective analysis along with different methods of interventions could be tried in future studies.

### Conclusion

This pilot evidence supports that manikin-based preoperative counseling, as a simulation-augmented educational approach, significantly reduces anxiety and enhances patient satisfaction more than standard verbal counseling. It offers a feasible, cost-sensitive intervention suitable for outpatient surgical settings. Future research should expand upon these findings through randomized trials and longer-term outcome evaluation.

Pre-operative stress and anxiety has a multifactorial causation, which impacts substantially on the peri-operative and postoperative outcomes in any surgery. This being a pilot study, primarily conducted by the undergraduate students, a lot of other factors like patient's comorbidity and type of anesthesia also

needs consideration in assessing the stress levels in the patients.

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**Table 1: Post counselling results**

S.NO	VAS -A scores	Traditional (N=80)	Manikin (N=94)
1	0-2	16 (20%)	34 (36.17%)
2	3-5	40 (50%)	52 ( 61.9%)
3	6-8	18 (22.5%)	07 ( 7.44%)
4	9-10	06 (7.5%)	01 (1.06%)

**Figure 1: Anxiety rating scale**

