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Development of a high quality, effective and safe virtual preoperative assessment process during Covid – 19 pandemic through implementation of telemedicine
A quality improvement project in a stand-alone Irish maternity hospital

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Introduction

Risk factor identification and optimisation preoperatively can reduce morbidity and mortality and therefore is widely accepted as the criterion standard of care for elective surgery. The current COVID – 19 pandemic has presented unique difficulties in organising and delivering high quality and safe Preoperative Assessment (PA), especially for ongoing procedures like elective Caesarean section (CS).

Over 2300 obstetric patients were assessed in person in the Anaesthetic Clinic (AC) at our institution in 2019.
The public health restrictions in 2020 challenged us to balance best medical practice with ensuring the safety of patients and healthcare staff.

Although mobile technologies have facilitated the remote provision of medical services across many different specialties (chronic diseases management, decreasing emergency department attendances, pain clinics), it's applicability in PA remains unclear.[1-2]

We hypothesised that virtual anaesthetic consultation could offer a high quality, safe, and efficient alternative for in-person PA.

Methods

The team in conjunction with key stakeholders and service users planned and developed a virtual pathway to run alongside the established in-person model. The aim of the project was to identify, refer and assess all patients, suitable for virtual assessment, on this pathway.

We followed the 3-step Institute of Healthcare Improvement model due to its simplicity, effectiveness and applicability in healthcare settings.[3]
The team executed the project in three phases:

1.July – October 2020 phone consultations
2. Nov-Dec 2020 rollout of video consultations, using Cisco (WebEx) platform, concurrently with phone assessment.
3. Jan-Feb 2021 – Video consultations as mainstream virtual pathway.

Of note, patients who did not meet the criteria for virtual assessment were assessed in-person either as same day (walk-ins) or another day appointments.

Results

Between July and December 2020, 1031 Obstetric patients were referred to the AC. 419 (41%) were assessed virtually and 612 (59%) in person. Over 97% of elective CS cases were referred for preoperative assessment. DNA rate was 3% for virtual assessment and 9% for in-person appointments. There were no day of surgery delays or cancellations of virtually assessed patients.
Cost-effectiveness analysis demonstrated initial investment for hard- and software but the reduction of footfall to the AC by 41% resulted in more effective utilization of resources (staff, infrastructure, time).

Patient and staff feedback surveys are currently being rolled out for assessing experience with video technology for remote consultation. However, unsolicited comments from patients are in keeping with high satisfaction, ease of use and time/money saving opportunity.



Picture 1. Set up for virtual anaesthetic consultation using Cisco WebEx System

Discussion

Herein we have described the development and implementation of virtual anaesthetic assessment for obstetric patients scheduled for elective CS at CWIUH.

The strengths of our project are:

- High compliance with the pathway by the referring obstetricians
- Very low DNA rate (three times lower than in-person appointments)
- No theatre cancellations or day of surgery delays
- Availability of compatible devices along with good internet cover in our capital and surrounding areas.

We acknowledge the following limitations:
- Lack of physical examination and preoperative tests (bloods, ECG etc.)
- Questionable airway examination
- Internet dependent and the potential possibility of safety and confidentiality breach.

Our quality improvement project demonstrates the development of a safe, high quality, effective and efficient virtual anesthetic consultation pathway, using video platform (Cisco, WebEx). More research is needed to address some of the current challenges presented by the video anaesthetic consultations for obstetric patients.

References

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