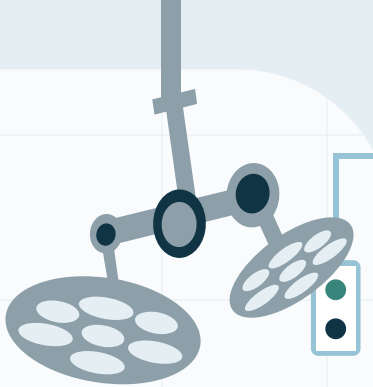
HA CONVENTION 2025: 08-Collaboration and Teamework (*F8.3*)

"Calming Anxiety and Relaxation for Emergency Abdominal Surgery" *(CARES)* Programme for Pre- and Postoperative Anxiety Management and Patients' Outcomes Improvement



Presenter: William Wai-lin, TSE (APN/SUR/NDH) (Email: twl535@ha.org.hk)

Academic sector:
- Prof. Ho-yu, CHENG (Associate Professor/The Nethersole School of Nursing/The CUHK)

Clinical sector:
- Surgeon: Dr. Sunny Yue-sun, CHEUNG (COS/SUR/NDH)
- Nurses: Mr. Wan-yee, LAU (DOM/SUR/NDH)
  Ms. Yi, CHAN (WM/SUR/NDH)
  Ms. Wai-yin, WONG (WM/SUR/NDH)

Ethical Approval: The Joint CUHK-NTEC Research Ethic Committee (CREC 2023.301)
Hospital Approval: The CRMO (NDH-CT-2023-0015)
Protocol registration: Chinese Clinical Trial Registry (ChiCTR2300076274)

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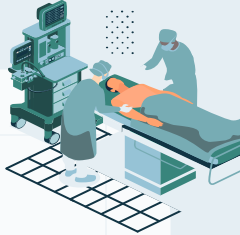

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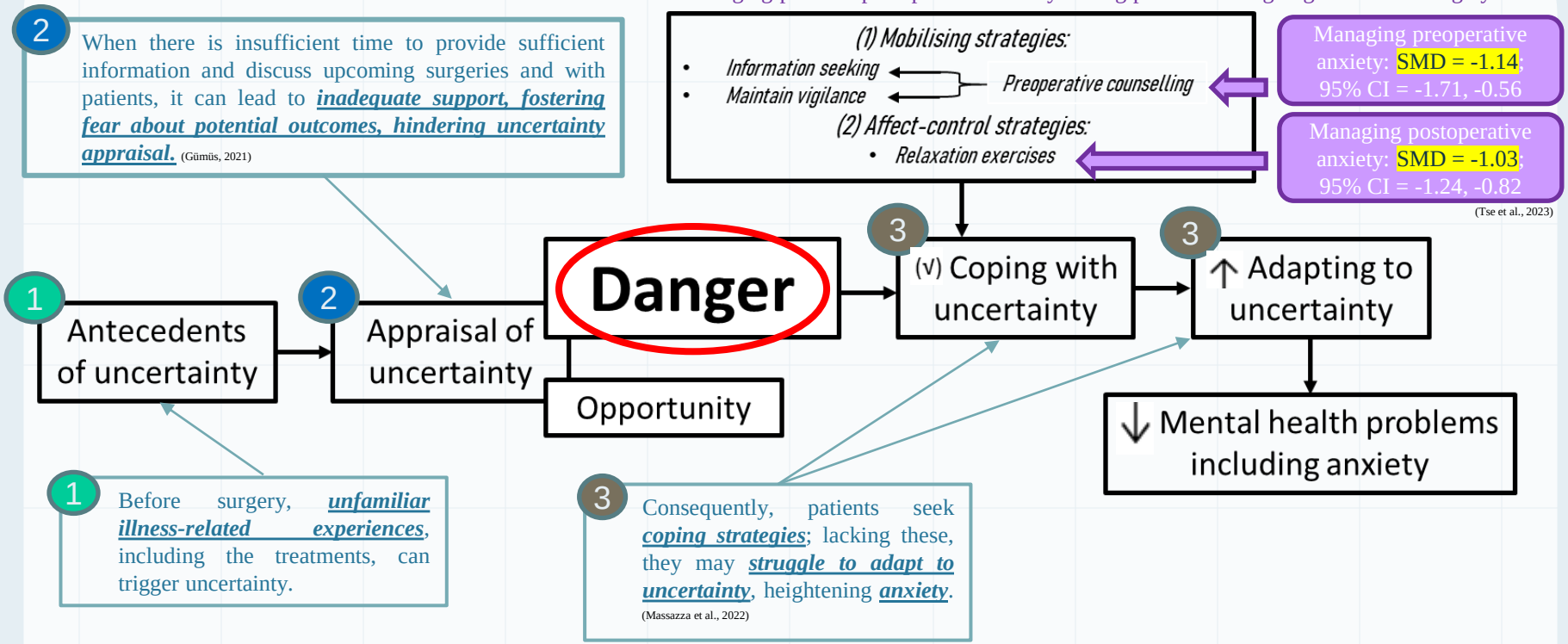
- Thanks to ***the patients*** who participated in the study

Background

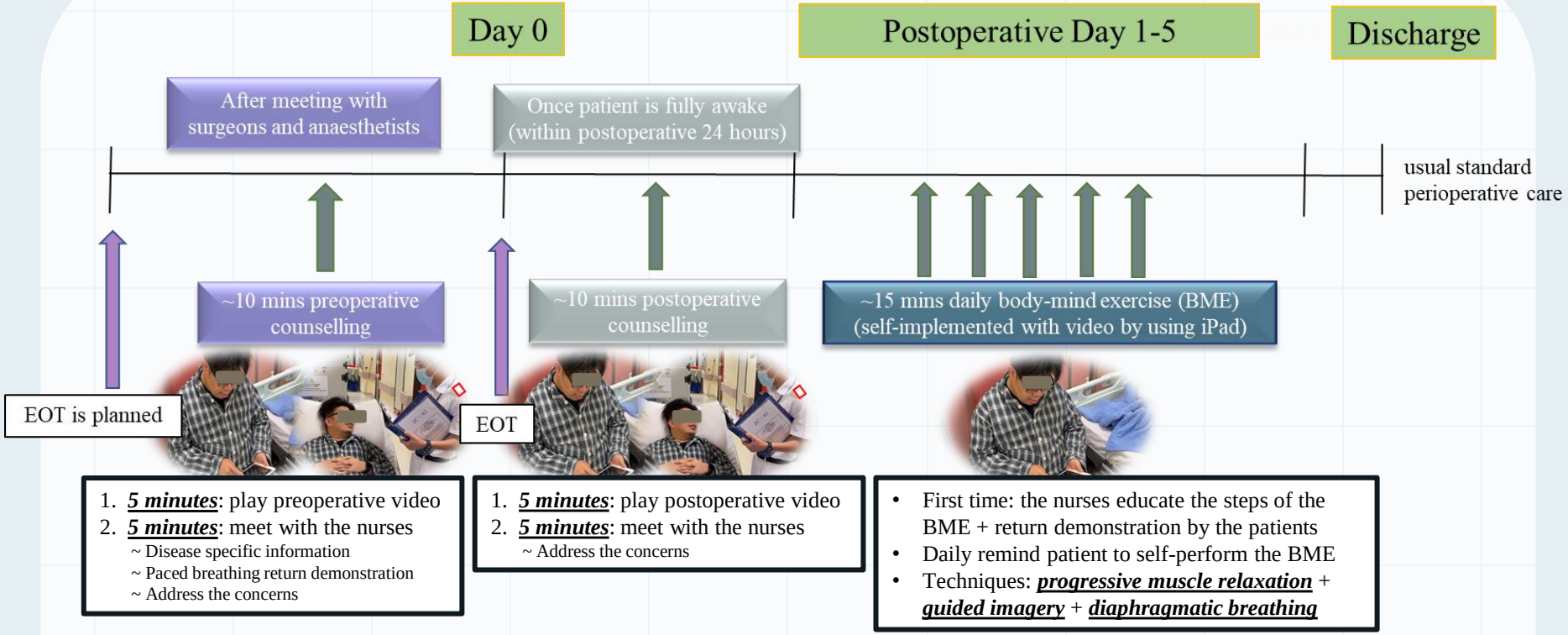
- Surgical Outcomes Monitoring and Improvement Programme (SOMIP) Report: Emergency abdominal surgeries (EAS)
  - Occupied ***>80%*** of emergency major and ultra-major surgeries in Hospital Authority (HA) (Hospital Authority Quality and Safety Division, 2021)
- The patients undergoing emergency abdominal surgery can experience ***various degree of anxiety***.
  - Anxiety: It is subjective worry, nervousness, and discomfort due to uncertainty or powerlessness in predicting threats. (Abate et al., 2020).
- The prevalence of preoperative anxiety among patients undergoing emergency surgeries:
  - ***2.5 times more*** than those undergoing elective surgeries. (Berhe et al., 2022)
- Effects of preoperative anxiety in patients undergoing abdominal surgeries:
  - Time for resuming ***postoperative bowel function*** (Banyong et al., 2022)
  - Risk of developing ***postoperative anxiety*** (Gümüs, 2021)
  - Length of ***hospital stay*** (Schlosser et al., 2019)
- ***Services gap***: Insufficient focus of anxiety management among patients undergoing EAS
  - ***Limited time*** to allow patients to discuss their concerns when meeting with surgeons and anaesthetists before the sugery
  - ***Insufficient information*** to be delivered to the patients (Fortini & Daeppen, 2023)
  - ***Anxiety*** (Massazza et al., 2022)

Uncertainty in Illness Theory (Mishel, 1988) & the Evidences

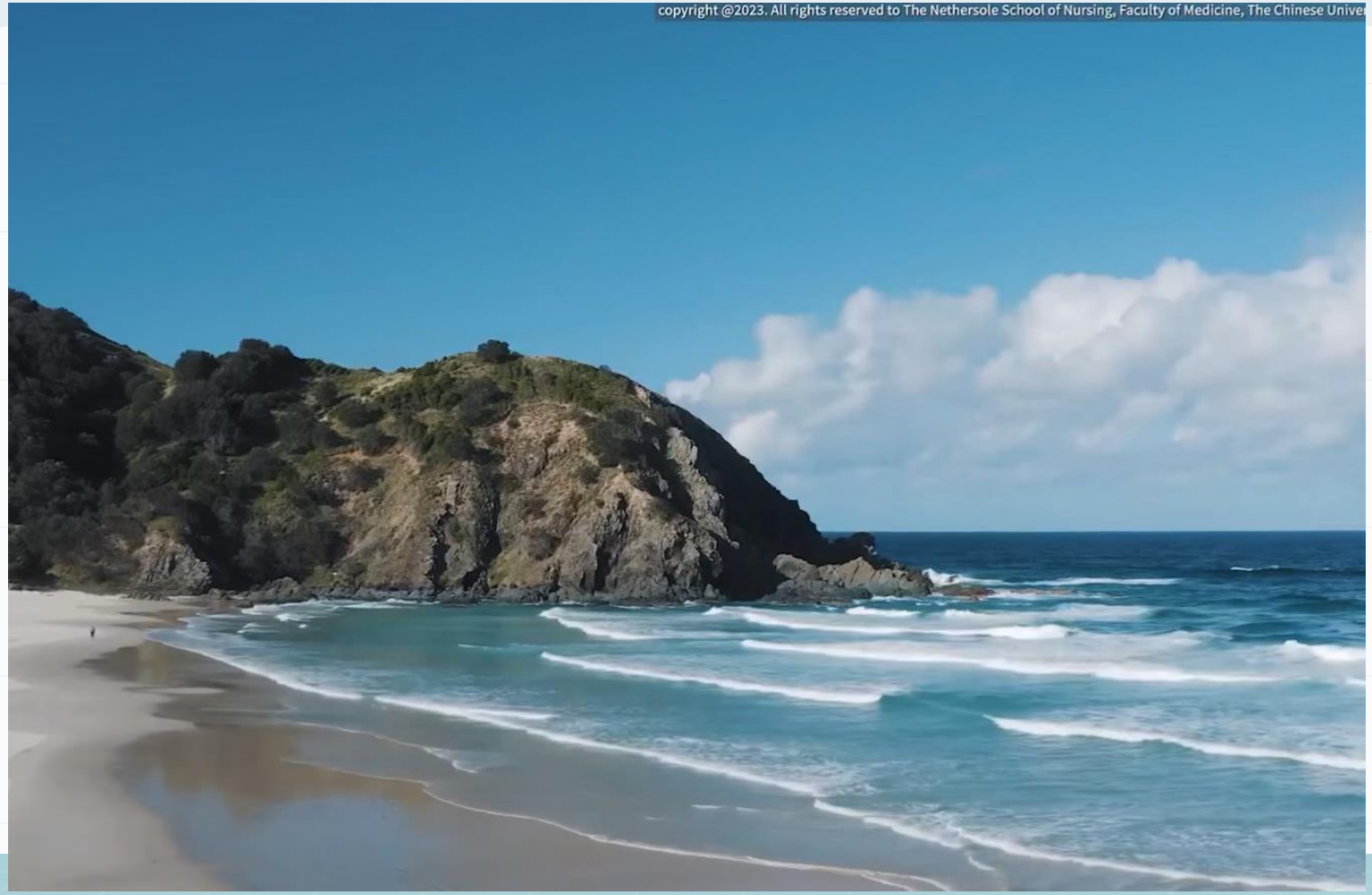
Systematic review: To identify the effective types and their effective components in managing pre- and postoperative anxiety among patients undergoing abdominal surgery:



The CARES Programme Protocol



- ***Intervention provider***: Seven trained advanced practice nurses (via individual training of ~20 minutes)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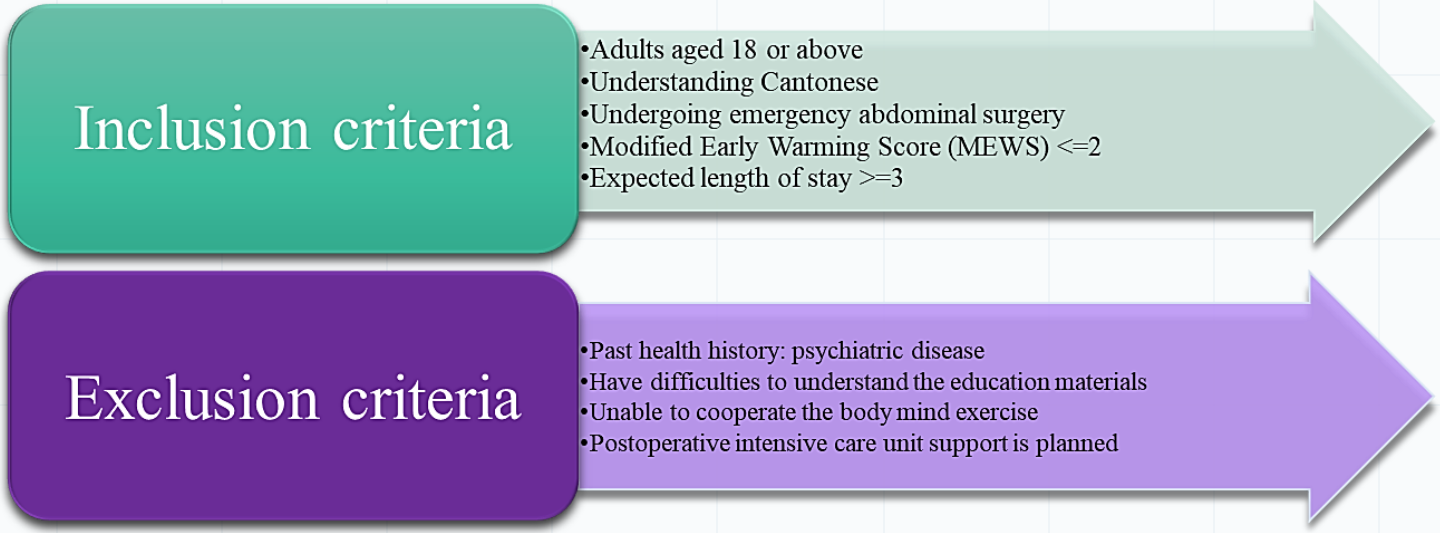
Methodology

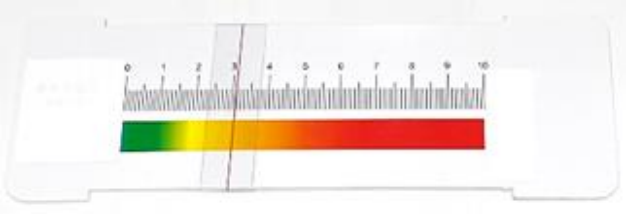
- Objectives: To examine the effects of CARES programme, in addition to usual care, on ***pre- and postoperative anxiety management***, ***time to first postoperative flatus***, and ***length of hospital stay*** among adult patients undergoing EAS
- Design & Setting: A ***non-randomised clinical controlled trial*** was conducted from October 2023 - October 2024 in two surgical wards in North District Hospital, with ***planned to recruit 120 participants*** (60 participants in each group) based on sample size estimation with G*Power software (v3.1.9.7). (Faul et al., 2007, 2009)



- *Intervention Group (IG)*: Received CARES & usual perioperative care
- *Control Group (CG)*: Received usual perioperative care

Methodology

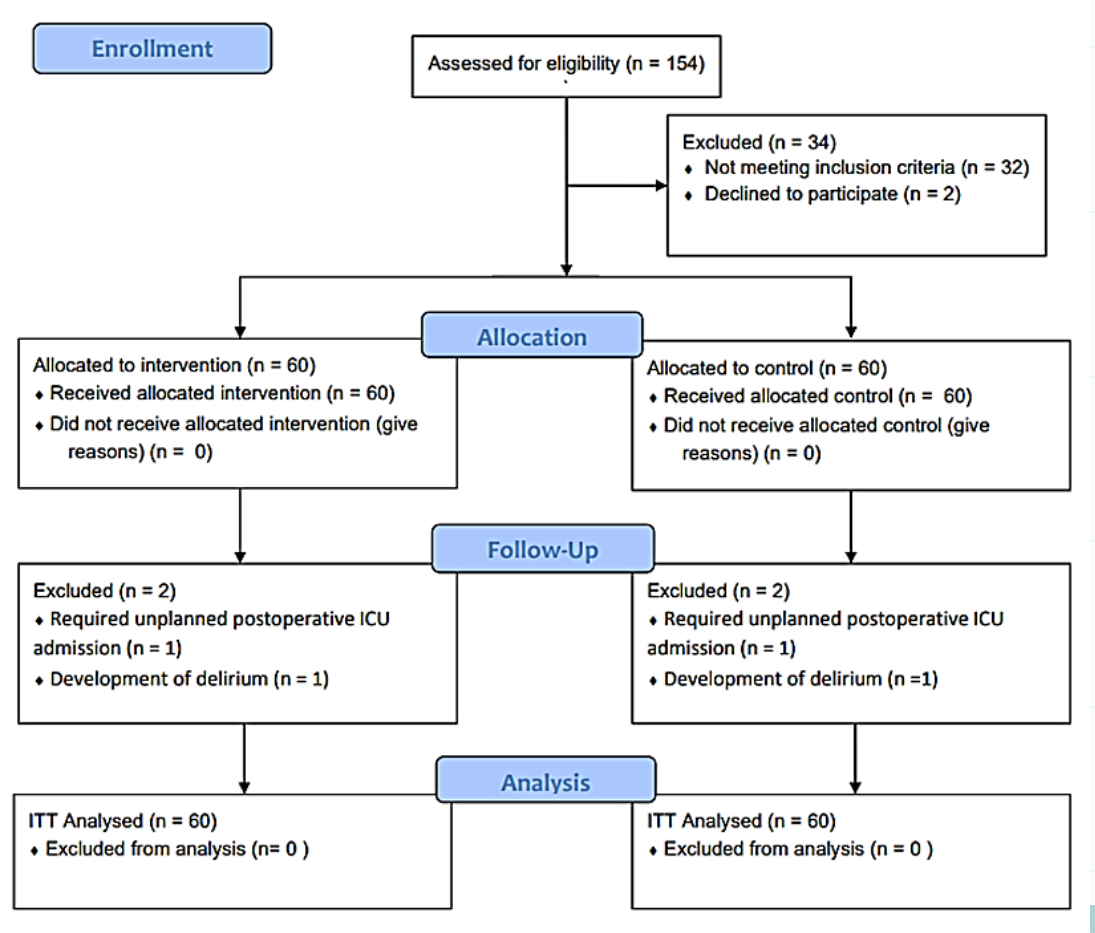
- ***Visual Analogue Scale (VAS)*** was used for ***anxiety*** assessment:
  - Surgical anxiety measurement: Reliable & validated (Labaste et al., 2019; Wu et al., 2020)



- Statistical Analysis: Following ***intention-to-treat (ITT) principle***

Measurement Time points	Outcomes	Statistical Analysis
1. After offer EOT (baseline): T0 2. During call for pre-medication: T1	a) Change of preoperative anxiety	Independent t-test (Compared between two groups)
3. Postoperative day 1: T2 4. Postoperative day 3: T3	b) Change of postoperative anxiety	Repeated measure ANOVA (Compared several time points with the baseline between two groups)
5. After discharged	c) Time to first postoperative flatus d) Length of hospital stay	Independent t-test (Compared between two groups)

Results: Participant Recruitment



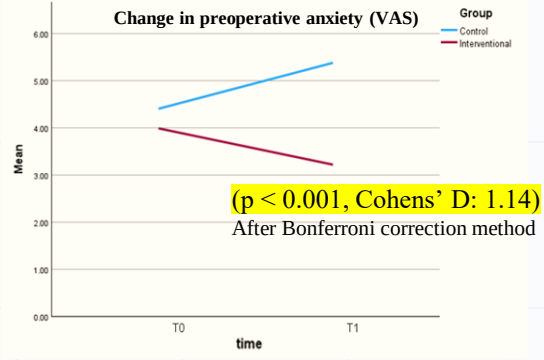
The ***CONSORT*** flow diagram (Moher et al., 2010)

Results (ITT, n =120)

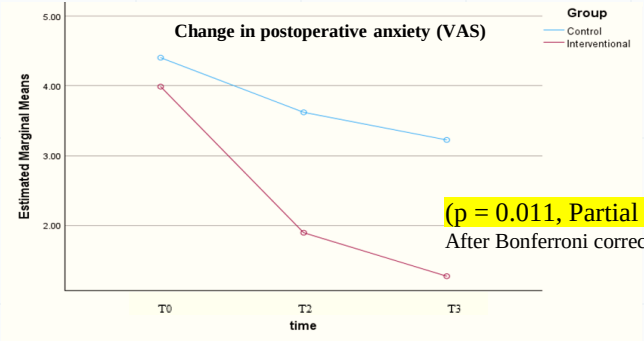
- ***Baseline socio-demographic & clinical characteristics***: No statistically significant difference between the two groups

Socio-demographic	Clinical characteristics	
➢ Age (Year) ➢ Sex ➢ Education level ➢ Marital status ➢ Employment status ➢ Income level ➢ Religious belief	➢ With past surgical experience ➢ First time of abdominal surgery ➢ Types of Comorbidities ➢ Diagnosis o Acute appendicitis o Complicated appendicitis o Acute cholecystitis o Intestinal obstruction (Benign) o Intestinal obstruction (Malignancy) o Pneumoperitoneum	➢ American Society of Anesthesiologists (ASA) Classification ➢ Types of surgery process ➢ Main surgery performed ➢ Intraoperative blood loss (ml) ➢ Operation waiting time (hours) ➢ Operation time (hours) ➢ Postoperative drainage tube placement ➢ Types of postoperative complications

- ***Change in pre- and postoperative anxiety***: Statistically significant change in the IG than in the CG:



(p < 0.001, Cohens' D: 1.14)
After Bonferroni correction method



(p = 0.011, Partial eta squared: 0.039)
After Bonferroni correction method

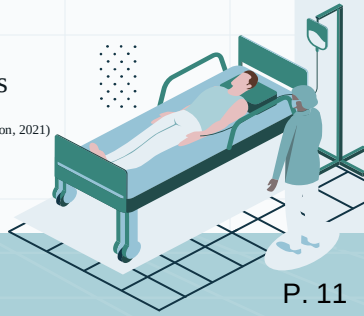
- ***Time for postoperative first flatus*** (days): Statistically significant shorter time in the IG than in the CG (p = 0.008, Cohens' D: 0.50)
- ***Length of hospital stay*** (days): Statistically significant shorter days in the IG than in the CG (p = 0.024, Cohens' D: 0.42)
- ***Adverse event rate reported*** : 0%

Implications

1) CARES programme is ***safe*** and has ***beneficial effects*** in managing pre- and postoperative anxiety, and shortening time to first postoperative flatus and length of hospital stay among patients undergoing EAS.
   - ***Fill in the service gap: Insufficient focus on anxiety management among patients undergoing EAS***

2) Nurses are suggested to be the ***primary resource persons*** for mental health screening & anxiety management (Majumdar et al., 2019; Willis et al., 2024)
   - The 1st contact persons during the admission to the surgical wards
   - However, nurses often ***overlooked the mental health screening*** of patients in nowadays busy working environment (Willis et al., 2024)
   - ***VAS is a quick, validated and reliable tool*** to identify anxious patients who are going to have EAS

3) ***Easily transferred to other surgical settings***
   - The materials used in the CARES programme are ***standardised & prepared***
   - The psychological parts are conducted by ***trained nurses***
   - They can implement this program to manage pre- and postoperative anxiety and improve the patient's outcomes among patients undergoing EAS, which occupy the majority of emergency surgeries in HA. (Hospital Authority Quality and Safety Division, 2021)



Conclusion

In addition to usual perioperative care, ***CARES programme has beneficial effects*** in managing pre- and postoperative anxiety, and improve patients' outcomes among patients undergoing EAS. Other clinical settings can easily implement this programme with ***minimal time and manpower allocation***.

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Thank you