

Evaluation of electronic record monitoring following implementation of neuraxial morphine for caesarean section in an Australian suburban hospital

Copas, Joshua; Wood, Harriet; Sutherland, Sian - *Department of Anaesthesia, Redland Hospital, Queensland, Australia*



Introduction

- Latest guidelines for monitoring after neuraxial opiates for caesarean analgesia recommend reduced frequency and intensity [1,2].
- There are no Australian consensus guidelines for monitoring after neuraxial opiates.
- Standards are based on local guidelines and an electronic set created for scheduling nurse observation tasks: hourly for 12 hours then two hourly for 12 hours: blood pressure (BP), heart rate (HR), respiratory rate (RR), oxygen saturations (sats), pain scores, postoperative nausea and vomiting (PONV), Bromage and functional activity score (FAS).

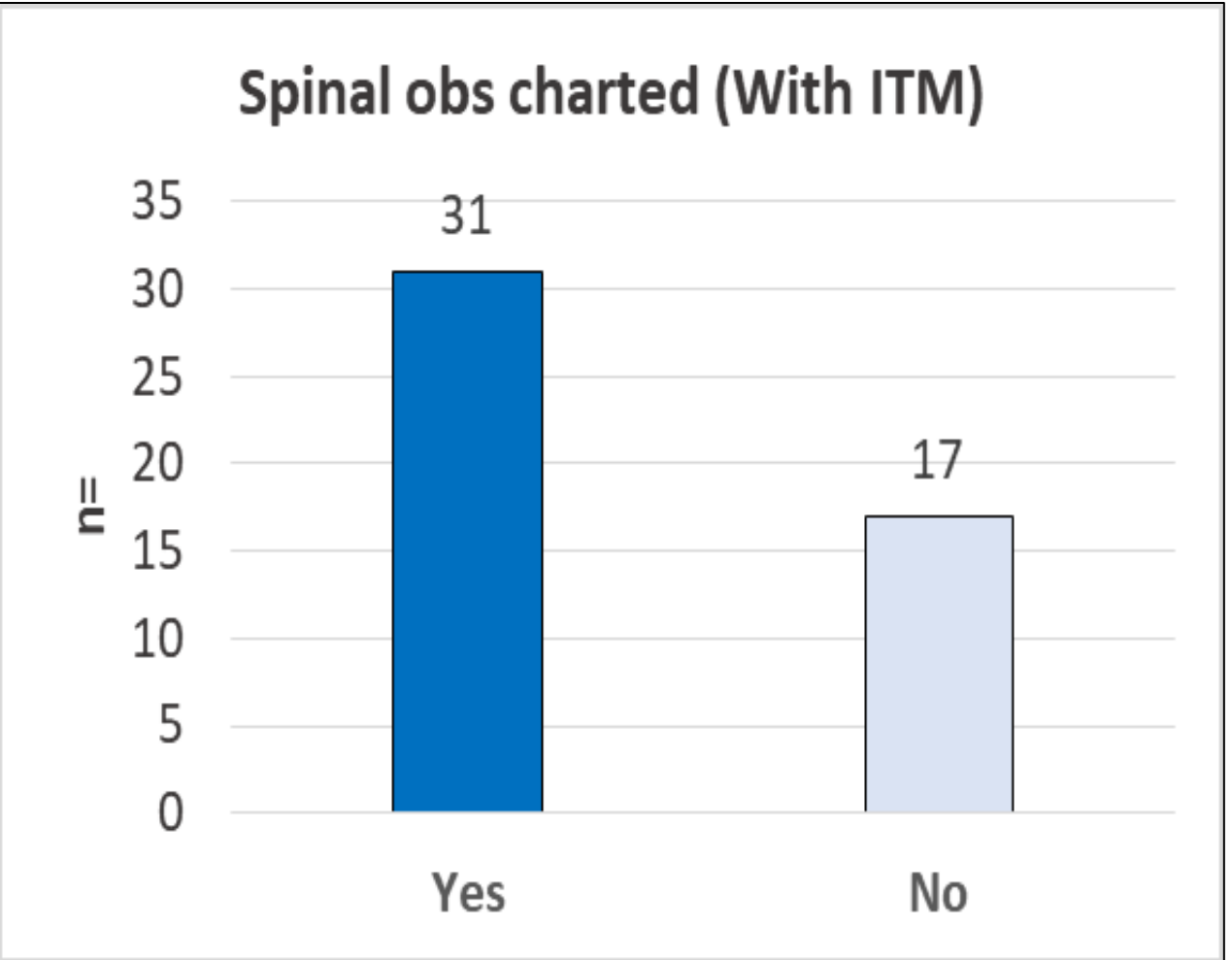
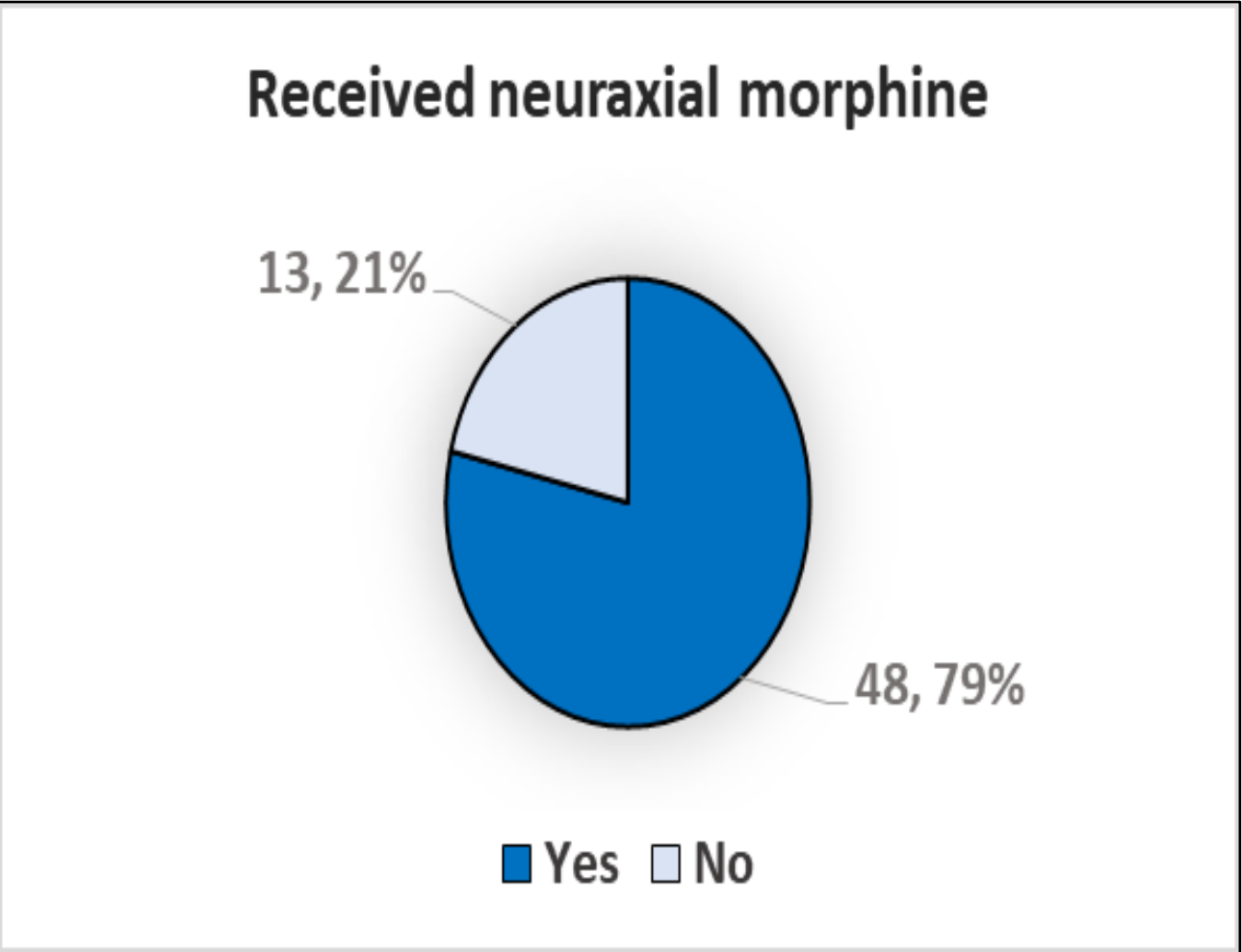
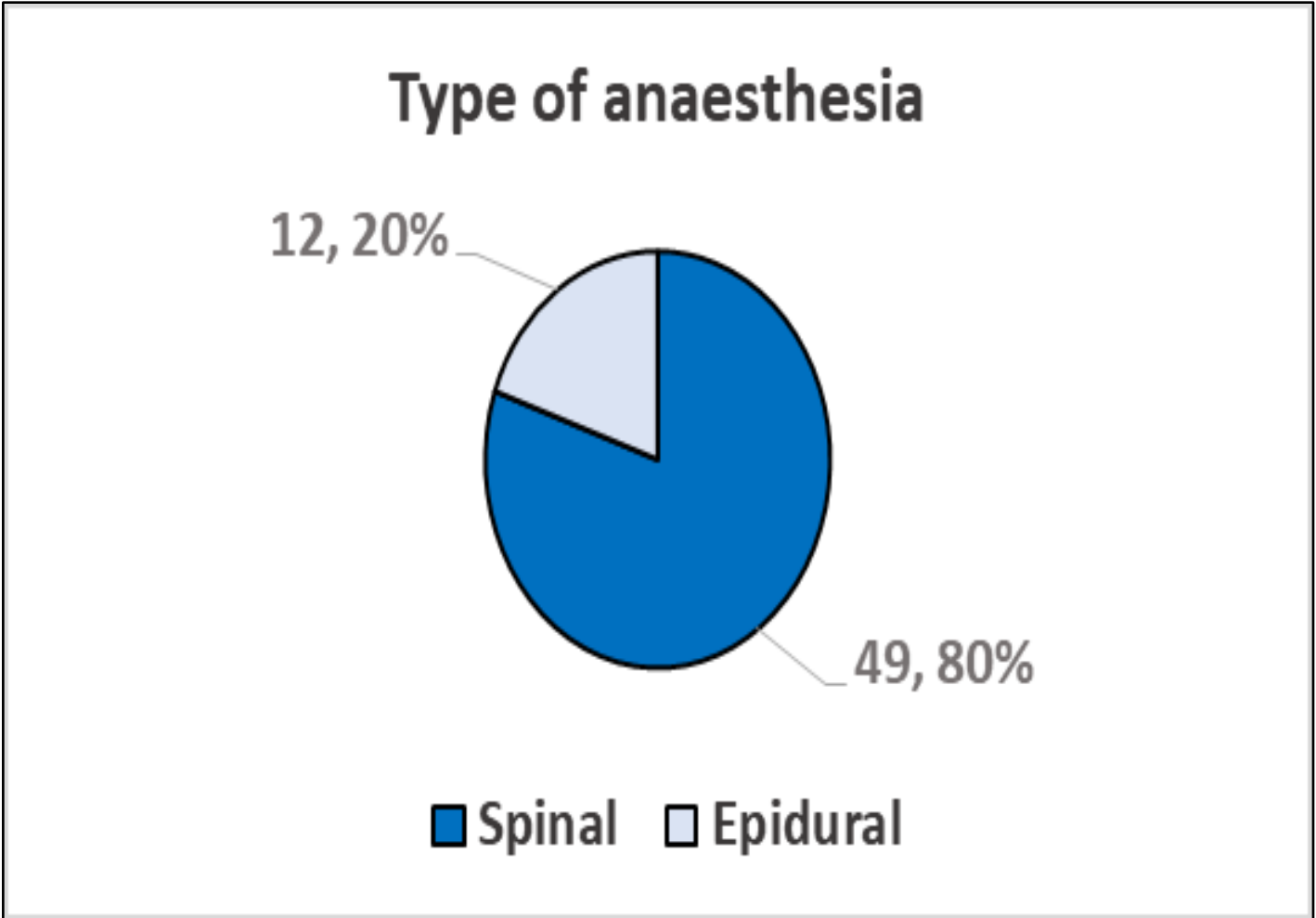
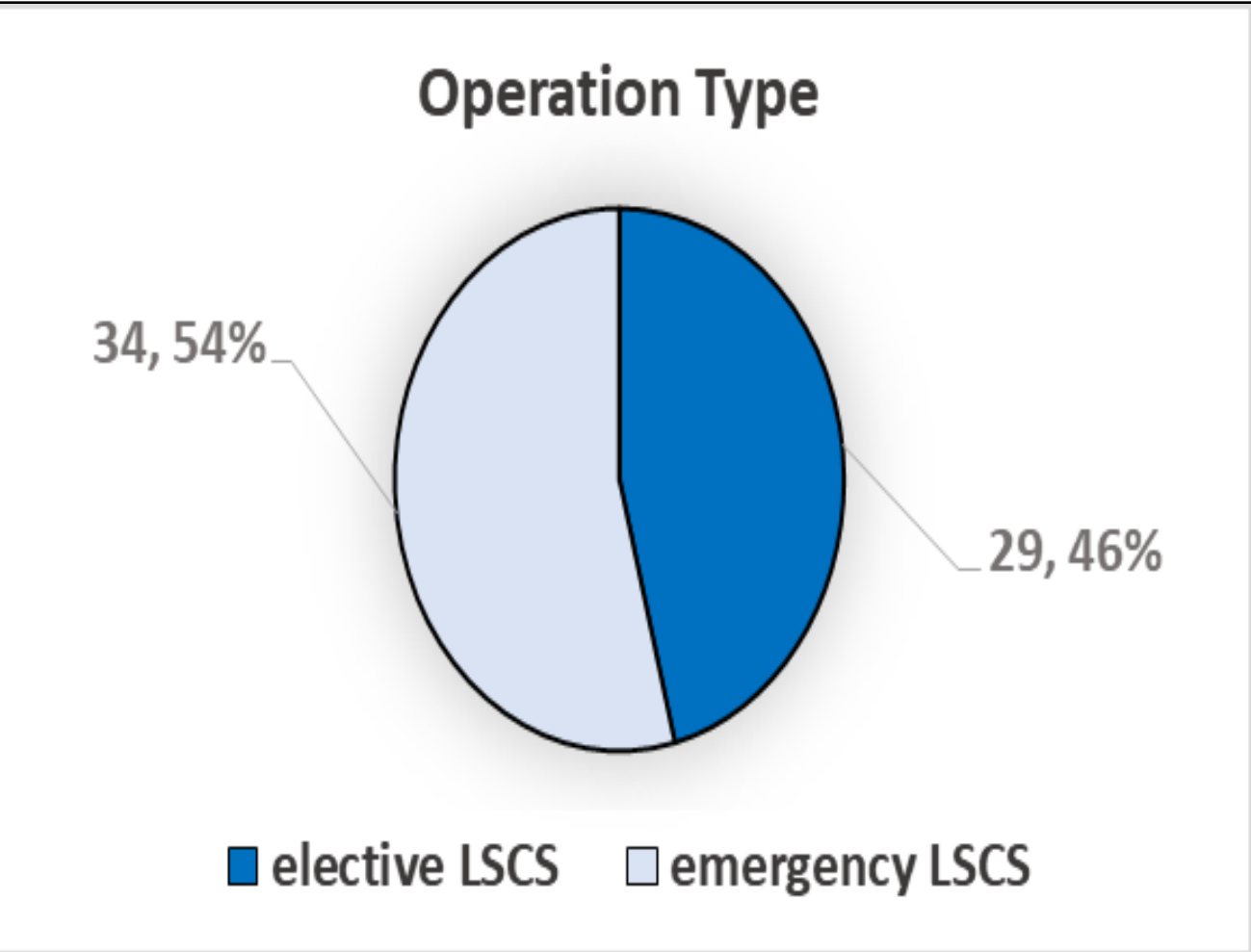
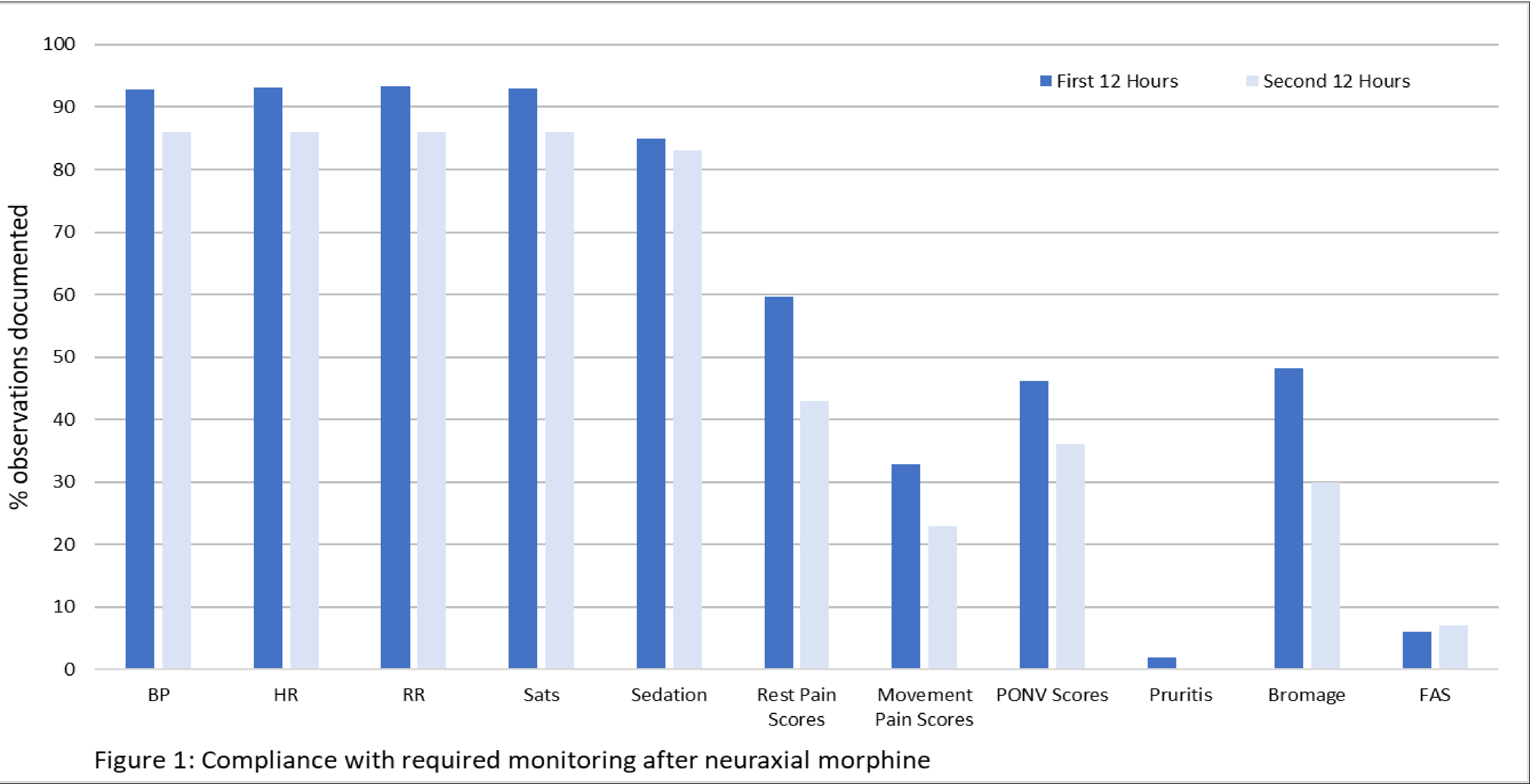
Methods

- Postoperative observations of 64 patients undergoing caesarian section
- 5 week data-collection period following implementation of ITM
- Retrospectively audited data from the electronic medical record (EMR)
- Three patients were excluded – two general anaesthesia, one declined monitoring.
- The EMR for 61 patients was checked for on-time monitoring +/-10 minutes.
- Analysis with Microsoft Excel®

Patient Care		
Spinal / Failed Spinal		
☐	☒ If altered sensation and/or limb weakness persists 6 hours following CESSATION of SPINAL infusion contact the Anaesthetist or APS urgently for immediate patient review	
☐	☒ Single injection nerve block Observations	T.N. 1 hourly, 8, hour(s), Spinal observations
☐	☒ Single injection nerve block Observations	T.N. 2 hourly, 16, hour(s), Spinal observations
☐	☒ Single injection nerve block Observations	T.N. 4 hourly, 24, hour(s), Spinal observations
Spinal Morphine		
☒	☒ NO OPIOIDS TO BE GIVEN FOR 24 HOURS POST SPINAL UNLESS DISCUSSED WITH ANAESTHETIST OR APS. NO oxygen for 18 hours post spinal. Naloxone protocol (as per RN standing order) for sedation score greater than or equal to 2. Refer Spinal Anaesthesia Procedure. If opioid given revert to hourly obs until initial 18 hours have passed	
☒	☒ Vital Signs Adult	T.N. 1 hourly, 12, hour(s), Spinal Morphine Vital Sign Observations: BP, HR, RR, sedation score, Sats
☒	☒ Vital Signs Adult	Continue even when full motor power returns. Check sensory block height if any hypotension.
☒	☒ Pain Assessment Adult	T.N. 2 hourly, 12, hour(s), Spinal Morphine Vital Sign Observations: BP, HR, RR, sedation score, Sats
☒	☒ Pain Assessment Adult	Continue even when full motor power returns.
☒	☒ Pain Assessment Adult	T.N. 1 hourly, for 12, hour(s), Additional Spinal Morphine Observations - Pain score (rest and movement), FAS, Bromage, N&V, Rch
☒	☒ Pain Assessment Adult	Continue even when full motor power returns. If motor block still present 6 hours after spinal block, or worsens at any time - CON...
☒	☒ Pain Assessment Adult	T.N. 2 hourly, for 12, hour(s), Additional Spinal Morphine Observations - Pain score (rest and movement), FAS, Bromage, N&V, Rch
☒	☒ Pain Assessment Adult	Continue even when full motor power returns. If motor block still present 6 hours after spinal block, or worsens at any time - CON...
☐	☒ Single injection nerve block Observations	T.N. 1 hourly, 12, hour(s), Additional Spinal Morphine Observations
☐	☒ Single injection nerve block Observations	T.N. 2 hourly, 12, hour(s), Additional Spinal Morphine Observations
☐	☒ Line care	T.N. 120s, Assess insertion site for signs of infection, haematoma and dressing security
Medications		
☐	☒ "CAUTION" ("CAUTION opioids")	Withhold, daily, order durations: 24 hours(s), DISCUSS WITH ANAESTHETIST OR APS IF OPIOIDS REQUIRED FOR PAIN MANAGEMENT ...
☐	☒ "CAUTION" ("CAUTION opioids")	Monitor sedation & respiratory depression for 24 hours
Consults/Referrals		
☒	☒ Consult Order (Acute Pain Service - Referral)	T.N. Spinal - review required, Pain Services

Results

- Audit included 54% emergency and 46% elective caesareans.
- Twelve of 61 patients did not receive neuraxial morphine; 10 had epidural morphine 2.5-3mg; 39 had intrathecal morphine 100microg.
- Higher risk for clinically significant respiratory depression (CSRD) noted in 9/49, all BMI>40; however, no desaturation events occurred.
- Scheduled tasks were ordered on EMR for 32/49 patients.
- The 49 patients who received morphine (intrathecal or epidural) had good basic observations during the first 24 hours but pain, PONV, Bromage and FAS were not well documented [Fig 1].
- There was no difference in observation compliance between those with or without EMR tasks.



Discussion

- EMR records data clearly but EMR tasks do not improve monitoring.
- Data suggests despite room for improvement in consistency with ordering observation sets, pre-existing factors are contributing to levels of compliance with frequency of observations
- Basic observations are documented well on EMR, with improvement needed for FAS, Bromage, PONV and pain scores.
- Focused consensus guidelines may improve this along with further education.
- Most women are at low risk of CSRD [1,2]. Focusing on RR, and sedation score when awake, rather than mandating every observation at each interval, may improve sleep and monitoring.
- Our audit suggests monitoring and documentation on EMR can improve with focused essential observations and consensus guidelines.

References

1. National Institute for Health and Care Excellence (NICE). NICE guideline NG192 evidence review caesarean birth [E] monitoring after intrathecal or epidural opioids for caesarean birth. Accessed 28 January 2023. <https://www.nice.org.uk/guidance/ng192/evidence/e-monitoring-after-intrathecal-or-epidural-opioids-for-caesarean-birth-pdf-9071941650>
2. Bauchat J, Weiniger CF, Sultan P et al. Society for obstetric anesthesia and perinatology consensus statement: monitoring recommendations for prevention and detection of respiratory depression associated with administration of neuraxial morphine for cesarean delivery analgesia. Anesth Analg 2019;129(2):458-474 <https://doi.org/10.1213/ane.0000000000004195>