

Quality Improvement Project On The Pain Management Of Vaso-occlusive Crisis In Paediatric Patients With Sickle-cell Anaemia In Secondary Care

AUTHORS

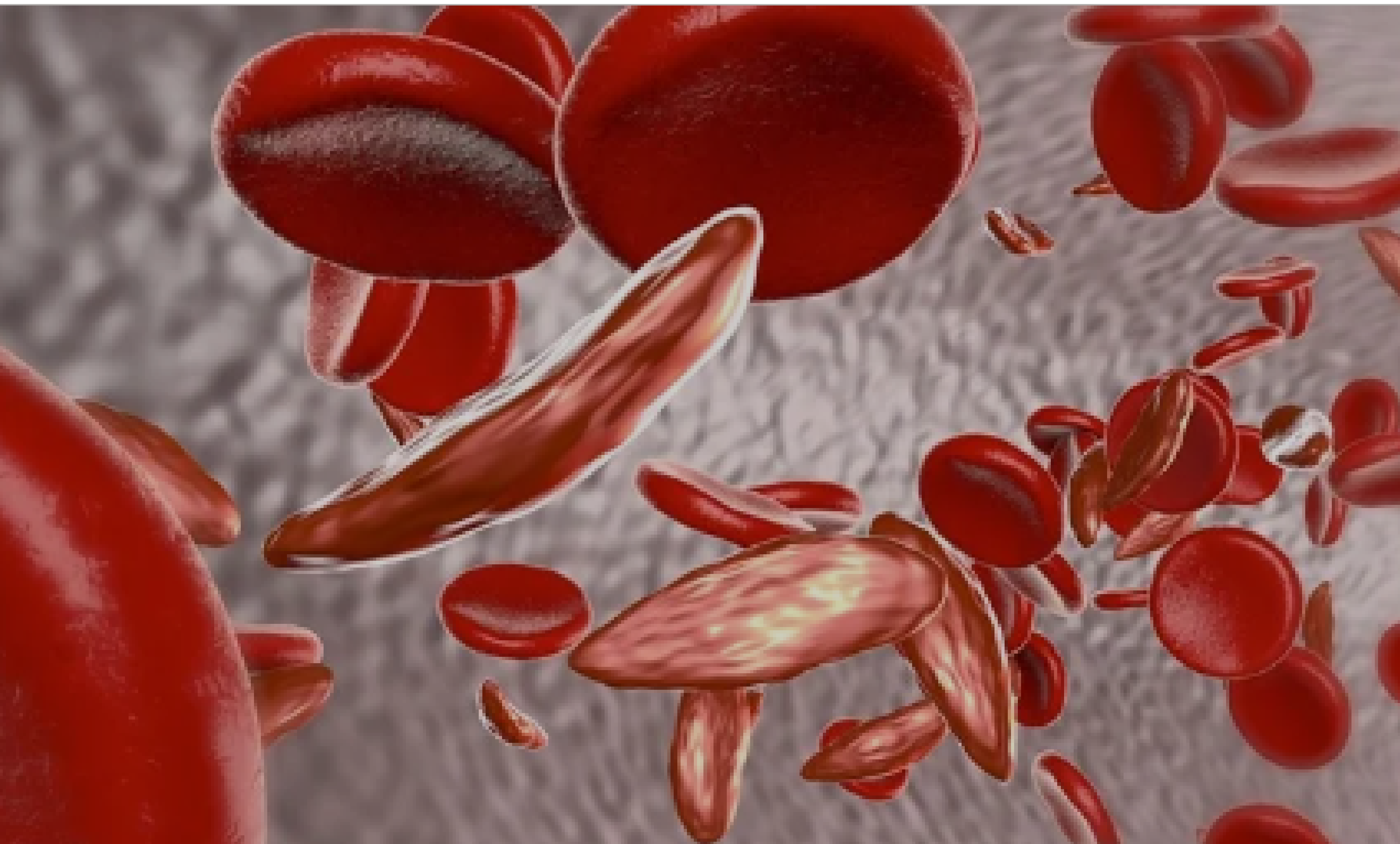
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Haematology is a complex speciality with various conditions that predominantly affect black individuals. It is also a critical area in paediatric care, especially for conditions like sickle cell anaemia which primarily affects children of African Descent. Understanding and improving pain management for these young patients is vital as it can significantly improve their quality of life and make their care more effective and compassionate



01. Introduction

Sickle Cell Anaemia (SCA) Awareness

- SCA is an inherited condition affecting the beta-globin chain, particularly in individuals of African-Caribbean origin.
- In the UK, 12,500 to 15,000 people live with SCA, with VOC (Vaso-Occlusive Crisis) being the most common reason for hospital admissions.

Challenges in Care

- African-Caribbean patients face barriers to appropriate care due to misconceptions and lack of SCA education among healthcare staff.
- Resistance from staff when patients request pain relief is common, leading to reduced clinician confidence in managing VOC.

Guidelines & Reality

- NICE recommends analgesia within 30 minutes of VOC presentation and pain assessment using an age-appropriate tool.
- Despite guidelines, timely pain relief is still not consistently provided at Hospital X (Idris, 2022)

Why It Matters

- Proper VOC pain management reduces suffering, enhances patient satisfaction, and promotes better adherence to treatment, reducing hospitalisations and healthcare costs.
- Addressing disparities in pain management ensures equitable access to high-quality care for all VOC patients.

02. Aims/Objectives

1. To reduce the timeframe from initial presentation to administration of analgesia by 20%, by the end of April, 2024.
2. To increase the number of documentation of vaso-occlusive crisis episodes that include an age-appropriate pain-scoring tool to assess patient pain, by 20%, by the end of April, 2024.

This QIP aims to improve the pain management of VOC in paediatric patients with SCA by identifying the gaps in current pain management approaches and developing evidence-based interventions that can improve the quality of care provided to these patients. It was chosen to help bridge the gap in healthcare and ensure consistent high-quality care across the Paediatric department at Hospital X.

Related literature

- **Current Issues:** Research highlights poor compliance in timely analgesia for VOC (Vaso-Occlusive Crisis) patients, with delays of 61 to 90 minutes being common (Arnold et al., 2022; Vasconez et al., 2020). Despite guidelines, timely pain relief remains inconsistent.
- **Gaps in Research:** While studies focus on drug administration and personalised pain plans (Arbitre et al., 2021; Ojo, Odipe, & Owoseni, 2023; Payne et al., 2018), there's limited exploration of pain-scoring tools, despite their controversial accuracy in assessing pain (Loadsman & Craigie, 2019; Miu, Martin & Cyna, 2019).
- **Project Focus:** This QIP (Quality Improvement Project) investigates the use of pain-scoring tools and timely analgesia. It aims to improve pain management by identifying patterns in pain scores, enhancing decision-making, and ensuring adherence to national guidelines.
- **Significance:** By integrating patient and staff feedback, this project seeks to develop tailored pain management strategies, ultimately improving outcomes for SCA patients.

References

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03. Methodology

Plan

- Baseline data collection on analgesia administration times and pain-scoring documentation from hospital systems (JAC, Nervecentre) for the period 01/01/2020 to 01/12/2023) with sample n=9
- Development of Improvement tools (Notification of VOC patients via an electronic prompt, integrating pain-scoring proforma and guidelines into nervecentre database, gathering feedback from patients and staff and use of sickle-cell passports.)

Do

- Implementation of improvement tools, recollection of data with implemented changes

Study

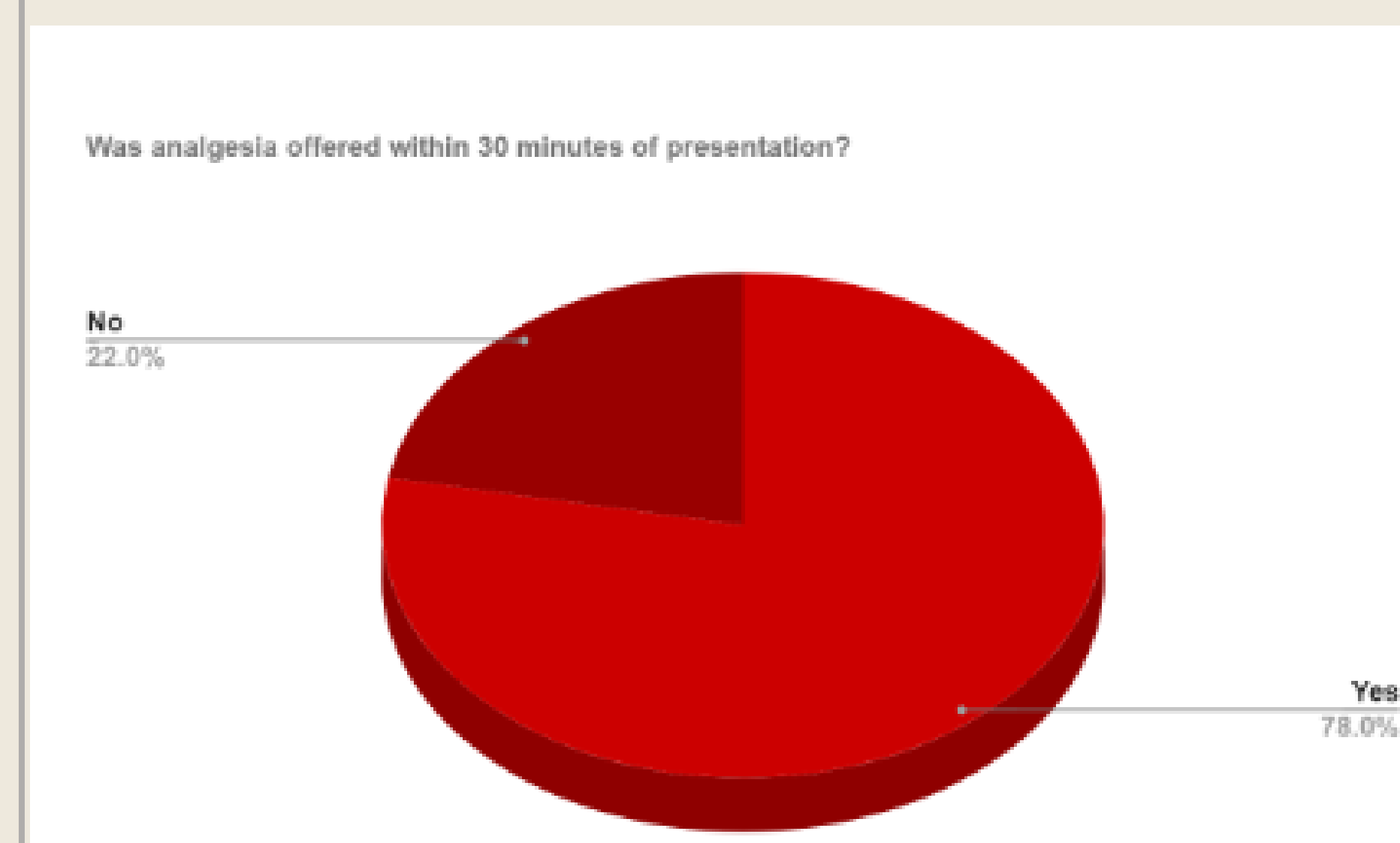
- Conduct audit of baseline data and new data with both pre and post intervention analysis

Act

- if 20% improvement is achieved in PDSA cycle 1, then the aim of PDSA cycle 2 can be changed to 40% improvement

05. Analysis

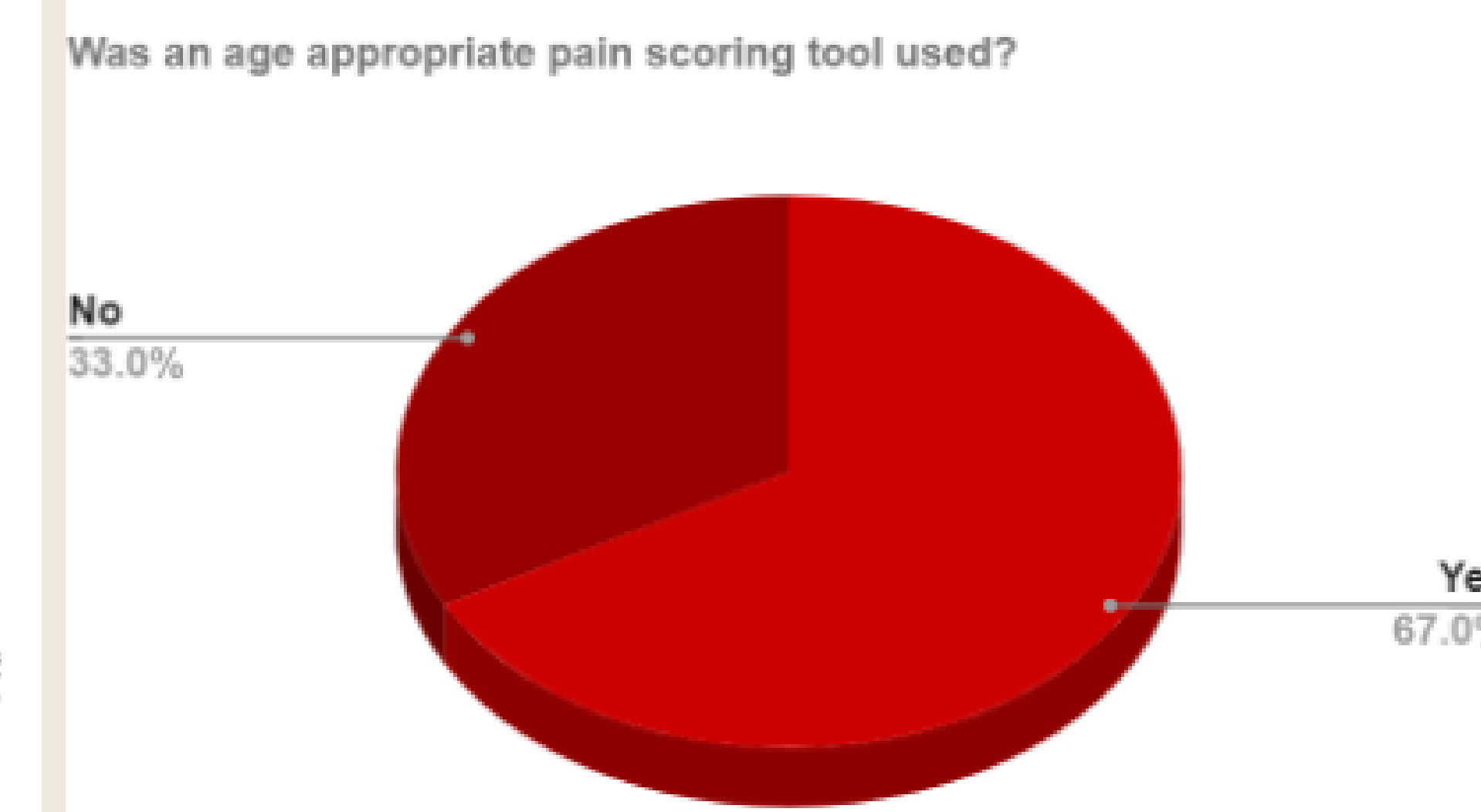
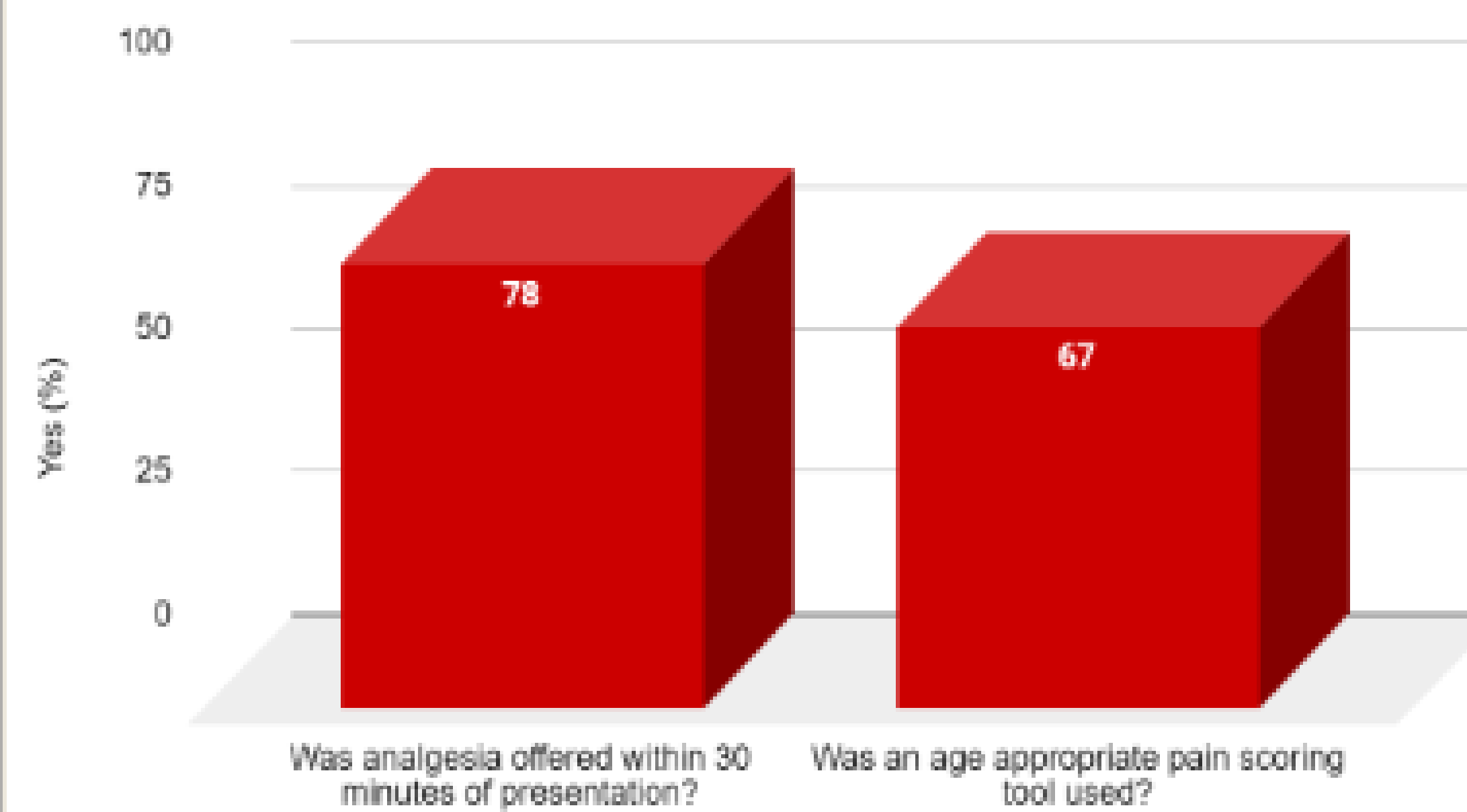
The findings revealed 78% compliance (n=7) in appropriate analgesia being offered within thirty minutes of initial triage. Accurate assessment of data was possible due to time stamping of triage proforma, requisite time stamping of drug prescription and administration on JAC. In cases of triage notes not being available, clerking notes were used instead. The two cases that failed to administer analgesia within thirty minutes had a delay of four minutes. The findings documented 67% compliance (n=6) in documentation of VOC episodes that include an age-appropriate pain-scoring tool. Some cases included a proforma with appropriate pain assessment based on age, and others had pain assessment charts to assess patient pain (Appendix 7). In spite of this, two cases used a scale from one to ten and did not specify in the notes what pain-scoring tool was used. One patient case in particular used the FLACC behavioural scale on a patient who was significantly outside the appropriate age.



04. Results/Findings

Baseline data revealed that clinicians were more compliant in administering analgesia within thirty minutes of initial presentation than using an age-appropriate pain-scoring tool to assess patient pain. The results displayed 78% compliance (n=7) in administration of analgesia within thirty minutes of initial presentation in comparison to 67% compliance (n=6) in documentation of VOC episodes that include an age-appropriate pain-scoring tool. The mean staff compliance rate to both recommendations was 72.5%. Given that there should be 100% compliance in following local and NICE guidelines, this highlights that current practices do not meet the national guidance, and better system performance is needed .

The percentage of patients who received analgesia within thirty minutes of initial presentation and the percentage of patients who had their pain assessed using an age-appropriate pain-scoring tool



06. Challenges/Recommendations

- **Guideline Gaps:** Local guidelines need updating to align with NICE, especially regarding timely analgesia and proper pain assessment.
- **Holistic Approach Needed:** Current pain management is too symptom-focused. A more holistic approach, including non-pharmacological techniques, is essential for improving patient outcomes.
- **Small Sample Size:** With only 9 cases, the findings may lack statistical power and generalisability, limiting their application beyond Hospital X.
- **Local Relevance:** Despite its limitations, this QIP provides valuable insights for improving VOC pain management at Hospital X.
- **Future Steps:** Repeating the QIP with a larger sample and considering a national pilot study across other NHS institutions would enhance the representativeness and impact of the findings.

IMPORTANT!

It was not feasible to implement the recommended interventions and recollect data for subsequent PDSA cycles due to time constraints, possibly resulting in failure of QIP changes to meet the objectives. Nonetheless, future PDSA cycles may address this issue and facilitate data collection through the implementation of suggested changes. Implementing these interventions in subsequent PDSA cycles would enhance the likelihood of meeting the SMART targets of the QIP and align the findings more closely with NICE guidelines.

07. Conclusion

- **Compliance Gaps:** Hospital X staff compliance with VOC pain management guidelines is 72.5%, with better adherence to timely analgesia (78%) than to using age-appropriate pain-scoring tools (67%).
- **Proposed Interventions:** Future steps include implementing electronic prompts for SCA patients, integrating pain-scoring tools into Nervecentre, gathering feedback, and utilising sickle cell passports.
- **Anticipated Challenges:** Further research on pain-scoring tools is needed. Multiple PDSA cycles will refine these interventions.
- **Impact:** Implementing these changes will enhance NHS service delivery by improving timely analgesia and better pain assessment, thus elevating patient care quality.

