

Premedication for neonatal intubation: Current practice in 10 Neonatal Units across West Midlands, UK

Paediatric Research across the West Midlands. Contributors:

Dr Kate Atkinson, Dr Hannah Vawda, Dr Olayinka Kowobari, Dr Helen McDermott, Dr Amy Henderson, Dr Danielle Bogue, Dr Laura Duthie, Dr Rachel Yew, Dr Jennifer Brindley, Dr Gayathri Bhat, Dr Kate Harvey and Dr Anna Ratcliffe.

Background

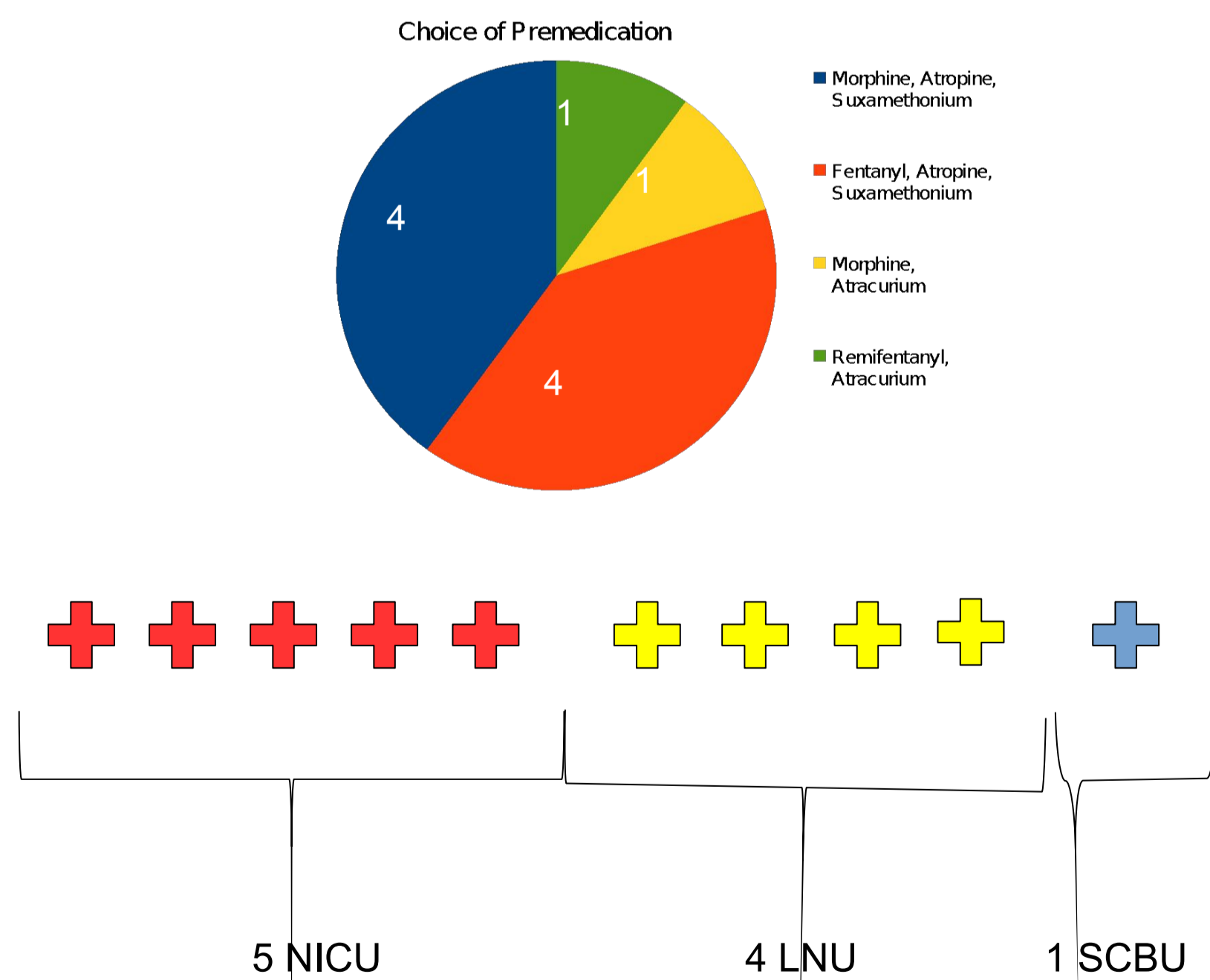
Premedication has been shown to reduce adverse physiological responses to intubation and improve intubating conditions(1,2,3,4). Several surveys of neonatal units have attempted to establish stated practice with regards to reported premedication use. We aimed to establish the frequency of premedication use for neonatal intubation using patient level data and analyse this by the condition of the baby at the time of intubation.

Methods

Babies intubated during an 8 week period were identified using Badgernet and notes review. Labour ward intubations were excluded. Data were collected contemporaneously using a standardised proforma on; demographics, indication for intubation, condition of the baby, use of pre medication and any documented reasoning regarding the decision not to use premedication.

Results:

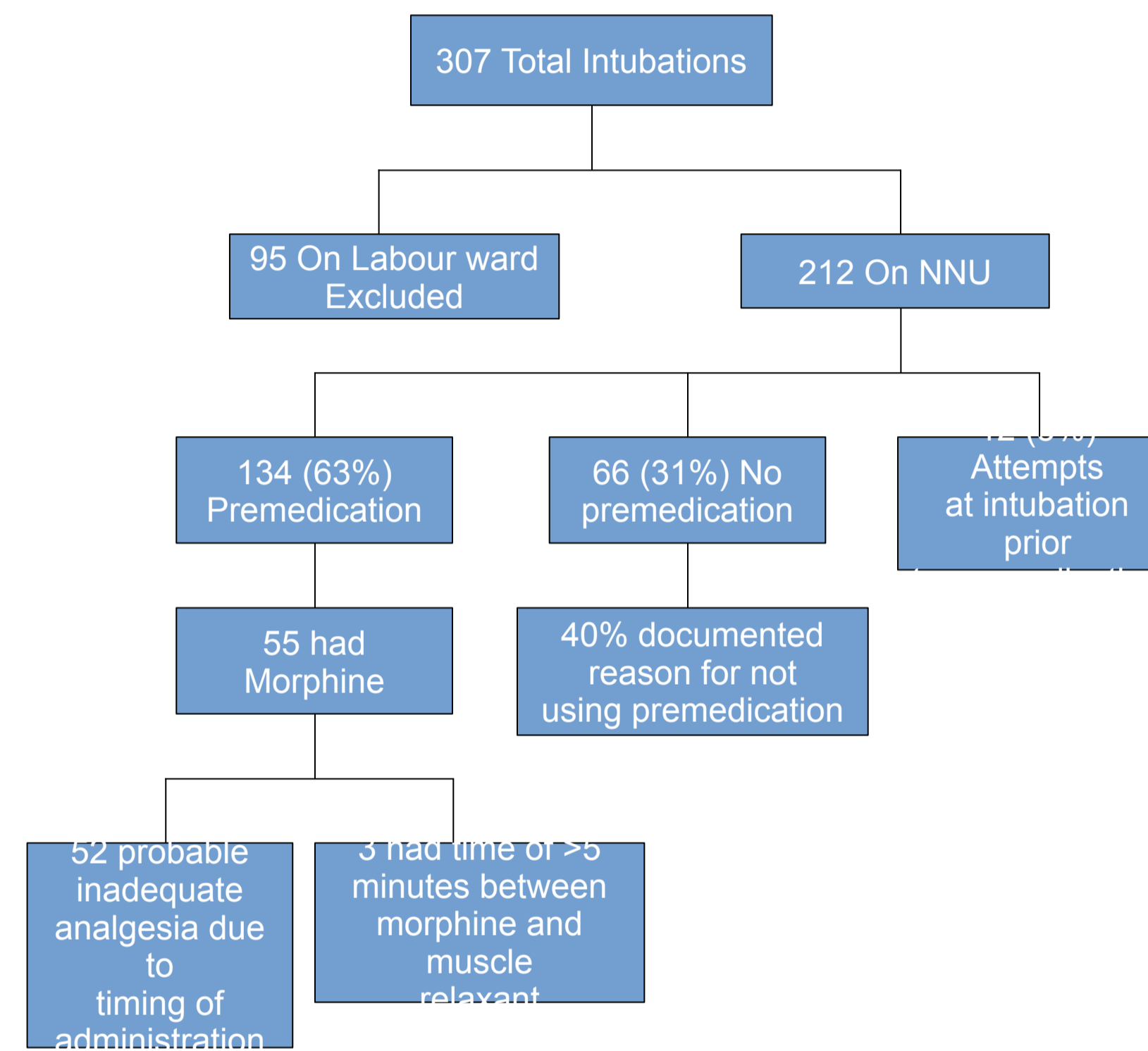
Units included and medications used



All units had a guideline for premedication use, although how specific the guideline was varied considerably.

Results:

Frequency of premedication use

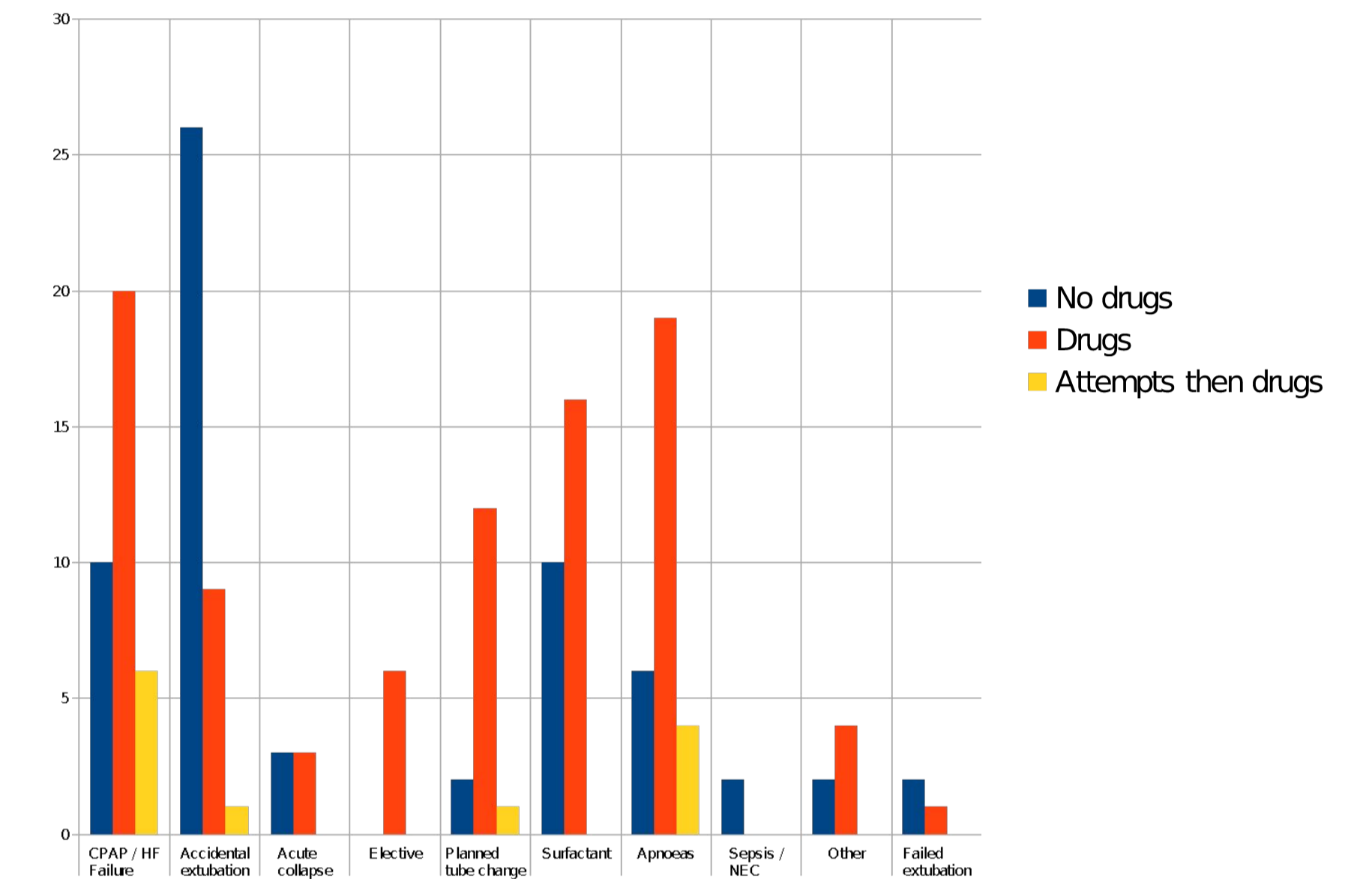


Condition of the baby at time of intubation

Condition of baby	No drugs	Drugs	Attempted intubation prior to using premedication.
Self ventilating	30 (45%)	114 (85%)	8 (66%)
Apnoeic but able to mask ventilate	21 (31%)	16 (11%)	3 (25%)
Apnoeic and difficult to mask ventilate	6 (9%)	1 (0.7%)	
Apnoeic and bradycardic despite attempts to ventilate	4 (6%)	0	
Unclear	5 (7%)	3 (2%)	

Results:

Indication for intubation



Conclusion

- All participating units had some form of written guidance for premedication use and yet several eligible babies did not receive premedication for non-emergency intubation.
- When morphine was used as analgesia the timing of administration did not take into account the onset of action, although in most cases it was administered in accordance with local guidelines.
- In summary, there is scope to improve the provision of analgesia and sedation for neonates undergoing this essential but unpleasant procedure.

References:

- Ghanta et al. Propofol compared with morphine atropine and suxamethonium regime as induction agents for neonatal endotracheal intubation: a randomised control trial. Paediatrics. 2007 Jun;119(6):e1248-55
- Hassia et al. Randomised control trial of sevoflurane for intubation of neonates. Paediatric anaesthesia 2007; 17: 1053-1058
- Kelly MA, Finer NN. Nasotracheal intubation in the neonate: physiologic responses and effects of atropine and pancuronium. J Pediatr. 1984;105(2):303-9
- Kumar P et al. Clinical report: Pre medication for non emergency endotracheal intubation in the neonate. American Academy of Paediatrics. Pediatrics 2010;125:608-615
- Choudhury et al. Use of premedication for neonatal intubation in tertiary neonatal units in the United Kingdom. Paediatric anaesthesia. 2009; 19(7): 653-658
- Whyte S, Birrell G, Wyllie J. Pre medication before intubation in UK neonatal units. Arch Dis Child Fetal Neonatal Ed. 2000 Jan;82(1):F38-41
- Kelleher J, Malliya P, Wyllie J. Premedication before intubation in UK neonatal units: a decade of change. Arch Dis Child Fetal Neonatal Ed. 2009 Sep;94(5):F332-5

Contact:

For further information please contact katherineatkinson1@nhs.net