The management of acute wheeze- what do paediatric trainees do?

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INTRODUCTION

- The Current guidelines of acute management of wheeze in children in UK are open to interpretation[1].
- Currently treatment involves the use of inhaled or nebulised bronchodilator therapy. This is sometimes given 'Back to back' - a concept that is not clearly defined or explained in current guidelines.
- Wide variation in practice has already been demonstrated amongst emergency department consultants[2] The initial management of wheeze by paediatric trainees, or their knowledge of the information given to the families upon discharge has not been previously studied.

AIMS OF THE STUDY

- To determine whether there is variation amongst Paediatric Trainees in the management of acute wheeze and is this more pronounced in pre-school wheeze or in school aged children with asthma
- To explore what information trainees give to families on discharge

METHODS

We conducted an online survey of paediatric trainees in a large paediatric deanery in UK via the online survey platform Redcap.

Using the following 3 clinical scenarios, trainees were asked to select the most appropriate management plan for the child.

1. Pre-school child with signs of respiratory distress and saturations 94% in room air
2. 8-year-old, known asthmatic with saturations 93%
3. 13year old with asthma who had been having regular inhalers at home for 24 hours, now presenting with saturations of 94%

RESULTS

- 87 responses from ST1-ST8 trainees between March and July 2019.
- Over 80% were managing at least one child with wheeze every day over the winter months.
- 63% of respondents had over 3 years of paediatric experience.

In a pre-school child with wheeze:

- 78% of trainees gave 10 puffs of salbutamol as initial treatment. (Fig 1)
- 34% would give 2 further bronchodilators 'back to back' after initial improvement.

In a school aged child with wheeze:

- 45% of trainees would administer nebulised bronchodilators as initial therapy despite normal oxygen saturations. (guidelines recommend use of inhaled bronchodilators in this context)[3]
- A further 11% of trainees would use nebulisers as part of 'back to back therapy' (Fig 2)

Fig 1. Pre-school child with normal saturations presenting with wheeze

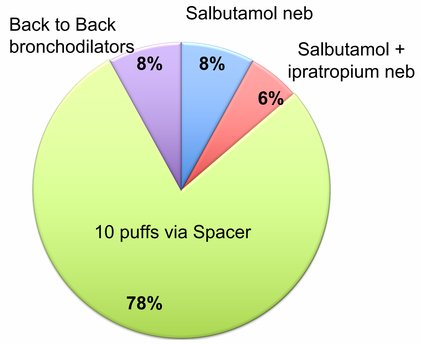
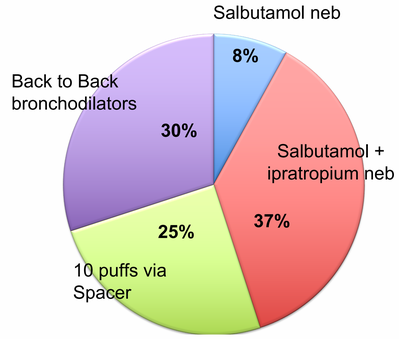


Fig 2. School aged child with normal saturations presenting with wheeze



- Between 28% and 45% of trainees gave 'back to back' therapy as part of their management.
- 20% of respondents understood this to mean an interval of up to 15-30minutes.
- 97% of trainees give written wheeze information to families with 87.5% opting for 3-day salbutamol weaning plan at discharge.

CONCLUSION

- The results of our survey show more consistency in the initial management of preschool wheeze compared to older children with asthma.
- We recommend one guideline to be used in all paediatric emergency departments, and future guideline updates should factor in the amount of bronchodilators a child has had before presenting to hospital.
- Discharging children with a Salbutamol weaning plan is unique to the UK practice (Levy:2018)[4] This needs to be addressed by prospective studies

REFERENCES

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