PRE AND POST SIMULATION PERCEIVED ANXIETY AND HEART RATE CHANGE IN RESIDENTS DURING MANAGEMENT OF A FAILED AIRWAY IN OBSTETRICS

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Introduction Immersion in simulation scenarios is usually measured by subjective questionnaires of self-reported anxiety levels. We present a novel method of measuring immersion, objectively using the surrogate marker of heart rate changes.

Summary of work Nine anaesthesiology residents wearing a heart rate monitoring watch underwent a simulation scenario of a difficult airway situation during Caesarean section. Pre and post simulation questionnaires was provided for self-reported anxiety levels. The residents were assessed based on a preformed check list and debriefed by two experienced anaesthesiologists.

Summary of results The median heart rate was 88 bpm pre simulation (PrS) (± 12.05 bpm) and post simulation (PoS) was 96 bpm (Standard deviation ± 9.83) (p = 0.004). The median self-reported anxiety scales in both PrS and PoS was 3 with SD of ± 0.7 and 0.5 respectively (p=1). There was no correlation between PrS and PoS perceived anxiety and heart rate changes ( R2 = 0.01 and 0.13 respectively).

Discussion Studies suggest that a higher degree of immersion in a simulation scenario are more likely to improve memory and learning. However, increased perceived stress may also produce underperformance and scar the participant, negatively influencing further engagement with simulation programmes. Therefore, it is important to measure stress and various methods including heart rate variability, salivary cortisol and blood pressure have been used but these have been found to be intrusive methods, which could themselves reduce the immersion in the scenario. We believe that a watch with heart rate monitoring ability could be a less intrusive measurement of stress. It is interesting to note that the self-reported anxiety scores pre and post simulation did not match the heart rate changes which were statistically significant suggesting that there was some stress although perhaps not acknowledged by the participants.

Conclusion Self-reported anxiety scores may not be an accurate measure of true immersion. Further work may be needed to develop a technique to monitor stress during simulation.

Recommendation Consideration should be given to measuring stress levels of learners routinely during simulation teaching to gauge the immersion of the scenario and its impact on the performance of the learner.

REFERENCES

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Background A large chunk of GP consultation comprises of the paediatric age group as under 5’s visit their general practitioner (GP) on average six times a year and school-aged children and young people two or three times. The Royal College of GP (RCGP) along with the royal college of Paediatrics and child health (RCPCH) recommend ‘ ... that one reason for the extended training period in GP is the need to enhance the expert skills of GPs in caring for children and young people. There is a clear vision that all trainees in general practice, when the training period allows, should have opportunities to learn from paediatric teams.’ Previous data has shown the need for an integrated training programme where trainees receive paediatric training that they felt was relevant to general practice and not all specialist.

Summary of work As a GP trainee there is not much opportunity to participate and experience Paediatric simulation in a GP clinic environment. Our aim was to create and deliver GP relevant paediatric simulation in a GP environment. We chose four common scenarios encountered by GP’s in daily practise ranging from bronchiolitis to safeguarding and discussed presentation, management and referral criteria.

This was the first time a simulation programme in Paediatrics was devised and delivered especially for general practitioners and was attended by trainees including those not likely to go through a paediatric placement. It was initiated in 2017 and repeated in 2019.

Summary of results some of the positive comments
1. Brilliant !! Best paeds teaching ever, very strucitured set up up to GP.
2. Aimed for primary care, very good.It was a nice environment to participate in
3. Paediatric scenario in primary care highly relevant, useful debrief and knowledge completed by handouts

Discussion and conclusions As evidenced by the positive comments, this was much appreciated and there is definitely more demand for sim in a GP setup rather than hospital based as they may experience whilst rotating through Paediatrics. The success of this has ensured it to be a regular feature of the GPVTs training events calendar.

Recommendations GP trainees need to have sim in an environment more suited to their regular work environment.