

Demonstrating the impact of incivility in an obstetric emergency: An interventional simulation study.

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Abstract

Objective: To understand the effect of an uncivil environment on the performance of an obstetric team with a focus on non-technical skills, and to ascertain whether simulation training can be used to demonstrate the impact of incivility. Design: An interventional, simulation study. Setting: Wessex Deanery School of Obstetrics and Gynaecology (O&G), UK. Population or Sample: O&G trainees. Methods: Ethical approval was received from the University of Southampton Research Ethics Committee (81008). Following informed consent, twenty three trainees observed two simulated scenarios of the management of a postpartum haemorrhage (PPH) and completed a Team Emergency Assessment Measure (TEAM) questionnaire for each simulation. In the first scenario the anaesthetist was civil and in the second uncivil. ANOVA was used for statistical analysis, p values of <0.05 were considered statistically significant. Main Outcome Measures: TEAM observation questionnaire domains of leadership, teamwork and team management. Results: There was a significant reduction in the overall team performance in an uncivil environment compared to a civil one (p=0.006). The biggest differences in scores were observed in team morale (4.00/4.00 in the civil versus 2.22/4.00 in the uncivil simulation, p<0.001) and effective communication (4.00/4.00 in the civil versus 2.22/4.00 in the uncivil simulation, p<0.001). Conclusions: Incivility affects the ability of the multi-disciplinary team to effectively manage an obstetric emergency and simulation is an effective tool to demonstrate the impact of poor workplace behaviours.

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Keywords: Human Factors, Teamwork, Civility, Simulation, Obstetrics

Background

Civility is an important element of team-working, with uncivil interactions known to negatively affect the performance of healthcare professionals¹. Incivility can range from just ignoring someone, to being overtly rude or aggressive¹. In the 2023 General Medical Council (GMC)² survey, over a quarter of trainees said they had experienced micro-aggressions, negative comments or oppressive body language from colleagues, with Obstetrics & Gynaecology (O&G) being the second highest specialty experiencing this type of behaviour. In the same study, 16% of O&G trainees (the highest percentage of any specialty) reported that they have been a victim of, or have witnessed bullying or harassment in their post². This ongoing issue with uncivil behaviours within the UK O&G workforce was highlighted in the recent Ockenden report³, which made a national recommendation that all trusts must have training on upholding civility in the workplace.

Incivility directly impacts an individual's ability to function, reducing cognitive ability by 61% and commitment to work by 78%⁴. The wider team can also be impacted and witnesses of uncivil behaviour show a 20% decrease in performance, and a 50% decrease in willingness to help others¹. The impact of incivility on team function has been studied in randomised control trials. Katz et al.⁵ performed a multicentre, randomised control trial exposing anaesthetic residents to either a normal or rude environment during a simulated operating room crisis. Incivility had a negative impact on overall performance as rated by blinded observers looking at both technical and non-technical domains such as vigilance, diagnosis and communication. Riskin et al.⁶ performed a similar study. Neonatal Intensive Care Unit (NICU) teams participated in simulations

involving the acute deterioration of a preterm infant. During the simulation, teams were exposed to an expert who either provided rude comments or neutral comments. The study demonstrated that teams exposed to rudeness performed worse in diagnostic and procedural performance.

Teaching about civility plays an important role in increasing awareness of the effect interpersonal behaviour has on team performance. To date, no research has been performed to demonstrate the effect of team civility in the high-risk environment of obstetrics. This study aims to investigate whether simulation can be used to recreate civil and uncivil workplace environments, and hence be used as a tool to demonstrate the impact of incivility to O&G trainees.

Methods

Setting

Simulations took place during an O&G trainee teaching day held in the simulation suite at University Hospital Southampton NHS Foundation Trust, a large teaching hospital within the Wessex deanery. Trainees were divided into two groups and attended either a morning or afternoon session.

Intervention

Trainees in each group were asked to participate in two simulated scenarios based on the clinical management of post-partum haemorrhage. Two volunteers (a junior at specialty training level one to five and a senior clinician at specialty training level six to seven) were asked to play an active role in the scenarios. They were supported by the simulation team consisting of an anaesthetist, a midwife, and a healthcare assistant. The remaining trainees were asked to observe the scenario via video-link and complete a Team Emergency Assessment Measure (TEAM) observation questionnaire for each simulation.

A pre-brief occurred prior to the scenarios covering ground rules such as confidentiality and detailing a safe learning environment to help preserve individuals' psychological safety within the scenarios.

The simulated team members were provided with a faculty brief to ensure standardisation across the scenarios throughout the training day. In the first scenario, the anaesthetist was instructed to be civil and helpful when asked to play a role in managing the emergency. In the second scenario, the anaesthetist was briefed to be uncivil, so was rude to team members and obstructive to requests to help manage the emergency scenario. The scenario lesson plan included example external stressors that could be contributing to the anaesthetist's incivility. This was to encourage realistic responses rather than a caricature portrayal which would decrease fidelity, change participants emotional reaction and impact on depth of learning. A debrief followed each simulation utilising the Dynamic-Delta-Plus model chosen for its adaptability⁷. The model includes three key phases: opening, plus-delta and summary phases. Unlike previous models the Dynamic-Delta-Plus allows for reactions from participants to be explored prior to breaking down the scenario into positive and development learning points. This was therefore appropriate for use in an incivility simulation as the educating team expected participants to experience an emotional reaction to the scenarios. Allowing the opportunity to discuss this first would aid in maintaining a safe psychological space when debriefing an intentionally challenging scenario.

Recruitment

Ethical approval was obtained from the University of Southampton Research Ethics Committee (ERGO number 81008). Convenience sampling was utilised; all O&G trainees in the Wessex region who had attended the regional teaching day were invited to participate in the study. No trainees declined to take part in the study however, it was made clear through the consent discussion and form that this would not have impacted on their ability to take part in the teaching day.

Study design

This is an interventional simulation study with quantitative data collected in the form of the validated TEAM questionnaire. This was chosen to explore the effects simulated incivility has on non-technical skills

as observed by peers of the participants. The TEAM tool has previously been validated in the use of obstetric and gynaecological simulated emergencies by Carpini et al.⁸, confirming that the tool has high convergent validity (0.75, $P < 0.001$), internal reliability (average $\alpha = 0.92$) and excellent inter-rater reliability (inter-class correlation coefficient $1 = 0.98$).

Statistical analysis was performed using Microsoft Excel and SPSS version 29 (IBM ARMONK, NY USA). ANOVA was used to compare the individual question scores from the TEAM questionnaire between the civil and uncivil scenarios. P values of less than 0.05 were considered statistically significant.

Feedback

Following the teaching day, trainees were invited to complete an online feedback form which asked ‘What is your takeaway message from today?’, ‘Did simulation aid your learning on civility in the workplace?’, ‘What aspects of the day were most useful or valuable?’ and ‘How would you improve this day?’.

Patient involvement

This is a study of healthcare practitioners only.

Results

Twenty-three O&G doctors participated in the study from specialty training level one to seven. Trainees actively participating in the simulations did not complete a TEAM observation questionnaire for the scenario they were part of. All trainees were happy to partake in the study and all participants signed the consent form prior to their involvement.

Leadership

There was no significant effect demonstrated on the doctor’s ability to lead the scenario when exposed to incivility, with observers stating that the leader still communicated what was expected of the team (score 3.59/4.00 in civil simulation versus 3.39/4.00 uncivil simulation, $p = 0.343$) and maintained a global perspective (score 3.71/4.00 in civil simulation versus 3.56/4.00 uncivil simulation, $p = 0.372$).

Teamwork

When managing a simulated obstetric emergency, incivility had the greatest effect on the team’s ability to work together. Six out of the seven headings under the teamwork category of the Team Emergency Assessment Measure (TEAM) questionnaire demonstrated significant differences in the uncivil environment compared to the civil one (Table 1). The greatest effect was demonstrated in having positive team morale (score 4.00/4.00 in civil simulation versus 2.22/4.00 uncivil simulation, $p < 0.001$) and effective communication (score 4.00/4.00 in civil simulation versus 2.22/4.00 uncivil simulation, $p < 0.001$). There were also differences in the team’s ability to complete tasks in a timely manner, adapt to changing situations and anticipate potential actions.

Task Management

When managing a simulated obstetric emergency, incivility had no significant effect on the team’s ability to follow approved standards and guidelines (score 3.82/4.00 in civil simulation versus 3.56/4.00 uncivil simulation, however it did impair the team’s ability to prioritise tasks effectively (score 3.71/4.00 in civil simulation versus 3.22/4.00 uncivil simulation, $p = 0.039$).

Global score

Observers felt there was a significant difference in the overall team’s performance in an uncivil environment compared to a civil one (score 9.06/10.00 in civil simulation versus 7.82/10.00 uncivil simulation, $p = 0.006$).

Utilising simulation to demonstrate the impact of incivility

Eleven of the twenty-three trainees who attended the day opted to fill in the feedback form. 100% of these trainees felt that simulation aided their learning on civility in the workplace. Ten of the eleven trainees chose

to write a takeaway message from the day, and all of these included either civility or calling out unacceptable behaviour in the workplace. Comments on the most useful aspects of the day covered the impact of discussing incivility with colleagues in the debriefs, comparing the civil and uncivil scenarios, and that using simulation was valuable.

‘Similarity of scenarios but not telling us the challenge was the anaesthetist’s behaviour... so we had to work it out ourselves! More powerful learning.’

‘Very insightful debriefs and discussions about the impact of uncivil behaviours and importance of addressing them.’

Comments by trainees on improvements that could be made to the day included having more simulation scenarios/sessions, having smaller groups to encourage discussion, and timing responses within the scenarios to see if there were any differences between civil and uncivil environments.

‘To time the management milestones in both scenarios to prove that different behaviours do affect performance.’

‘More sim sessions so more people can participate in the sim.’

Discussion

Main findings

To our knowledge, this is the first study examining the use of simulation for demonstrating the impact of incivility to O&G trainees.

The results of our interventional simulation study demonstrate that incivility in a simulated environment affects the ability of the multi-disciplinary team to effectively manage an obstetric emergency. On examining the components of the TEAM questionnaire, there was significant reduction in scores related to team-working capability in six of the seven domains. There was no statistically significant difference in the leadership proficiency of the obstetric doctors as observed by their colleagues. The final component, task management, demonstrated a reduction in scores relating to prioritisation of tasks in the uncivil environment but no change in ability to follow approved standards and guidelines.

Strengths and Limitations

A strength of our study was the crossover study design that allowed for participants to be their own controls. This study utilised a validated questionnaire that is regularly used in the research of simulation in emergency settings^{9,10}. This study created a high fidelity simulated environment by utilising a labour ward set up simulation suite with key members of the multi-disciplinary team acting within their own job roles. The simulation was also streamed via video-link to observers so as to not disrupt in room realism for the participants. All members of the multi-disciplinary simulation team remained in their roles across all of the scenarios therefore maintaining standardisation for each of the participants.

The primary limitation of this study is that it was undertaken in a single UK region, on a single training day. The chosen simulated scenario was a post-partum haemorrhage. This was chosen to help protect the psychological safety of the participants as it is a common labour ward emergency that O&G doctors should be competent in managing. Therefore learning and teaching could be directed at the non-technical skills surrounding the scenario. However, it is recognised that there may be different findings if alternative, less common clinical scenarios were utilised. A further limitation is that convenience sampling was used and is therefore open to volunteer bias.

Interpretation

This study demonstrates that simulation can be used to demonstrate the impact of incivility to O&G trainees, as all attendees who provided feedback for the day felt that simulation aided their learning about civility in the workplace. This suggests that this teaching tool is an appropriate method for this cohort of healthcare

professionals. In addition, eight of the twelve domains within the TEAM tool were observed by peers to be significantly different in the civil versus uncivil scenarios. This shows that simulation can recreate an uncivil environment to the extent that it affects a team's performance as it would do in a real-world setting. This is especially important as it would be unethical to purposely create an uncivil environment in a real-world healthcare environment given the effect it could have on patient outcomes and the ability to provide adequate psychological safety to learners.

The study demonstrated a significant negative effect in team working through exposure to incivility. Morale, effective communication, completion of tasks, adaptation to changing situations and prioritisation of tasks were all affected. This is reflected in the study of Riskin et al.⁶, who found that rudeness lowered information-sharing and help-seeking in their NICU teams, and helped to explain their drop in diagnostic performance. The Riskin et al.⁶ study specifically looked at clinical elements of the simulated scenarios such as 'diagnosed respiratory distress' and 'performed resuscitation well'. This study did not explore specific clinical aspects of the scenarios and the effect incivility could have on these. Our findings demonstrated no significant difference in ability to follow standard procedures and protocols. This could be due to post-partum haemorrhage being a routine obstetric emergency with regular mandatory simulated practice for maternity staff in the UK³. Further research is needed to explore if incivility has a greater effect on less common obstetric emergencies where protocols are less well rehearsed by trainees and the wider MDT. The TEAM tool also did not allow for exploration of the time taken to implement standard protocols. Although overall there was no difference between the civil and uncivil environments demonstrated in this study, we hypothesise that the time taken to instigate these protocols could be different and would be critical to understand for ongoing patient safety in obstetric emergencies.

This study demonstrated no significant difference in observed leadership abilities in civil compared with uncivil simulated environments. Katz et al.⁵ explored the performance of anaesthesiology residents in similar simulated surgical settings. They found a significant difference in performance as rated by observers (91% in control group versus 63.6% in experimental group). However self-reported ratings of individual performance did not differ between the two groups. This study did not ask participants to rate their own performance in the scenarios. Future research could therefore investigate if obstetric trainees similarly felt their performance unaffected by incivility. Having insight into the effects incivility has on performance is important for clinical staff as this will enable them to recognise effects on their cognition and implement tools to minimise impacts on clinical outcomes. This study utilised peer observers to complete the TEAM questionnaire therefore further study could investigate whether independent raters, such as obstetric consultants, had a different opinion on whether clinical performance was affected comparing the two environments.

Conclusion

Incivility has a significant effect on team working in simulated obstetric emergency scenarios, with effective communication and positive team morale being the most affected elements. Incivility did not negatively affect O&G trainees' leadership ability as reported by peer observers. Simulation is an effective tool for demonstrating the impact of incivility to O&G trainees.

Research recommendations

- Simulate less commonly occurring obstetric emergencies to understand if incivility has a greater effect in these scenarios.
- Research effect incivility has on time taken to enact key treatment protocols in obstetric simulations.
- Explore self-reported effects of incivility simulation on individual trainee performance.
- Independent assessment of performance of O&G trainees in simulated uncivil environments to assess effect on both technical and non-technical skills.

Author contributions

HP conceived the idea, designed the study, conducted data collection and wrote the manuscript. EC, MD, LG & JB were part of the MDT running the intervention and aided with data collection. GV aided with

study conception and supervision of the study. AK aided with design of study, performed the data collection, wrote up the manuscript and supervised the study. All authors edited and approved the final manuscript.

Conflict of interest

No conflicts declared.

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