professionals should be competent with effective clinical reasoning skills. To develop effective clinical reasoning skills, healthcare professionals should get the chance to practise and be exposed to various experiences and levels of patient complexities. Simulation can immerse learners in scenarios that mimic clinical situations, simultaneously mitigating safety risks and increasing standardization in healthcare education [2]. Through simulation, learners can get the chance to practise clinical reasoning with focussed learning opportunities [3]. Several assessment tools have been used to measure clinical reasoning while attending simulation-based activities. However, we would like to explore the most valid and reliable tools to assess clinical reasoning while attending simulation, in addition to finding out whether these tools have considered the seniority and competency levels of their users.

Method: A scoping review was undertaken to answer the questions: What are the best available valid and reliable tools to evaluate clinical reasoning while attending simulation-based activities? Do we have valid and reliable clinical reasoning assessment tools for simulation that measure clinical reasoning considering different seniority and competency levels? We searched Medline, Scopus, Education Research Complete, and Google Scholar to identify relevant recent primary research conducted on this topic from 2000 onwards. The search included MeSH topics of: 'Clinical reasoning', 'Simulation-based courses' and 'Clinical Reasoning tools'. The inclusion criteria were primary studies that described the use of tools measuring clinical reasoning while attending simulation-based courses. Two independent researchers agreed on the inclusion of the identified papers for full-text review. This review followed the review guidelines of Joanne Briggs institute.

Findings: There are valid and reliable tools to evaluate clinical reasoning while attending simulation which is Clinical Reasoning Evaluation Simulation Tool CREST [1]; Lasater Clinical Judgment Rubric LCJR [4]; Creighton Competency Evaluation Instrument Creighton C-SEI- Tool [5]. However, the validity and reliability of these tools were tested on undergraduate student nurses, and there was no consideration for different seniority and competence levels, and applicability to other healthcare professions.

Implications for practice: There is an adequate number of tools to measure clinical reasoning while attending simulation. However, there is a significant basis to test the reliability and validity of these tools against different competence and seniority levels, and applicability to other healthcare professions.

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4 DEPARTMENTAL PAEDIATRIC SIMULATION TEACHING: HOW CAN WE BEST INVOLVE ADOLESCENTS AS SIMULATED PATIENTS?

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10.54531/MKKA9212

Background: Paediatrics requires diverse, adaptable, age and developmentally appropriate communication and clinical skills which HCPs can find challenging, negatively impacting paediatric care. The involvement of simulated patients (SPs) could be used to bridge this gap and bring patient perspectives. To create authentic, high-fidelity paediatric simulations it makes sense that young people should have a role. As a paediatric registrar in a district general hospital, I considered how to involve adolescent SPs in teaching by performing a literature review.

Method: On 2 February 2021, an advanced title and abstract search on PubMed: 'paediatric'/'children'/'adolescent' AND 'simulated patient'/'simulated patients'/'standardized patient'/'standardized patients'. In total, 196 results returned which I filtered as per the inclusion and exclusion criteria (Table 1) leaving five articles.

Table 1: Inclusion/exclusion criteria

Inclusion criteria	Exclusion criteria
1. Real-time encounters with SPs -SPs 12–18 years old -Available in English	-SPs >18 years old -Parental SPs only -Adult playing child or young person -Not available in English

Findings

1. Recruitment: SPs were recruited from theatre groups [1], schools [2,3] or by word of mouth [4,5]. One group ran sessions at a local school which were included in the curriculum [2].
2. Training: some authors ran didactic teaching about conditions, rehearsals or video training [4]. A lack of training was found to be troublesome.
3. Scenarios: standards of best practice state that simulated patients should be involved in resource writing and evaluation. However, while one group personalized scenarios [5] no SPs collaborated in writing. One study felt that it was unkind to ask SPs to draw upon potentially negative personal experiences [1].
4. Feedback: honest feedback from SPs is central to optimizing learning which SPs found challenging. Training to feedback with 'I' statements or using 'the character' to feedback was useful [1,5]. Some studies paired SPs with parents for feedback [1].
5. Positive impact: SPs felt the experience was positive and would be involved again. Positive impacts include: increased trust in HCPs [1,2], increased confidence [1], learning about illnesses and reduced stigma around mental illness [2,4]. I also note the future benefits of having well-trained and competent HCPs who communicate effectively.
6. Negative impact: exhaustion, boredom and potential for exploitation (missed schooling) [5]. Mental health roles fostered anxiety and depressive symptoms which were underestimated by the SPs themselves [4]. Some parents were debriefing their own children in the absence of a formal debrief [1].
7. Student learning: real children challenged students' interpersonal skills and rendered encounters realistic.

Implications for practice

1. 'Do no harm' remains paramount in medical education. The benefit to society must be weighed against the risks to the child and their best interests must be kept central in educational processes.
2. When planning teaching I will:
3. Run monthly simulation sessions consolidating weekly didactic teaching
4. Limit sessions to 1 hour
5. Recruit young people within the hospital to minimize school absence
6. Invite collaboration between SPs and students to create scenarios around self-identified learning needs while maintaining psychological safety, allowing for complexity and fidelity that would be impossible if written by faculty
7. Train SPs to feedback using 'I' statements
8. Collaborate with the Child and Adolescent Mental Health Team prior to mental health scenarios to consider training and debriefing
9. Keep the SPs voice central to the debrief and feedback

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152 A NARRATIVE REVIEW: PRIMARY RESEARCH IN SIMULATION-BASED EDUCATION USING EYE-TRACKING TECHNOLOGY

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Background: There has been a gradual increase in research using technology such as eye-tracking in medical education in simulation. Subsequently, the aim of this review is to examine primary research for simulation-based education using eye-tracking technology.
Method: The Strengthening of observational studies in epidemiology (STROBE) method was used to evaluate the reliability of the simulation and eye-tracking articles [1]. The search strategy included articles published between 2010 and 2021. Articles were searched using terms derived from McCormack et al. (2014). An electronic database search was performed in January 2021: CINAHL, Medline, SCOPUS, Web of Science, Science Direct and APA Psych INFO with 2,621 hits. The search strategy included the following Boolean terms; 'expert' AND 'visual' OR eye track* (eye tracking) AND simulat* (simulation or simulated) AND diagnos* (diagnose or diagnosis).
Findings: The key finding from this narrative review highlighted the use of eye-tracking technology as an objective assessment tool in simulation-based education [2]. The literature reinforced the use of algorithms (e.g. ABCDE approach) when assessing a patient. Furthermore, the different gaze patterns between novices and experts were identified. There are limited studies available in simulation-based education using eye-tracking technology. Furthermore, none of the studies has measured the development of gaze patterns in simulation using a longitudinal study with a repeated simulated scenario.
Implication for practice: Eye-tracking technology can pinpoint the exact areas the healthcare provider is gazing upon during a simulated scenario to help focus the debrief and highlight the gaze patterns. Encourage the use of algorithms when delivering simulation-based education.

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150 'A SAFE LEARNING ENVIRONMENT': SIMULATION-INDUCED STRESS LITERATURE REVIEW

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Background: Simulation-based education (SBE) is often celebrated as a safe learning environment, but this usually refers to the risk posed to patients, in this literature review the psychological safety for participants and the elements of SBE that generate or reduce stress are sought. Stress and learning have a complex relationship in adult learning; however, negative stress may inhibit memory formation and so the sustainable effect of SBE learning may be jeopardized by participants experiencing unnecessary stress during SBE. It is therefore important to identify the nature and trigger for stress in SBE to optimize this resource.
Method: Using the online database PubMed and the search terms (stress and anxiety) AND (Simulation) AND ((clinical education, medical education)) without limits on publication type or date, 20 articles were returned. A non-systematic review was undertaken. Articles that were designed to deliberately introduce stress into SMEs to gauge the effect on performance were excluded. Included studies analysed the type, characteristics and potential triggers of stress evoked through participation in SBE. 17 studies were retained.
Findings: No studies in the UK were returned, SBE participants were from undergraduate and post-graduate settings and there was a mixture of professional groups included with three studies looking at team-based SMEs. Study design and method varied with an observational study being the most common method. Only one looked at qualitative data from focus groups of SME participants. Nearly all studies recorded a physical marker of stress – heart rate, cortisol level or visible signs of stress such as shaking hands. Two studies looked at techniques to actively reduce stress within