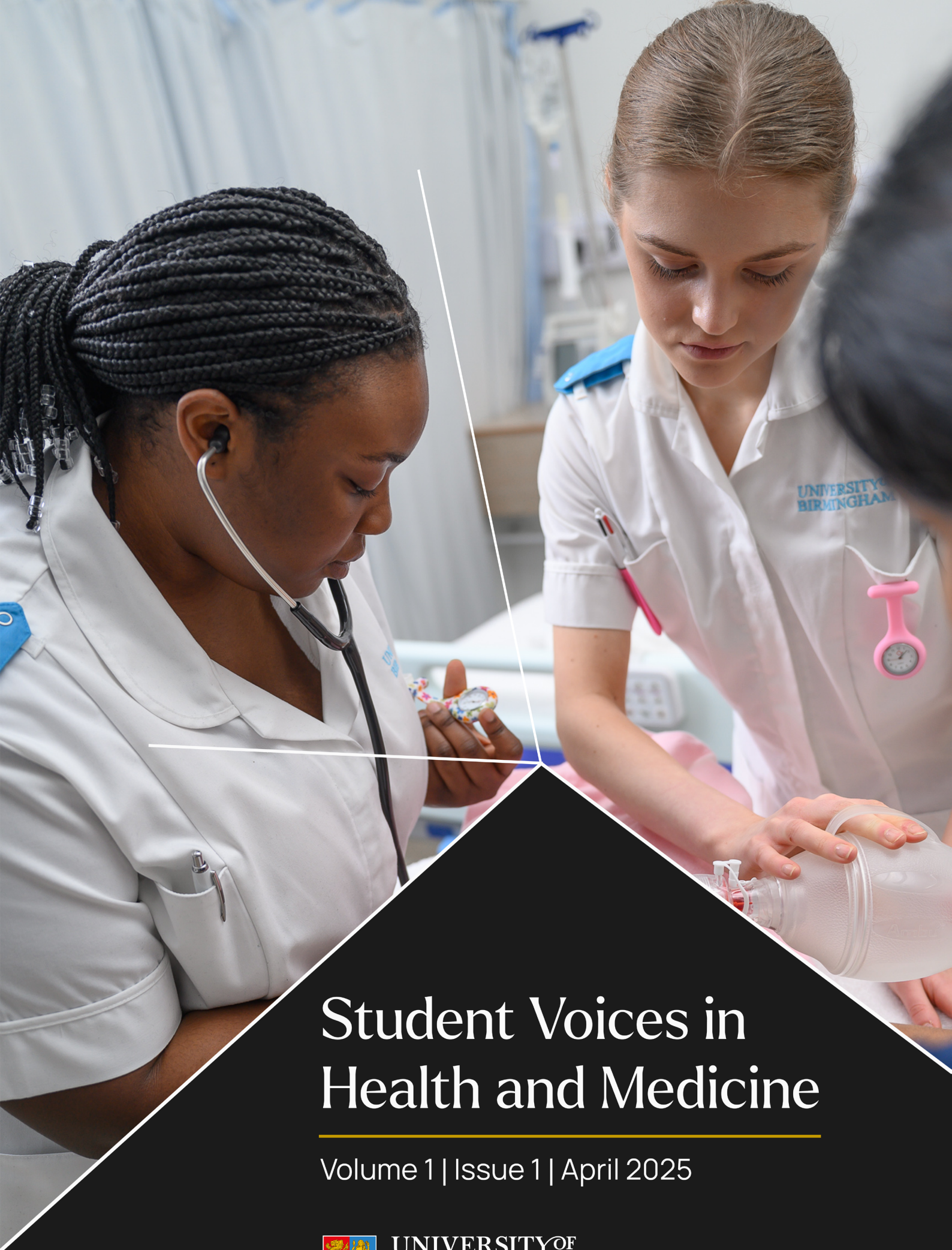

Student Voices in Health and Medicine

Volume 1 | Issue 1 | April 2025

UNIVERSITY OF BIRMINGHAM

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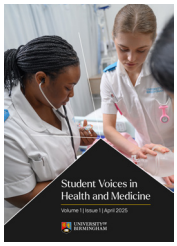

EDITORIAL

A warm welcome from the Editors-in-Chief

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Welcome

We are enormously proud to have worked with a range of health students at the University of Birmingham to develop the first issue of *Student Voices in Health and Medicine*.

Our vision is to provide a recognised, Open Access journal where undergraduate students can share their views on contemporary issues in health and medicine. We believe that students bring fresh perspectives that can advance healthcare research, policy and practice. The journal features a variety of student-led contributions, including evidence-based opinions, literature reviews, research projects and learning and development-focused pieces, all of which contribute to meaningful debate, expand knowledge and the shape future research and practice.

Creating a space for undergraduate students to publish their work offers an exciting opportunity to develop academic confidence, refine research and communication skills, and engage with real-world challenges. Beyond writing, students have played a key role in peer review, gaining experience in evaluating academic work, providing constructive feedback and upholding research integrity. By amplifying student voices and fostering engagement in publishing, this journal supports fresh thinking and innovation, helping emerging scholars contribute to discussions that extend beyond the classroom and into professional practice.

The inaugural issue brings together perspectives from nursing students, exploring key healthcare challenges. One particularly timely piece is Gabriela Meira's opinion on euthanasia and assisted dying, which examines the role of nurses in shaping policy and protecting patient care, as debates on legislation continue in the UK. Other contributions address mental health inequalities, learning and development in clinical practice, the use of AI in nursing education and ethical debates in emerging treatments.

Looking ahead, *Student Voices in Health and Medicine* welcomes submissions from undergraduate students across disciplines who want to explore key questions in health and medicine, contribute to academic discussion and share their work with a wider audience.

We are especially grateful to our student editorial board, whose dedication and hard work have brought this issue to life. Their efforts have ensured that *Student Voices in Health and Medicine* is truly student-led, offering a platform for their peers to engage in meaningful academic discussion.

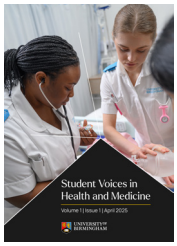
About Nutmeg Hallett

Nutmeg is an Associate Professor of Mental Health Nursing at the University of Birmingham. Since completing her PhD in 2017, Nutmeg's research has focused on patient and staff experiences of coercion and violence in mental health care. In her role as an educator, she is dedicated to supporting the next generation of researchers and healthcare leaders, helping students develop their academic and professional skills through publishing opportunities and international conference presentations. Student Voices in Health and Medicine is an extension of this work.

About Lauren Philp-von-Woyna

Lauren is an Associate Professor in Midwifery at the University of Birmingham. She completed her undergraduate degree in Midwifery and postgraduate qualifications in Healthcare Improvements, Education and her Doctoral research focussed on social and culture-based factors that enable or constrain student ideas in healthcare. Lauren is passionate about ensuring that student ideas are heard and this motivated her involvement in developing the student journal.

Student Voices in Health and Medicine



EDITORIAL

The student perspective on the appeal of nursing and boosting recruitment

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First established as a professional and respectable career by Florence Nightingale in the mid-1800s, nursing has since continued to advance its evidence-based practice, navigating innovative technology and ever complex health conditions (Cherry and Jacob, 2016), whilst consistently ranking as the most trusted profession (Milton, 2018). Despite said merits, a 26% fall in the number of applicants to study nursing in England in the two years since 2022 has been reported by the University and Colleges Admissions Services (UCAS; Royal College of Nursing, 2024). The fall is occurring against a backdrop of 10.3% nursing vacancy rate across the NHS in England.

Why a nursing shortage exists is an enduring debate, with income level as a missing pull factor commonly proposed, amongst a myriad of other considerations, such as the level of autonomy and individual interests (Drennan and Ross, 2019). Remarkably, there is a scarcity of research which aims to unpick the decision-making of students who pursued nursing (Wilkes et al., 2015). Yet, research can provide insight into planning effective methods to boost the appeal of nursing for prospective students and prevent attrition (Messineo et al., 2019). Importantly, the global gap between the supply and demand of nurses is ever-growing, owing to the socio-demographic changes as result of an ageing population and low birth rates (Marć et al., 2019). Thus, concentrated efforts to understand how to enhance the attractiveness of the profession are paramount if the risk of widespread unmet health needs and burnout for existing nurses is to be minimised. Considering this need, this editorial intends to explore what constitutes the appeal of nursing, or lack thereof from a student perspective and the resultant implications. We discuss recommendations to tackle the existing recruitment deficit.

Anyone who has ever interviewed nursing students, or prepared for an interview themselves will know that wanting to help others as the answer to “why do you want to be a nurse?” is an often-heard cliché. Yet, it is not so common an answer without reason. Indeed, nursing has traditionally been deemed a vocation or calling for those with altruistic motives and it offers the chance to support patients at their most vulnerable, which can be incredibly fulfilling and a privilege (Carter, 2014). The authors themselves consider this characteristic fulfillment to have been a crucial motivating factor. However, this may be insufficient to

attract enough new nursing applicants in the modern-day reality, where growing demands on the NHS produce unsustainable pressures on already short-staffed and burnt-out nurses. Further, such a notion of nursing as an altruistic vocation could in fact be inadvertently harmful. According to interviewed Finnish registered nurses, the depiction of nurses within society as self-sacrificing yet immensely resilient has been used to excuse poor working conditions and prevent improvement (Kallio et al., 2022). In reference to other stereotypical perceptions of nurses, like that nurses are doers rather than thinkers, or female rather than male, van der Cingel and Brouwer (2021) note that such over-generalisations not only prevent the flourishing of the profession as aforesaid, but also ignore the uniqueness of every nurse. Consequently, applicants who do not seem to 'fit in' are discouraged. Perhaps then, whilst the pursuit of nursing as an altruistic calling will continue to appeal to, and attract some, the perceptions of who can be a nurse and why, require transformation if a diverse workforce, equipped for present demands and improved working conditions are to be obtained.

Still, should one deem themselves called to nursing, the financial burden of education can prove a key deterrent for prospective nursing students. The reintroduction of tuition fees in 2017 resulted in a 32% decline in applications, worsening the workforce shortage (House of Commons Library, 2020). Although the NHS Learning Support Fund, introduced in 2020, offers maintenance grants to ease pressures, the rising cost of living and perceived undervaluation of nursing salaries continue to dissuade many (Department of Health and Social Care, 2024). Early-career nurses earn significantly less than peers in comparable professions, which raises concerns about nursing's financial viability as a long-term career.

Further, the working conditions that nurses face may diminish the perceived return on said financial investment. High workloads, administrative burdens, and chronic staff shortages have left many nurses physically exhausted and emotionally burnt out (Health and Social Care Committee, 2021). Paired with low pay, these conditions paint a picture of an unsustainable career path which discourages applicants. Studies show that low remuneration, coupled with workplace violence and unsafe conditions, directly contributes to dissatisfaction, burnout, and turnover (Labrague et al., 2020).

For existing nursing students like the authors themselves, the psychological toll of clinical placements further compounds the aforesaid concerns related to their career path. While placements are essential for skill development, they are often marked by distressing experiences, overwhelming workloads, and a lack of confidence in high-pressure settings (Lavoie-Tremblay et al., 2022). Placement stress can lead to anxiety, reduced self-assurance, and even programme attrition (Henderson et al., 2012; Aryuwat et al., 2024). Observing staff burnout firsthand reinforces negative perceptions of nursing as a demanding and undervalued profession.

Workplace aggression further exacerbates these challenges, affecting both qualified nurses and students. Kim, Mayer, and Jones (2021) highlight how exposure to violence increases anxiety and diminishes enthusiasm for nursing careers. While support systems like mentorship, mental health services, and debriefing programs exist to help students process these experiences constructively (Cambridge et al., 2023; Zhang et al., 2022), their implementation remains inconsistent. Edge and Gladstone (2022) note that disparities in access to such support leave some students feeling unsupported, undermining their resilience and commitment to the profession.

Critically, the current strategy to address nursing shortages in England has demonstrated how short-sighted approaches can counterproductively contribute to dampening the appeal of nursing. Between 2022 and 2023, 52,148 new nurses joined the Nursing and Midwifery Council (NMC) register, with 25,006 being internationally educated, a 6.8% increase from the previous year (NMC, 2023). International nurses

bring diverse skills and cultural competence, enhancing the NHS's ability to provide inclusive care for its increasingly diverse communities (Nashwan, 2024). Their role in alleviating staffing gaps remains critical, particularly as the healthcare system faces an ageing population and rising rates of chronic illness. However, critics argue that an over-reliance on international recruitment places undue strain on domestic education pipelines. Newly qualified UK nurses face difficulties securing employment, despite workforce shortages, leading to disillusionment and a decline in nursing's appeal (Stacey, 2024). Ethical concerns further complicate this approach, particularly when recruiting from red list countries like Nigeria and Bangladesh, which face severe healthcare workforce deficits themselves (Migration Advisory Committee, 2023).

The present-day appeal of nursing is evidently shaped by interconnected structural, financial, and ethical factors with a myriad of implications and resulting recommendations emerging from this discussion. Recommended change requires collaboration from different stakeholders, including educational institutions, policymakers, healthcare providers and the National Health Service.

While international recruitment is a necessary short-term measure, it cannot be the sole solution. A balanced strategy must include targeted investment in domestic nursing education and retention. This means offering better career progression opportunities, supporting newly qualified nurses, and enhancing the student experience to attract and retain homegrown talent.

To improve financial attractiveness, the Royal College of Nursing (2024) advocates increasing starting salaries by £7,400 which would position nursing as a more competitive profession. However, salary increases alone are unlikely to resolve the issue. Alternative solutions, such as loan forgiveness programs proposed by the Nuffield Trust (2023), could provide long-term relief for nursing graduates, particularly those committing to NHS service for a defined period. Combining competitive salaries with innovative financial incentives would demonstrate that the value of nursing aligns with its demands, helping to restore its appeal as a career choice. Still, (Martin et al 2020) argue that although financial incentives are essential within nursing, they alone are not a sufficient motivator.

The Royal College of Nursing (2024) highlights that creating safer working conditions and investing in the services worked by nursing staff can make nursing a 'more attractive' career choice. Addressing poor working conditions requires systemic reforms that prioritise student and staff wellbeing. Improving the consistency and accessibility of mentorship, structured debriefing, and mental health resources during placements is critical. Combined with better pay, measures to make working environments safer could reshape nursing into a sustainable and rewarding career choice.

If the challenges relating to the nursing profession remain unresolved, Nursing shortages risk further decline within the UK; of which there are already 43,339 unfilled positions (Royal College of Nursing, 2023) (RCN). This could include increased burnout and poor job satisfaction (RCN, 2024). This increased pressure on under-resourced teams risks continuously deterring applicants from joining the profession (Care Quality Commission, 2022), creating a negative cycle. Furthermore, staffing shortages are linked with increased medical errors (Nantsupawat et al, 2021); a risk which further discourages students from joining the career due to fear of losing their professional registration (Musunur et al, 2020). If these changes are not made, the NHS may continue to become reliant on international nurses, which is not only costly for recruitment but unethical for those countries that also require these nurses (Church, 2024).

Touching upon the personal experience of the authors, for many aspiring nurses, the current working conditions within the profession can be discouraging. When morale among qualified staff is visibly affected, it is understandable that prospective entrants, or current students like the authors themselves, may experience hesitations about committing to this career. While nursing remains a highly rewarding

and meaningful vocation, concerns about worsening staff shortages and their broader implications are impossible to ignore.

Particularly troubling is the potential impact on patient care. The prospect of entering a workforce already under significant strain leads us to question whether we will be able to provide the high standards of care that patients deserve. Without meaningful reform and investment in the nursing profession, the ability to maintain safe, effective, and compassionate care for future patients is at risk, leaving a profession we are passionate about in an increasingly precarious position.

Action is required to address the stated concerns, helping to ensure that future nurses are entering a role where they feel supported, starting from their finances to their safety at work.

In conclusion, the concerns highlighted regarding individuals considering a nursing career are both genuine and understandable. It is imperative that relevant stakeholders collaborate to implement the necessary reforms to address these issues. Without decisive action, the ongoing decline in nursing applicants is likely to persist, worsening staffing shortages and ultimately compromising the quality of patient care.

References

Aryuwat, P., Holmgren, J., Asp, M., Radabutr, M. and Lövenmark, A. (2024) 'Experiences of nursing students regarding challenges and support for resilience during clinical education: A qualitative study', *Nursing Reports*, 14(3), pp. 1604-1620. https://doi.org/10.3390/nursrep14030120

Cambridge, P., Brockenshire, N., Bridge, N. and Jarden, R.J. (2023) 'Entry to practice nursing students' experiences of debriefing during clinical practice: A qualitative meta-synthesis', *Nurse Education Today*, 128, 105871. https://doi.org/10.1016/j.nedt.2023.105871

Care Quality Commission (2022) *Workforce - Care Quality Commission*. Available at: https://www.cqc.org.uk/publication/state-care-202122/workforce Accessed: 20 December 2024.

Carter, M. (2014) 'Vocation and altruism in nursing: The habits of practice', *Nursing Ethics*, 21(6), pp. 695–706. https://doi.org/10.1177/0969733013516159

Cherry, B. and Jacob, S.R. (2016) *Contemporary Nursing: Issues, Trends, & Management*. St Louis, Missouri: Elsevier Health Sciences.

Church, E. (2024) 'Unethical international nurse recruitment "is escalating"', *Nursing Times*. Available at: https://www.nursingtimes.net/global-nursing/unethical-international-nurse-recruitment-is-escalating-24-06-2024/ Accessed: 20 December 2024.

Department of Health & Social Care (2024) *NHS financial support for health students (8th edition): NHS Learning Support Fund*. Available at: https://www.gov.uk/government/publications/learning-support-fund-8th-edition-2024-to-2025/nhs-financial-support-for-health-students-8th-edition-nhs-learning-support-fund Accessed: 11 December 2024.

Drennan, V.M. and Ross, F. (2019) 'Global nurse shortages - the facts, the impact and action for change', *British Medical Bulletin*, 130, pp. 25–37. https://doi.org/10.1093/bmb/ldz014

Edge, D. and Gladstone, N. (2022) 'Exploring support strategies for improving nursing student retention', *Nursing Standard*. https://doi.org/10.7748/ns.2022.e11914

Health and Social Care Committee (2021) *Workforce burnout and resilience in the NHS and social care*. Available at: https://committees.parliament.uk/publications/6158/documents/68766/default/ Accessed: 13 December 2024.

Henderson, A., Cooke, M., Creedy, D.K. and Walker, R. (2012) 'Nursing students' perceptions of learning in practice environments: A review', *Nurse Education Today*, 32(3), pp. 299–302. https://doi.org/10.1016/j.nedt.2011.03.010

Kallio, H., Kangasniemi, M. and Hult, M. (2022) 'Registered nurses' perceptions of having a calling to nursing: A mixed-method study', *Journal of Advanced Nursing*, 78(5), pp. 1473–1482. https://doi.org/10.1111/jan.15157

Kim, S., Mayer, C. and Jones, C.B. (2021) 'Relationships between nurses' experiences of workplace violence, emotional exhaustion and patient safety', *Journal of Research in Nursing*, 26(1–2), pp. 35–46. https://doi.org/10.1177/1744987120960261

Labrague, L.J., De Los Santos, J.A.A., Falguera, C.C., Nwafor, C.E., Galabay, J.R., Rosales, R.A. and Firmo,

C.N. (2020) 'Predictors of nurses' turnover intention at one and five years' time', *International Nursing Review*, 67(2), pp.191–198. https://doi.org/10.1111/inr.12581

Lavoie-Tremblay, M., Sanzone, L., Aubé, T. and Paquet, M. (2022) 'Sources of stress and coping strategies among undergraduate nursing students across all years', *Canadian Journal of Nursing Research*, 54(3), pp. 261–271. https://doi.org/10.1177/08445621211028076

Marć, M., Bartosiewicz, A., Burzyńska, J., Chmiel, Z. and Januszewicz, P. (2019) 'A nursing shortage – a prospect of global and local policies', International Nursing Review, 66(1) pp. 9–16. https://doi.org/10.1111/inr.12473

Martin, B., Jones, J., Miller, M. and Johnson-Koenke, R. (2020) 'Health care professionals' perceptions of pay-for-performance in practice: A qualitative metasynthesis', *Inquiry: A Journal of Medical Care Organization, Provision and Financing*, 57. https://doi.org/10.1177/0046958020917491

Messineo, L., Allegra, M. and Seta, L. (2019) 'Self-reported motivation for choosing nursing studies: A self-determination theory perspective', *BMC Medical Education*, 19, 192. https://doi.org/10.1186/s12909-019-1568-0

Migration Advisory Committee (2023) *Migration Advisory Committee (MAC) annual report 2023*. Available at: https://www.gov.uk/government/publications/migration-advisory-committee-annual-report-2023/migration-advisory-committee-mac-annual-report-2023-accessible Accessed: 16 December 2024.

Milton, C.L. (2018) 'Will nursing continue as the most trusted profession? An ethical overview', *Nursing Science Quarterly*, 31(1), pp. 15–16. https://doi.org/10.1177/0894318417741099

Musunur, S., Waineo, E., Walton, E., Deeds, K. and Levine, D. (2020) 'When bad things happen: Training medical students to anticipate the aftermath of medical errors', *Academic Psychiatry*, 44(5), pp. 586–591. https://doi.org/10.1007/s40596-020-01278-x

Nantsupawat, A., Poghosyan, L., Wichaikhum, O., Kunaviktikul, W., Fang, Y., Kueakomoldej, S., Thienthong, H. and Turale, S. (2021) '*Nurse staffing, missed care, quality of care and adverse events: A cross-sectional study'*, Journal of Nursing Management, 30(2), pp. 447–454. https://doi.org/10.1111/jonm.13501

Nashwan, A.J. (2024) 'Culturally competent care across borders: Implementing culturally responsive teaching for nurses in diverse workforces', *International Journal of Nursing Sciences*, 11(1), p. 155. https://doi.org/10.1016/j.ijnss.2023.09.001

Nuffield Trust (2023) *Student loans forgiveness*. Available at: https://www.nuffieldtrust.org.uk/sites/default/files/2023-09/Nuffield%20Trust%20-%20Student%20loans%20forgiveness_WEB_final.pdf Accessed: 22 December 2024.

Nursing and Midwifery Council (2023) *The NMC Register 1 April 2022–31 March 2023*. Available at: https://www.nmc.org.uk/globalassets/sitedocuments/data-reports/may-2023/0110a-annual-data-report-full-uk-web.pdf Accessed: 25 November 2024.

RCN (2024) *Nursing recruitment still going backwards, as RCN urges ministers to intervene*. Available at: https://www.rcn.org.uk/news-and-events/Press-Releases/nursing-recruitment-still-going-backwards-as-rcn-urges-ministers-to-intervene Accessed: 25 November 2024.

Royal College of Nursing (2023) *NHS waiting list growing 4 times faster than nurse workforce*. Available at: https://www.rcn.org.uk/news-and-events/news/uk-inadequate-staffing-levels-nhs-waiting-list-growing-4-times-faster-than-nurse-workforce-161123 Accessed: 25 November 2024.

Stacey, A. (2024) Newly registered nurses who can't get jobs: Why do so many struggle?. Available at: https://rcni.com/nursing-standard/newsroom/analysis/newly-registered-nurses-who-cant-get-jobs-why-do-so-many-struggle-207501 Accessed: 25 November 2024.

Van Der Cingel, M. and Brouwer, J. (2021) 'What makes a nurse today? A debate on the nursing professional identity and its need for change', *Nursing Philosophy*, 22(2), p. e12343. https://doi.org/10.1111/nup.12343

Wilkes, L., Cowin, L. and Johnson, M. (2015) 'The reasons students choose to undertake a nursing degree', Collegian, 22(3), pp. 259–265. https://doi.org/10.1016/j.colegn.2014.01.003

Zhang, J., Shields, L., Ma, B., Yin, Y., Wang, J., Zhang, R. and Hui, X. (2022) 'The clinical learning environment, supervision and future intention to work as a nurse in nursing students: A cross-sectional and descriptive study', *BMC Medical Education*, 22, 548. https://doi.org/10.1186/s12909-022-03609-y

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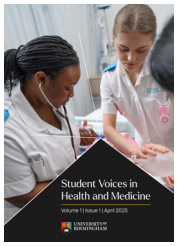

Thematic analysis of serious safeguarding practice reviews of children subjected to Special Guardianship Order (SGO): Qualitative document analysis

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Abstract

Background: Special Guardianship Orders (SGOs) legally transfer parental responsibilities to a special guardian who will be responsible for the welfare and needs of the child/children. SGOs are commonly successful and stable for children. Known underlying risk factors for the termination of SGOs are the child's age when the order was created, the number of prior care placements, and SG's relationship with the child before the order. However, there are currently no available statistics on safeguarding concerns arising after SGOs are granted. Serious Case Reviews (SCRs) and Local Child Safeguarding Practice Reviews (LCSPRs) were selected from the National Case Review Repository and were analysed using thematic analysis. These reviews examine how agencies collaborated to safeguard children who experienced significant harm, abuse, neglect or death. **Aim**: The study aims to thematically analyse SCRs and LCSPRs relating to serious safeguarding concerns post-SGO. **Methods**: Eleven SCRs and LSCPRs, focused on fifteen children with SGOs, were thematically analysed. The data was coded using NVivo V.12 software. **Results**: Known perpetrators of child abuse were the special guardians, the partners of special guardians, and the parents of the child. The themes were: Failure to Risk Assess, Court Decisions, 'The Family is Better' View, the Child's Voice Not Heard, Absence of Support, Inadequate Support, Poor relationships between Special Guardians and Professionals, and Special Guardians' struggle to maintain the SGO. The eight themes are spread across 'Professionals' Treatment of Children and Special Guardians' and 'Special Guardians' Actions' to distinguish themes relating to professionals' or special guardians' actions. **Conclusions**: The research highlights insufficient suitability assessments of special guardians, stemming from time constraints on care proceedings and the assumption that placement with the relatives was best for the child. Absent support plans and insufficient fulfilment of supervision orders contributed to special guardians struggles in supporting their child. Improvements needed include extending the 26-week assessment deadline, establishing robust support plans, and enhancing advocacy for children's voices in their care plans.

Introduction

Special Guardianship Orders (SGO) transfer parental responsibility for children from their birth parents to special guardians, who will make daily decisions regarding the child's welfare (Department of Education, 2017). Before the introduction of SGOs in 2005, children who were legally removed from their parents were mainly placed into foster care or were adopted. Foster care does not possess the legal permanence that SGOs have, leading to feelings of not belonging among children (Biehal, 2014; Wade et al., 2014). The White Paper on adoption (Cabinet Office, 2000) called for special guardians to be an alternative care route for children unsuitable for adoption, such as older children, those with cultural or religious restrictions against adoption, and children being cared for by kin. SGOs and foster care provide protection and care for children; however, unlike adoption, SGOs facilitate continued contact with birth parents, as children are typically placed with family members or close family friends (White Paper, 2000; Thompson, 2019; Woodward et al, 2021). The White Paper led to the inclusion of Special Guardians in the Adoption and Children Act of 2002, and SGOs became effective in 2005 (Department of Education, 2017).

Between 2006 and 2011, 5,921 SGOs were approved, with a disruption rate of about 2%, meaning that only a small number of these arrangements (approximately 118 cases) ended early or did not work out as intended. By 2017, the total number of approved SGOs had risen to 21,504, with a disruption rate nearing 6% (Selwyn et al., 2014; Harwin et al., 2019a). Wade et al. (2014) found that disruption was strongly associated with children who had experienced more than three previous foster placements, had been living with kin before the order, and were older at the time the order was established. Specifically, children aged 5 to 10 had a 6% termination probability within five years, compared to a 4.2% chance for those aged 1 to 4 (Harwin et al., 2019b). Additionally, 11% of SGOs had supervision orders to enable the local authorities to advise and assist the child and family; however, SGOs with supervision orders had an increased chance of placement instability (Harwin et al., 2019). Supervision orders can be made alongside SGOs when a child requires further supervision by the local authority for one to three years after SGOs are granted because continuing support is necessary for the child or family (Ryan et al., 2021). Reasons for supervision orders are keeping local authorities accountable in providing support, older children not wanting the care order to be created, or when identified risks could affect the order's success (Ryan et al., 2021).

SCRs and LCSPRs

Serious Case Reviews (SCRs) examine how agencies work together to safeguard children who have suffered significant harm from abuse or neglect, including death (Children's Act, 2004). The function of SCRs was to examine how missed chances to record, understand and share critical information across agencies caused severe compromises to children's safety and well-being (Department for Education, 2017).

SCRs identify improvements in safeguarding and establish risk prevention through beneficial teamwork among professionals rather than assigning blame for failures. (Munro, 2010; Department of Education, 2018; Dickens et al., 2022). SCRs were renamed as Local Child Safeguarding Practice Reviews (LCSPR) in 2018/2019, but the purpose of identifying and addressing new and persistent issues in child safeguarding has remained (HM Government, 2018; Child Safeguarding Practice Review Panel, 2022).

Definition and consequences of child abuse

Child abuse, encompassing physical, emotional, sexual abuse, and neglect, can be perpetrated either as isolated incidents or continuously by adults or other children against individuals under 18 years of age (World Health Organization (WHO), 2019). This study adopts the WHO definition of child abuse.

The profound consequences of abuse on children's emotional, physical, and social development are well-documented (Stanley, 2011; Nemeroff, 2016; Barlow et al., 2023). Exposure to childhood abuse can disrupt attachment development and neurological progress of social-emotional processes in the brain, affecting stress management and emotional regulation (Dahake et al., 2018; Barlow et al., 2023). The impacts of child abuse have been shown to worsen health outcomes in adulthood. Stanley's (2011) meta-review found adults with previous childhood abuse trauma had elevated inflammation markers and the development of physiological problems such as gastrointestinal disorders, chronic pain, and cardiovascular diseases. Morbidities increase healthcare costs and strain resources across primary, secondary, and tertiary services, though many could have been partially prevented (Soley-Bori et al., 2021). Implementing preventive measures against child abuse is crucial to mitigating the development of harmful diseases and adverse health conditions associated with abuse.

No data exists on serious safeguarding concerns after SGOs have been granted. This analysis of SGO safeguarding reviews will reveal new concerns within SGOs and identify improvements to professionals' safeguarding efforts. This research addresses this gap by examining SCRs and LCSPRs on children subjected to SGOs. This project selected reviews from the National Case Review Repository as it is the only database for SCRs and LCSPRs (NSPCC Learning, 2022).

Research Justification

The rationale for this project is the limited research on safeguarding concerns relating to SGOs. Identifying factors that lead to abuse and neglect can inform future social care initiatives, helping to safeguard these vulnerable children more effectively.

Aims and Objectives

This project aims to identify areas for improving the safeguarding practice of SGOs and to enhance professionals' understanding and practice of supporting and protecting special guardians and children by thematic analysis of SCRs and LCSPRs.

Objectives:

- Obtain SCRs and LCSPRs relating to children on SGO from the NSPCC's National Case Review Repository.
- Screen and thematically analyse the safeguarding issues relating to SGOs.
- Identify factors that lead to safeguarding issues within SGOs to identify potential improvements in practice.

Methods

Study Design

This study used qualitative document analysis and interpreted the data from the reviews using thematic analysis. Document analysis, focusing on government documents, was integral to this study of local UK government reports. This design enables sensitive reports, such as reviews on the National Case Review Repository, to be analysed without intrusion and is often free (NSPCC Learning, 2022). Document analysis can only reveal what has been captured within the data collection (Ernst, 2019).

Sample

Data were gathered from SCRs and LCSPRs, published from 2005, the date SGOs were introduced into UK law, to 2024. The reviews were extracted from the National Case Review Repository, the database for SCRs and LCSPRs (NSPCC Learning, 2022). The repository was searched using the following search terms: 'Special Guardianship Orders', 'Special Guardianship Order' and 'SGO'.

One hundred and four reviews were identified. Eighty-six reviews were excluded because they were not about children and young people who were subjected to SGOs. Seven reviews were further excluded because the abuse occurred after the termination of the SGO. In total, eleven reviews were included for analysis.

Data Collection and Analysis

NVIVO V.12 software (QSR International Pty Ltd., 2018) was employed for the coding as NVIVO has been used in research on SCRs and LCSPRs (Garstang et al., 2023). An initial read of the 11 reviews occurred before data collection. Codes were created separately amongst the researchers on the second read-through. This separation allowed ideas about initial codes to form without the influence of the other researcher. Guidance for data collection aimed to identify factors contributing to the safeguarding issues that occurred within SGOs, thereby enhancing professionals' practices concerning special guardians and children.

Following Braun and Clarke's (2006) framework, researchers are able to focus equally on initial read-throughs, data collection, and data analysis. Defining each code allowed differences and similarities of codes to become apparent, enabling the organisation of potential themes. Themes were developed to interpret the majority of the data set, with transparent accounts provided for each theme to avoid blending. The researchers independently reviewed the themes to reduce bias. Thematic analysis can be good, but if the guidance is not followed correctly, themes may be broad, overlapping, and lack consistency (Braun and Clarke, 2006; Nowell et al., 2017; Kiger and Varpio, 2020). Defining themes ensured clarity and prevented overlap. A theme map was created to demonstrate the vulnerabilities in professionals' safeguarding practices and the barriers preventing special guardians and children from receiving effective help and support.

MH and LM, final-year student nurses at the University of Birmingham, conducted the initial reading, coding, and theme-building. Our supervisor, Joanna Garstang, advised and counselled us throughout the study.

Ethics

This study did not require ethical approval because the reviews were publicly available.

Results

Eleven SCRs were included in this review, and fifteen children with SGOs were examined, see Table 1. Twenty-five children, including the fifteen children with SGOs, were mentioned in the reviews. Five children had been physically abused, two of whom died as a result. Four childrePPPn were victims of sexual abuse, while two faced neglect. Additionally, two children were criminally exploited, one experienced emotional abuse, and four children endured more than one type of abuse. The ages ranged from 1 and 16 years old. The genders of the children were not always known, but six females and five males were identified. Three children were identified as white British, two as Black Caribbean, and one as both white British and Black

Table 1. Details of each review

Review number	Local Authority of the SCR / LCSPR	Details of the children with SGOs (name, age, ethnicity, gender)	No. children mentioned in reviews	Type of abuse	The abuser	Who was the Special Guardian?
1	Devonshire Safeguarding Child Board	Bonnie 2 years old White British Female	1	Sexual Abuse	Maternal Grandfather	Maternal Grandmother
2	Oxfordshire Safeguarding Children Board	Child A and B <5 Years Old Ethnicity not known Gender not known	3	Physical Abuse	Mr K, Distant Uncle	Mr K and Ms. L, Distant Uncle and Aunt
3	Surrey Safeguarding Children Board	Child G (Ages not known) White British Female	4	Sexual Abuse	Great Maternal Uncle	Great Maternal Uncle and Aunt
4	Lewisham's and Harrow's Safeguarding Children's Board	Child LH 4 years old Black Caribbean Male	2	Physical Abuse	Maternal Aunt	Maternal Aunt
5	Unnamed Local Safeguarding Board	Child PS (Age not known) Ethnicity not known Male	1	Physical Abuse/ Child Exploitation	Relative of a staff member at the care home	Grandparents
6	Berkshire West Safeguarding Children Partnership	David 16 Years Old Black Male	1	Child Exploitation	Unknown	Two Adult Family Members
7	Northumberland Safeguarding Children Board	Family M (Ages not known) Ethnicity not known 1 female and 1 male. Other two are not known	4	Sexual Abuse	Family relation not specified	Relation not specified

Review number	Local Authority of the SCR / LCSPR	Details of the children with SGOs (name, age, ethnicity, gender)	No. children mentioned in reviews	Type of abuse	The abuser	Who was the Special Guardian?
8	South Tees Safeguarding Children Partnership	Fred 16 years old Ethnicity not known Male	1	Neglect	Stepfather and Mother	Maternal Grandparents
9	Birmingham Safeguarding Children Board	Lilly <1 year old White British Female	1	Physical Abuse/ Died	Partner of the SG	Family Friend
10	Gloucestershire Safeguarding Children Board	Megan 6 years old Ethnicity not known Female	2	Sexual Abuse/ Neglect/ Emotional Abuse	Maternal Grandfather, Maternal Grandmother, and father	Grandmother
11	Birmingham Safeguarding Children Board	Shi-Anne <1 year old White British /Black Caribbean Female	5	Physical Abuse/ Died	Distant relative of the father (Kandyce)	Distant relative of the father (Kandyce)

Caribbean; the remaining children were not specified. Preparators were identified in nine reviews: six males (father, stepfather, partners of special guardian, grandfather, grand uncle, distant relative) and three females (mother, grandmother, aunt).

Themes

The themes identify factors that directed children towards significant harm and abuse (see Figure 1 for relationships between subthemes). The themes are discussed in order of timeline, from SGO assessment through to post-SGO approval, highlighting failures in recording and monitoring that jeopardised the safety of these children. The reviews are referenced by their corresponding number in the "Review No." column (see Table 1) in the results section.

Professionals' Treatment of Children and Special Guardians

Failures to Assess Risks

Failures to Assess Risks outlines the low rigour of risk assessments of special guardians. This theme was present in all reviews.

Five reviews demonstrated poor professional exploration in risk assessments of special guardians. Previous sexual abuse evidence against special guardian (of Child G) 'should have produced an analysis reflecting far higher risk than was apparent in the SGO report'. (Case 3). 'No work was carried out to try and change her behaviour to reduce the risks to her children' when the social worker identified evidence of previous child abuse committed by special guardian (Case 4). Services did not adequately challenge special guardians' suitability to care for and protect these children despite evidence being known to services that special guardians had previously harmed other children.

Concerningly, seven reviews found that professionals did not explore risks post-assessment despite evidence of abuse or neglect. Child PS had signs of being exploited while working at a car wash facility, the same place he was assaulted, but 'it would appear that at no point was Criminal or Sexual Exploitation considered by services'. (Case 5). When bruises were located on Lilly, 'the nursery held no discussion with the Children's Advisory and Support Service (CASS) for advice, as they took the special guardian's words at face value'. (Case 9). Consequently, professionals identified abuse or harm but failed to adequately assess and document special guardians' abilities to care for and protect these children.

Court Decisions

In eight reviews, key information required by courts to determine special guardians' suitability was absent when SGOs were approved. The Courts approved orders without waiting for necessary information, such as DBS checks and medical reports, that would determine the special guardian's ability to safeguard the child (Case 3). The author of Case 4 commented that 'Courts would be prepared to make such orders not infrequently without the results of some checks being received'. Courts were noted as having a 'lower threshold for approving special guardians, focusing on a 'good enough' here and now' rather than evaluating historical risks concerning the individual's suitability to become a special guardian (Case 9).

The Family is Better View

The theme illustrates that professionals assumed special guardians would work in the child's best interest and would not consistently assess special guardians' ability to safeguard these children when approving SGOs. 'The courts favoured the making of special guardianship orders, if possible, to maintain care within

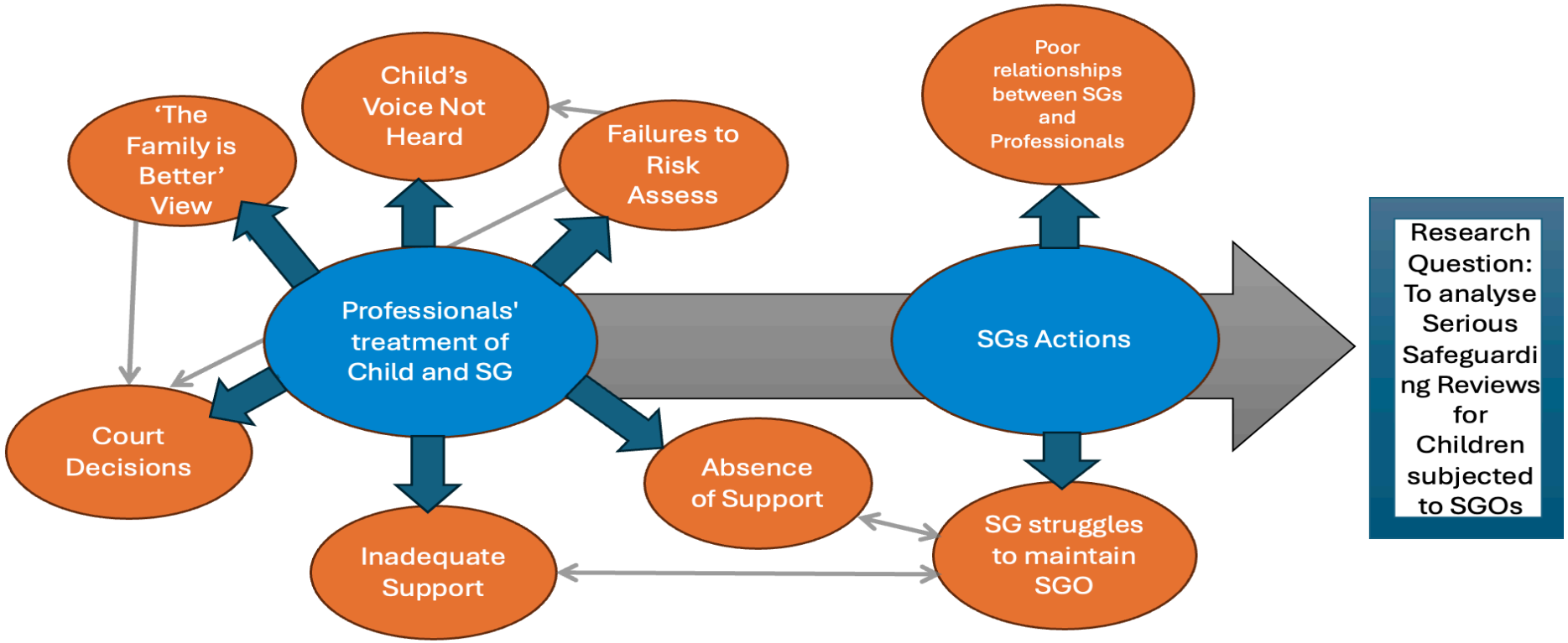


Figure 1: Relationship between the subthemes and overarching themes. Note: Blue arrows link overarching themes to subthemes. Grey arrows indicate relationships between subthemes.

the extended family' (Case 4). 'Family and friend's assessments were decisions driven by a focus on the positive benefits of placing children within the family'. (Case 7).

Child's Voice Not Heard

This theme, evident across all reviews, demonstrates that professionals did not encourage children to express their views in care proceedings and subsequent care plans. 'It does not seem that the Advocacy Service was ever engaged to help PS present his views in any of the many forums that were meeting to discuss his future'. (Case 5). 'Children's views are not taken on board in the decision making, and often they have not met'. (Case 10).

Eight reviews showed children notified professionals about being abused, but professionals failed to conduct proper investigations into these concerns. When Child G reported being sexually abused by her special guardian, there was 'little evidence of planning and preparation for the interview and in particular, no consideration was given to whether Child G should have had an intermediary'. (Case 3). Child G's eventual disclosure outside interview conditions meant her story could not be evidence in court. Thereby, Child G's voice was not heard within the proper context.

Absence of Support

There were incidents of insufficient support for special guardians after the children came into their care. Special guardians support children with Adverse Childhood Experiences (ACEs), often without proper training and professional support. Despite the absence of formal training, special guardians have provided substantial emotional and practical assistance to these children. However, mental health support that did not come to fruition left special guardians managing the children's mental health and well-being on their own. Despite professionals offering therapy, 'Child G did not receive specific therapeutic support during this period' because Children's Social Care did not pursue this support (Case 3).

Only some special guardians were supported by universal community services due to the service's unawareness of these children.

> Systemic failure to ensure that Lilly was integrated into community health services, specifically health visiting, and to ensure that she was identified as a child with a challenging neo-natal history, cared for within an SGO, and therefore entitled to Universal Plus services. (Case 9)

On the other hand, some special guardians did not pursue the support offered, as demonstrated in Child G's and Megan's case. 'Education staff report that support was being offered to Mr and Mrs A from the school and wasn't always taken up'. (Case 3). The explanation in Case 10 may explain the special guardian's lack of willingness to access support: 'There is no statutory duty for the special guardian to accept or comply with training or to accept support as they have parental responsibility and not the Local Authority'. (Case 10).

Inadequate Support

Discrepancies were identified between planned and actual support plans provided in nine reviews. Supervision orders added adjacent to SGOs often were not fulfilled. 'Although the supervision of the social worker in January 2017 noted that 'visits taking place; Lilly doing well; special guardian engaged', there is no actual record of any visits or of any meetings after the SGO was made'. (Case 9). Some SGO plans did not include support, potentially because professionals primarily determined support. For example, professionals did not consider the emotional support Child LH would require within his support plan.

> The SGO support plan was mainly focused on financial support and contact arrangements for

> the family. Discussions during the course of the assessment had been had about training for life story work for Ms X and possibly mediation for the family to improve the relationship between the two sisters. In fact, neither of these two things were included in the final SGO support plan. (Case 4)

Special guardians felt their limited knowledge of accessing support impacted how well they could care for these children. When Fred's behaviour became challenging in 2019, the social worker did not remind the special guardian of the support they could access (Case 8).

Special Guardians' Actions

Special Guardian Struggles to Maintain SGO

This theme details eight special guardians' efforts to support children. Three special guardians felt unsafe because of the risky behaviour exhibited by the children and eventually were unable to care for these children. David's criminal activities with gangs left the special guardian 'not feeling safe in her house. Alternative care was considered'. (Case 6).

Five special guardians did not seek support from their local authorities, resulting in special guardians and children appearing to cope without support when, in fact, they were not managing. One author explained this behaviour as disguised compliance where the special guardian displays 'the appearance of cooperating with services, while in fact failing to do so' (Case 9).

Furthermore, special guardians determine the level of support they want to access because 'the special guardian has parental responsibility and does not have to comply with support packages offered and are not subject to Gloucester's Children's Social Care checks…' (Case 10).

Poor Relationships between Special Guardians and Professionals

In four reviews, communication breakdowns occurred between special guardians and professionals. The special guardians' lack of involvement with the school meant teachers could not challenge the special guardian's treatment and care of Megan (10). In three reviews where special guardians were not the abusers, tensions between special guardians and professionals, specifically social workers, contributed towards personal disputes, strategy disagreements or limited communication. 'There was a lot of tension between Grandad and Social Worker due to feeling that Child had let them down during the period of the Guardianship'. (Case 5). 'The carers reported feeling frustrated and angry with these meetings as from their perspective they achieved little. This led to withdrawal of the carer's involvement in these meetings'. (Case 6).

Discussion

Eleven SCRs were examined concerning 15 children with SGOs, and eight key themes were identified: Failure to Assess Risks, Court Decisions, Family is Best View, Child's Voice Not Heard, Absence of Support, Inadequate Support, Special Guardian Struggles to maintain SGO, and Poor Relationships between Special Guardians and Professionals. All fifteen children were abused post-SGO approval, and this continued due to poor safeguarding practices. Insufficient pre-examination within SGO suitability reports misjudged special guardians' abilities to protect and care for these children. Important information was absent from suitability reports because of delays or inadequate time for preparation. This resulted in situations where individuals known to have abused children were deemed suitable as special guardians. Professionals did

not appropriately support children's disclosures of abuse. Special guardians struggled without professional support despite support plans being put in place; this contributed to delays in identifying abuse or neglect. The review highlights four areas of urgent improvement: improving the rigour of SGO assessments, ensuring comprehensive court decision-making processes, establishing ongoing support for special guardians, and strengthening mechanisms for hearing and addressing children's voices. Addressing these areas will uphold the integrity of safeguarding measures and ensure the well-being of children under SGOs.

This study found that the courts often assumed, without the necessary documentation and checks, that family placement was best. This assumption supports children's future identity and may explain the higher numbers of children placed with relatives compared to adoption (Thoburn, 2021; ADCS, 2022). Legal professionals within these reviews did not wait for pending DBS checks and had lower approval parameters for testing special guardians' suitability. Social workers are encouraged to consider the child's and family's needs while questioning the SGO's suitability but often struggle to get the necessary information on the special guardian's history, relationship with the child, and ability to manage connections with the birth family (Harwin et al., 2019a; Wilkinson & Bowyer, 2017). The 26-week deadline introduced in 2014 for finalising care assessments creates significant pressure on social workers to complete care plans. This deadline addressed and increased the completion speed of care proceedings, but this time constraint is impractical as only 61% of care orders are completed by this deadline (Broadhurst et al., 2018). Applying for extensions on care assessment is possible to ensure child welfare (S (A Child), 2014), but SGO suitability reports that were missing important information could suggest that professionals did not seek them. The completion speed of care proceedings and professionals' assumptions appear to be prioritised over the rigour of care assessments and plans.

In the reviews we analysed, professionals only sometimes conducted thorough checks on special guardians and children post-SGO approval. Children's Social Care (CSC) checks are uncommon post-SGO approval because parental responsibility transfers from the LA to special guardians (Harwin et al., 2019b). The Supervision Orders (for Lilly and Child G were unfilled by their social workers despite being legal requirements. Ryan et al. (2021) found that 53% of local authorities had clear guidance on supervision orders, and only half (56%) had systems to monitor the number of children with supervision orders. Professionals' beliefs could influence this underperformance of supervision orders that supervision orders lack authority, significance, and oversight to enable child protection practices following SGOs (Harwin et al., 2019b; Ryan et al., 2021; Public Law Working Group, 2023). Researchers who have evaluated supervision orders have recommended combining supervision orders with child protection plans to ensure that safeguarding is central to these observations (Carson, 2017; Public Law Working Group, 2023). The abuse inflicted on some of these children went undetected by authorities, potentially because CSCs were not fulfilling supervision orders. In most cases, the abuse occurred after the supervision orders had been discharged.

Special guardians reported a need for more comprehensive support plans and experienced inadequacies in the plans provided by CSCs and associated agencies. Support plans are viewed more as expectations than requirements, with only 34% of professionals consistently creating them (Roe et al., 2021). Support services were provided post care proceedings to only one-third of participants in one study of special guardians (Harwin et al., 2019b). Similarly, special guardians were less likely to seek financial aid and peer support than foster carers (Sakai et al., 2011; Lin, 2014).

Both external and internal barriers influence special guardians' engagement with support. External barriers include limited knowledge or access to services (Harwin et al., 2019a). In contrast, internal barriers encompass reluctance to seek help due to self-reliance, feeling obligated to take on the child, past negative

experiences with seeking help from Children's Social Care, or fear of the child being removed if unable to cope (Harwin et al., 2019a). Special guardians lacked time to understand their role, and the mental health of the children led to ineffective family integration (Harwin et al., 2019b; Hingley-Jones et al., 2020; Woodward, Melia & Combes, 2021). Some special guardians were suddenly transitioned to caregivers whilst dealing with the emotional toll of trauma and loss of family, which may impact special guardians' ability to develop positive and secure environments for these children. Special guardians may have limited time to assess and reflect on their own support needs within the 26-week deadline for completing care assessments (Broadhurst et al., 2018; Turner, 2018). Poor carer engagement with support has been shown to increase occurrences of neglect or abuse towards children (Harwin et al., 2019b). Insufficient supervision from social workers and limited resources for special guardians and children can contribute to family instability and lead to poorer outcomes for the children (Lin, 2014).

Across all the reviews in this study, children's voices were absent in care and child protection planning. Despite national legislation advocating the inclusion of children, children's voices are often excluded in care and child protection planning reviews (Valle et al., 2012; Care Quality Commission (CQC), 2016). Hargreaves et al. (2024) found that the age of children had only a minimal impact on their participation in their care planning. Professionals' judgments about children's capacity often determine children's involvement, meaning services do not fully consider children's wishes, feelings, and right to participation (Cossar et al., 2014; Hargreaves et al., 2024).

Professionals should include children's voices by making care planning more accessible and inclusive, especially for children with complex needs (CQC, 2016). Professionals should advocate for children in care plans to empower them to voice their opinions. Although advocates help children understand and participate in protection conferences, children's limited trust in the advocacy ability of social workers limits children's participation (Cossar et al., 2014). Furthermore, measures to empower children and subsequently protect them from child abuse, such as advocacy, are hampered by severe underfunding and increasing safeguarding demands (Bilson and Munro, 2019; Dickens et al., 2022). Establishing and maintaining strong partnerships amongst agencies, utilising electronic systems that alert authorities to vulnerable children earlier, and encouraging staff to enhance their knowledge and training of SGOs can all help to moderate these difficulties (CQC, 2016).

Implications and Recommendations

Reassessing the structure and support mechanisms of SGOs is imperative, given that these practices may inadvertently expose children to abuse. Many care assessments cannot be completed within the 26-week deadline. Therefore, this limit should be reconsidered to prioritise the welfare of children and families over procedural convenience. Supervision Orders hold the potential to review the suitability of placements and mitigate risks, but their efficacy depends on how comprehensively they are delivered. Establishing robust support plans and offering regular reviews could pre-emptively address the needs of special guardians and children before they escalate into a crisis.

Furthermore, training special guardians on their role and offering them support through the Adoption Fund and peer networks could reduce risks (Harwin et al., 2019a). Moreover, advocacy should be promoted to empower children to voice their opinions and participate in decisions that will alter their lives. Increasing social worker visits could foster collaboration and provide consistent support to special guardians and children, although families are under no legal requirement to accept these. The feasibility of such initiatives warrants further exploration, especially amidst funding constraints that severely impact the delivery of these services (Harwin et al., 2019b; MacAlister, 2022).

Strengths and Limitations

This research only considered reviews of SGOs with serious safeguarding concerns; it does not represent most SGOs offering stable homes (Wade et al., 2014; Harwin et al., 2019a). Not all children who experience severe harm, neglect or death whilst under an SGO have had an LCSPR or SCR. The quality of reviews can be variable due to their subjectivity, and therefore, some cases likely need to be discovered. Attempts to mitigate against bias were achieved through analysing and reviewing findings as a team and comparing findings with previous research.

Conclusion

This study identified key areas for improving professionals' recognition of risks and the support given to special guardians and children. Suitability assessments of special guardians were insufficient in preventing some children from being placed with unsafe special guardians. Professionals' unchecked assumptions that placement with family was in the best interest of these children compromised the thoroughness of suitable assessments. Time constraints on the completion of care proceedings may have compromised the quality of assessments. Supervision orders and support plans were often not established or fulfilled; these must be prioritised. Future evaluations of SGO assessments and court processes could identify further learning and potential improvement.

References

Association of Directors of Children's Services (ADCS) (2022) *Research Report: Safeguarding pressures phase 8*. https://www.adcs.org.uk/wp-content/uploads/2024/04/ADCS_Safeguarding_Pressures_Phase_8_Full_Report_FINAL.pdf

Barlow, J., Schrader-Mcmillan, A. and Bowen, E. (2023). *Improving outcomes for children with child protection concerns who have been exposed to domestic abuse*. Available at: https://foundations.org.uk/improving-outcomes-for-children-experiencing-domestic-abuse-at-home/

Biehal, N. (2014) 'A sense of belonging: Meanings of family and home in long-term foster care'. *The British Journal of Social Work*, 44(4), pp. 955–971. https://doi.org/10.1093/BJSW/BCS177

Bilson, A., and Munro, E. H. (2019) 'Adoption and child protection trends for children aged under five in England: Increasing investigations and hidden separation of children from their parents'. *Children and Youth Services Review*, *96*, pp. 204–211. https://doi.org/10.1016/j.childyouth.2018.11.052

Braun, V., & Clarke, V. (2006). 'Using thematic analysis in psychology'. *Qualitative Research in Psychology*, 3(2), pp. 77–101. https://doi.org/10.1191/1478088706qp063oa

Broadhurst, K., Alrouh, B., Mason, C., Ward, H., Holmes, L., Ryan, M., and Bowyer, S. (2018). *Born into care: newborns in care proceedings in England - Nuffield Family Justice Observatory*. Available at: https://www.nuffieldfjo.org.uk/resource/born-into-care-newborns-in-care-proceedings-in-england-final-report-october-2018

Cabinet Office (2000) *Adoption: A Performance and Innovation Unit Report*. Available at: https://dera.ioe.ac.uk/id/eprint/8892/1/adoption.pdf

Care Quality Commission (CQC) (2016) *A review of the arrangements for child safeguarding and health care for looked after children in England not seen, not heard*. Available at: https://www.cqc.org.uk/sites/default/files/20160707_not_seen_not_heard_report.pdf

Carson, G. (2017) *Serious case review questions 'value' of supervision orders*. MA Education. Available at: https://www.communitycare.co.uk/2017/09/06/serious-case-review-questions-value-supervision-orders/

Child Safeguarding Practice Review Panel (2022) *Child Safeguarding Practice Review Panel guidance for safeguarding partners*. *Children Act 2004*. Available at: https://www.legislation.gov.uk/ukpga/2004/31/contents/enacted

Cossar, J., Brandon, M., and Jordan, P. (2014). "You've got to trust her and she's got to trust you': Children's views on participation in the child protection system'. *Child & Family Social Work*, 21, pp. 103-112. https://doi.org/10.1111/cfs.12115

Dahake, P., Kale, Y., Dadpe, M., Kendre, S., Shep, S. and Dhore, S. (2018) 'Impact of child abuse & neglect on children: A review article'. *Child Abuse MIDSR Journal of Dental Research*, 1(1), pp. 36-49

Department of Education (2017) *Special guardianship guidance: Statutory guidance for local authorities on the Special Guardianship Regulations 2005 (as amended by the Special Guardianship (Amendment) Regulations 2016)*. London: Department of Education

Dickens, J., Barlow, J., and Munro, E. (2022) Re-envisaging professional curiosity and challenge: Messages for child protection practice from reviews of serious cases in England. *Child Abuse Review*, 31(3), pp. 222-234. https://doi.org/10.1002/car.2729

Ernst, A. (2019) 'Research techniques and methodologies to assess social learning in participatory environmental governance'. *Learning, Culture and Social Interaction*, 23, p. 100331. https://doi.org/10.1016/j.lcsi.2019.100331

Garstang, J., Dickens, J., Menka, M., and Taylor, J. (2023) 'Improving professional practice in the investigation and management of intrafamilial child sexual abuse: Qualitative analysis of serious child protection reviews'. *Child Abuse and Neglect*, 137, p. 106053. https://doi.org/10.1016/j.chiabu.2023.106053

Hargreaves, C., Cusworth, L., Alrouh, B., Broadhurst, K., Griffiths, L., Cowley, L., and Doebler, S. (2024) *Uncovering private family law: How often do we hear the voice of the child?* Available at: https://www.nuffieldfjo.org.uk/resource/uncovering-private-family-law-how-often-do-we-hear-the-voice-of-the-child

Harwin, J., Simmonds, J., Broadhurst, K., and Brown, R. (2019a) *Special guardianship: A review of the English research studies*. Available at: https://www.nuffieldfjo.org.uk/wp-content/uploads/2021/05/Nuffield-FJO_Special-guardianship_English-research-studies_final.pdf

Harwin, J., Alrouh, B., Golding, L., Mcquarrie, T., Broadhurst, K., and Cusworth, L. (2019b) *The contribution of supervision orders and special guardianship to children's lives and family justice*. Available at: https://www.cfj-lancaster.org.uk/app/nuffield/files-module/local/documents/HARWIN%20main%20report%20SO%20and%20SGOs%20_%204Mar2019.pdf

Hingley-Jones, H., Allain, L., Gleeson, H., & Twumasi, B. (2020) '"Roll back the years": A study of grandparent special guardians' experiences and implications for social work policy and practice in England'. *Child and Family Social Work*, 25(3), pp. 526–535. https://doi.org/10.1111/cfs.12718

HM Government. (2018) *Working Together to Safeguard Children 2018*. London: Department for Education.

Kiger, M. E., and Varpio, L. (2020). 'Thematic analysis of qualitative data: AMEE Guide No. 131'. *Medical Teacher*, 42(8), pp. 846–854. https://doi.org/10.1080/0142159X.2020.1755030

Lin, C. H. (2014) 'Evaluating services for kinship care families: A systematic review'. *Children and Youth Services Review*, *36*, pp. 32–41. https://doi.org/10.1016/J.CHILDYOUTH.2013.10.026.

MacAlister, J. (2022) I*ndependent review of children's social care: Final report*. London: Department for Education. Available at: https://www.gov.uk/government/publications/independent-review-of-childrens-social-care-final-report

Munro, E. (2010) *The Munro Review of Child Protection: Final Report – A child-centred system*. Available at: https://www.gov.uk/government/publications/munro-review-of-child-protection-final-report

Nemeroff, C. B. (2016) 'Paradise lost: The neurobiological and clinical consequences of child abuse and neglect'. *Neuron*, 89(5), pp. 892–909. https://doi.org/10.1016/j.neuron.2016.01.019

Nowell, L.S., Norris, J.M., White, D.E. and Moules, N.J. (2017) Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1). https://doi.org/10.1177/1609406917733847

NSPCC (2020) *Definitions and signs of child abuse*. Available at: https://learning.nspcc.org.uk/media/1188/definitions-signs-child-abuse.pdf

NSPCC (2022) *National case review repository*. NSPCC Learning. Available at: https://learning.nspcc.org.uk/case-reviews/national-case-review-repository

NSPCC Learning (2020) *Definitions and signs of child abuse: Guidance for professionals who work with children on how to recognise the signs of child abuse*. Available at: https://learning.nspcc.org.uk/media/1188/definitions-signs-child-abuse.pdf

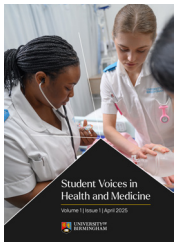
Public Law Working Group (2023) *Recommendations to achieve best practice in the child protection and family justice systems: Supervision orders*. Available at: https://www.judiciary.uk/wp-content/uploads/2023/04/April-2023-Report-Supervision-Orders-Final.pdf

QSR International Pty Ltd. (2018) *NVivo (Version 12)*. Available at: https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home

Ryan, M., Roe, A., and Rehill, J. (2021) *Supervision orders in care proceedings: Survey findings*. Available at: https://www.nuffieldfjo.org.uk/wp-content/uploads/2021/05/nfjo_supervision_orders_survey_findings_report_final_20210408.pdf

S (A Child) (2014) *EWCC B44 (Fam)*. Available at: https://www.bailii.org/ew/cases/EWCC/Fam/2014/B44.html Accessed: 13 April 2024.
Sakai, C., Lin, H., and Flores, G. (2011) 'Health outcomes and family services in kinship care: analysis of a national sample of children in the child welfare system'. *Archives of Pediatrics & Adolescent Medicine*, 165(2), pp. 159–165. https://doi.org/10.1001/ARCHPEDIATRICS.2010.277
Selwyn, J., Wijedasa, D. and Meakings, S. (2014) 'Report: Beyond the adoption order: Challenges, interventions and adoption disruption'. *Children and Young People Now*, 2014(15), p. 28–28. https://doi.org/10.12968/cypn.2014.15.28
Soley-Bori, M., Ashworth, M., Bisquera, A., Dodhia, H., Lynch, R., Wang, Y., and Fox-Rushby, J. (2021) 'Impact of multimorbidity on healthcare costs and utilisation: A systematic review of the UK literature'. *British Journal of General Practice*, *71*(702), pp. e39–e46. https://doi.org/10.3399/BJGP20X71389730
Stanley, N. (2011) *Children experiencing domestic violence: A research review.* Available at: https://www.researchinpractice.org.uk/children/publications/2011/october/children-experiencing-domestic-violence-a-research-review-2011/
Thoburn, J. (2021) 'Processes and determining factors when family court judgments are made in England about infants entering care at birth'. *Journal of Social Welfare and Family Law*, *43*(4), pp. 455–466. https://doi.org/10.1080/09649069.2021.1996082.
Thompson, N. (2019) 'The views of social workers and special guardians on planning contact for special guardianship children'. *Journal of Children's Services*, *14*(4), 237–250. https://doi.org/10.1108/JCS-09-2018-0021
Turner, A. (2018) *Supervision orders unsuccessful in a quarter of cases, research finds*. Community Care. Available at: https://www.communitycare.co.uk/2018/08/09/supervision-orders-unsuccessful-quarter-cases-research-finds/.
Valle, I. La, Payne, L., and Jelicic, H. (2012) *The voice of the child in the child protection system*. Available at: http://www.participationworks.org.uk/involved-by-right.
Wade, J., Sinclair, I., Stuttard, L., and Simmonds, J. (2014) *Investigating special guardianship: Experiences, challenges and outcomes*. Available at: https://eprints.whiterose.ac.uk/82322/2/SpecialG2014Summ.pdf
Wilkinson, J. and Bowyer, S. (2017) *The impacts of abuse and neglect on children; and comparison of different placement options: Evidence Review*. Research In Practice. Available at: https://www.researchinpractice.org.uk/children/publications/2017/march/the-impacts-of-abuse-and-neglect-on-children-and-comparison-of-different-placement-options-evidence-review-open-access/.
Woodward, K., Melia, Y., & Combes, H. (2021) 'Exploring carers' experiences and perceptions of special guardianship orders (SGOS) over time, from the point of applying to now'. *British Journal of Social Work*, 51(6), pp. 1963–1982. https://doi.org/10.1093/bjsw/bcaa086
World Health Organization (2019) *Child maltreatment*. Available at: https://www.who.int/news-room/fact-sheets/detail/child-maltreatment

Student Voices in Health and Medicine



Using generative artificial intelligence (GAI) technology as a tool for marking student nursing assignments: A phenomenological qualitative study

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Abstract

Aim: To explore the feasibility and acceptability of using Generative Artificial Intelligence (GAI) to mark and provide feedback on student nursing assignments. **Background**: The recent boom in Artificial Intelligence (AI) has garnered attention with global AI spending reaching an estimated $154 billion by the end of 2023. Nursing is a demanding programme incorporating a variety of assessment methods which are time-consuming to mark. Whilst already used for administrative tasks and plagiarism detection, the use of GAI to mark assignments is an avenue that has not yet been explored. It holds transformative capabilities, potentially serving as virtual tutors, automating tasks and generating educational content. Design: Phenomenology. **Methods**: Semi-structured interviews were conducted with academics teaching at the University of Birmingham and focus groups consisting of nursing students. Participants were asked to evaluate, compare and contrast two feedback samples: one written by an academic and the other generated through GAI. The interviews and focus groups were transcribed and analysed using thematic analysis. **Results**: Evaluation and governance, human touch, development and integration, and time were the key themes identified from the six staff interviews and two focus groups. When comparing examples of feedback, almost all participants favoured that which was GAI generated, stating it was objective and highly detailed. **Conclusions**: Whilst interviewees showed concern regarding how a GAI tool would be governed and the potential reduction of human touch, benefits such as increased grading efficiency and objectivity were acknowledged. Staff believed it would eliminate the narrative that students are treated unfairly and possibly mitigate the need for moderation. Both groups discussed the need for extensive guidance to effectively implement GAI into practice. Although it was apparent that GAI would not completely replace human markers, the possibility of educators using GAI as a feedback tool or as a way of assessing formative assignments was welcomed with positivity.

Keywords: Generative artificial intelligence; Nurse education; Student feedback

Introduction

Generative Artificial Intelligence (GAI) has swiftly transitioned from a theoretical concept to a pivotal tool across numerous sectors, including health, social care and education. The International Data Corporation (IDC) predicted that global GAI spending would reach $154 billion by the end of 2023, an increase of 27% from the year before (IDC, 2023). From identifying cancerous cells to creating visual art, GAI can now perform a huge number of undertakings and is slowly infiltrating all aspects of everyday life (Al-Shamasneh et al., 2017). Despite its expanding role, there are still numerous avenues that are yet to be explored when it comes to GAI, including many aspects of education.

Nursing is a demanding academic course; in the UK, for example, student nurses are expected to spend half their time on placement and dedicate the remaining half to university study. To assess the capabilities of each student, a variety of methods are deployed such as assignments, coursework and Objective Structured Clinical Examinations (OSCEs). Grading these assessments and providing feedback is often a repetitive and time-consuming task, and which can lead to student dissatisfaction with feedback and lecturer burnout (Pitt et al., 2017). While advancements in technology have facilitated aspects of the marking process, the potential for GAI to enhance consistency, quality of feedback and educator productivity is significant but remains unexplored (Kumar, 2023; Zhang, 2023).

The rapid development of GAI has sparked both enthusiasm and debate. Proponents argue that GAI can improve efficiency and objectivity in grading, while critics raise concerns about privacy, bias and the potential hindrance to critical thinking (Gherhes, 2018). These concerns are particularly pertinent in the context of education, where the human touch is often considered indispensable. Moreover, there is a lack of robust evidence for the benefits of using GAI to grade papers (Holmes et al., 2023).

Within the broader GAI landscape, GAI occupies a distinct niche. GAI refers to systems capable of producing new content – e.g. text, images, audio or video – by learning patterns from existing data. This category of GAI gained significant attention with the development of large learning models (LLMs) like ChatGPT, which generate coherent and contextually relevant text by processing and learning from vast amounts of data (MIT News, 2023). This capability makes GAI particularly useful for tasks like generating responses or evaluating written content, as it can produce contextually relevant and coherent output (IBM, 2023). Unlike more advanced forms of GAI, which aim to replicate or surpass human intelligence across a wide range of activities, GAI is specifically designed to excel at these narrower tasks (MIT News, 2023). Its specialisation allows it to be effectively applied in educational settings, where it can assist in grading assignments by generating detailed feedback or assessing the quality of student work.

Within education, GAI has been used primarily to enhance administrative tasks such as plagiarism detection, curriculum development and monitoring student performance to identify effective teaching methods (Chen et al., 2020; Chaudhry et al., 2022). It has also been used in the preparation of lecture materials and plans, with educators increasingly turning to GAI to enhance efficiency and objectivity (Malik and Gangopadhyay, 2023; Nah et al., 2023). Research suggests that GAI could personalise learning experiences and reduce the workload of educators, particularly in the labour-intensive task of providing feedback (Haseski, 2019; Gocen et al., 2021). A survey of 1,685 educators revealed that more than half found data recording and analysing to be the most labour-intensive task, with almost as many stating they were overwhelmed by the sheer volume of marking (Gibson et al., 2015). When asked how their job role could be improved and stress relieved, one third suggested different marking arrangements, whilst a quarter wanted more time for assessment, highlighting the time-consuming and laborious nature of grading assignments.

The potential of GAI to ease the burden of grading is significant, freeing educators to focus on teaching, lesson planning and research. Students could also benefit from this technology, getting timely, detailed and unbiased feedback (Boud and Falchikov, 2007; Hassan et al., 2022). However, the reliance of GAI on human-fed data introduces potential risks such as bias and discrimination (Baker, 2021). Additionally, concerns about the lack of human touch, privacy and the risk of over-reliance on technology persist (Kumar, 2023). The limitations of GAI, such as the potential misinterpretation of nuanced language, could impact the accuracy of grading, further complicating its implementation in education.

Despite the existing literature on the advantages and disadvantages of GAI as a tool for providing feedback, there is a lack of research into the views of students and educators. This project aims to address this deficiency, by exploring these perspectives and comparing GAI-generated feedback with that provided by human lecturers. By doing so, it aims to contribute to a more comprehensive understanding of the role that GAI can play in nursing education, balancing its potential benefits against the ethical and practical challenges it presents.

Aims, objectives and research question

The aim of this study was to explore the feasibility and acceptability of using GAI to provide feedback on nursing assignments.

The objectives were:

- To identify whether GAI is comparable to a lecturer when marking nursing assignments.
- To explore the views of nursing students and educators regarding using GAI as a tool to mark assignments.

Methods

Design

Phenomenology, an inductive, qualitative research method, aims to describe certain phenomena from the perspective of those who have experienced it (Teherani et al., 2015). This approach endeavours to ascertain meaning behind lived experiences and requires the researcher to scrutinise the phenomenon without any predetermined expectations (Neubauer et al., 2019). This qualitative method was selected to accumulate rich data and to gain a deep insight into student and staff opinions on using GAI as a tool for marking assignments (Rodriguez et al., 2018).

Inclusion and exclusion criteria

Given the limited resources and time constraints placed upon the project, convenience sampling was used for practicality (Elfil et al., 2017) - by sending out emails and announcements to staff and students. All lecturers were employed by the nursing and midwifery department at the University of Birmingham. They were diverse in age, experience, gender and ethnicity to obtain a range of perspectives and came from any background of nursing whether, paediatric, adult or mental health. Focus groups, composed of pre-registration nursing students across two universities in Birmingham. Students invited to participate could be of any age, ethnicity and gender and ranged from first to fourth years within any field of nursing. Given the qualitative nature of the study, a sample size calculation was not performed. Data collection stopped when data saturation was achieved, referring to the point at which no new insights are identified, ensuring

validity and robustness (Vasileiou et al., 2018). Data saturation was reached when data began to repeat itself making further exploration redundant (Hennink et al., 2022).

Data collection

Data was gathered through in-person student focus groups and online lecturer interviews, using a series of open-ended questions regarding their views on the use of GAI as a marking tool. Although interview and focus group structures were created to provide guidance, enhance replicability and reduce the likelihood of asking leading questions (Cairns-Lee et al., 2022), a semi-structured approach was taken allowing the interviewee to delve deeper into the topic area and obtain rich, detailed data (DeJonckheere et al., 2019).

One-to-one interviews were conducted with academics due to avoid power dynamics between lecturers that may affect openness (Bullock, 2016). This also allowed for flexibility, as the researcher could change the line of questioning and thoroughly explore the participant's views. Furthermore, this approach gave the opportunity to ask follow-up questions for further elaboration (Alamri, 2019). Focus groups with students were held, to stimulate discussion and debate (Leung et al., 2009). Focus groups bring members of the study population together in a moderated environment, capitalising on communication to generate data about a specific topic (Nyumba et al., 2018). Less intimidating than an interview, focus groups are quick and gather detailed data that allows for a rich blend of perspectives (Tausch et al., 2016).

To generate questions for the interviews and focus groups, it was important to define clear research objectives and understand the target audience, taking factors such as their background and level of education into consideration (George, 2023). A literature review identified gaps in current understanding to ensure questioning was both relevant and contributed towards deepening current knowledge (Müller-Bloch et al., 2015). To avoid yes or no answers, open-ended questions were formulated to encourage richly detailed answers. Each of the researchers independently composed a unique set of questions and through discussion the most favourable were chosen, fine-tuned and organised into a logical sequence to form the basis of the interviews.

At the end of the questioning in interviews and focus groups, participants were presented with two sets of feedback, one written by a lecturer and the other by GAI (see Supplementary data). Participants were asked to comment on both pieces of feedback and state which they would prefer to receive. To obtain the GAI-generated feedback, a 2000-word essay, written by a consenting nursing student, was uploaded to the free version of ChatGPT 3.5. To meet the word limit of ChatGPT 3.5, citations and references were deleted. To ensure a fair comparison, the learning objectives and marking rubric were also provided to ChatGPT, enabling it to generate feedback aligned with the same criteria used by the human assessor. All interviews and focus groups were recorded and transcribed to enable analysis.

Data analysis

Interviews and focus groups were recorded using Microsoft Teams and automatically transcribed into Word documents, then checked for errors. Braun and Clarke's (2022) thematic analysis framework were used to analyse the data because it enables thorough interpretation and collation of the data into descriptive themes, synthesising key aspects from participants. The first step involved becoming familiarised with data, whereby researchers reviewed the interview and focus group transcripts, allowing them to become acquainted with each participant interaction. At this stage, it was decided that findings from interviews and focus groups would be analysed together, given the large cross-over yielded.

Following this, each researcher independently identified transcribed extracts and labelled them with a code.

Researchers met together to compare shared codes which were combined to construct overarching themes, encapsulating key narratives within the dataset. Themes were reviewed and finalised in an ongoing iterative process of merging, creating and disregarding codes and themes. The final four themes were 'evaluation and governance', 'human touch', 'development and integration' and 'time'. Written reporting of themes enabled refinement as an integral part of the analytic process. Data extracts from individual interviews or focus groups were used to illustrate and evidence analytic claims under each theme.

Ethical considerations

Ethical approval was obtained from the School of Nursing and Midwifery Research Ethics Committee. Participant information forms detailing the aims, the benefits of taking part and how confidentiality and anonymity would be maintained were sent to students and lecturers. Before participating, we obtained both verbal and written consent from the focus group and interview participants. We informed them that their data could be removed at any point before data analysis, ensuring they were aware of their right to withdraw.

It is essential that all researchers uphold the guidance within the Data Protection Act (2018) to circumvent unauthorised access, disclosure, destruction or alteration of data. Adhering to these regulations, participants were given pseudonyms, files were only shared amongst the researchers and supervisors, and once data was no longer required it was deleted.

Results

Characteristics of participants

During a four-week data collection period in November 2023, six semi-structured, 30-minute interviews with nursing lecturers were conducted, as well as two focus groups involving eight nursing students from two universities. Students were all in their final year of study, four of whom were from the University of Birmingham and the other four from Birmingham City University. Seven students were studying paediatric nursing and one was in the adult field.

Findings

This section presents a description of the findings including a comparison between GAI- and lecturer-generated feedback under four key themes: Evaluation and Governance; Human Touch; Development and Integration; and Time.

Comparison between GAI and lecturer feedback

Participants found it easy to determine which feedback was GAI-generated. GAI-generated feedback was described as 'repetitive', 'lengthy' and heavily reliant on the language used within the assignment, with its 'verbosity' 'putting people off' reading it. However, it was 'detailed', 'comprehensive' and 'referred back to the learning outcomes' offering suggestions for improvement. Its objectiveness was highlighted with automated feedback making 'direct comments about the essay' as opposed to the student themselves.

Lecturer feedback was 'brief', digestible and linked to certain aspects of the essay but lacked detail. Comments did 'not tell you how to improve' or how to 'be more critical of the literature'. Although the academic made 'positive comments' there was no 'justification of the mark' with many stating this feedback was 'unhelpful' and one participant stating they were 'embarrassed' by the standard. When asked which they would prefer to receive, 100% of students chose GAI generated feedback, compared to 83% of staff.

Evaluation and governance

Given the robust quality assurance process within the university and the importance of academic integrity, a key theme was 'evaluation and governance'. To reach these standards, multiple participants recognised the need for this technology to be 'monitored and evaluated' with staff 'overseeing the work that GAI does' or being 'moderated by members of the academic team'.

In addition to meeting university standards, one participant also stated the need to 'reassure the Nursing and Midwifery Council (NMC) that we are meeting standards for supervision, support and assessment'. Feedback and marking 'standardisation' was deemed essential to maintain the 'quality and governance around assessment'. Whilst some believed there might be outcry from the NMC, others articulated this contemporary method of marking would have to be NMC approved, meeting their guidelines prior to its rollout.

There was concern from staff regarding how GAI would handle 'extenuating circumstances or grievances and undergraduates expressed the fear that they would be 'more likely to fail' if graded by GAI. Challenges may emerge when students fail and 'need to go to an appeal panel', prompting participants to enquire about the capacity of GAI to withstand human scrutiny. There was apprehension regarding the accountability of errors made by GAI, with partakers questioning 'who ultimately has responsibility for the decisions that GAI arrives at?' lecturers, software developers or artificial intelligence itself?

Staff mentioned the moderation process where one individual is allocated to moderate assignments marked by multiple assessors, promoting standardisation. Some remarked that, given the objectivity of GAI, marking standardisation would likely improve, resulting in 'consistent feedback', instead of using the moderation process as a 'second check'. However, one interviewee highlighted that students would still see a disparity between lecturers if GAI was used, as some would go way beyond their expectations, investing more time and effort into using it as a tool. Several ethical issues were discussed, with students' primary concerns centred on the possibility that reflective essays, in which they examine their own poor practice, may be 'held against them' and possibly affect their future employment. Respondents were more willing to have GAI grade academic essays instead of reflective pieces which are based on 'personal experience'. Data security was another ethical issue and lecturers stressed the importance of being 'transparent' with students regarding the use of GAI.

Human touch

A recurring theme was concern that using GAI would result in a loss of human touch as it lacks 'any kind of human intuition or substance'. Lecturers were concerned they would 'lose sight of their students' abilities', whilst students worried there would be 'more of a separation' between staff and students. Students believed that the academics teaching the module would have 'more of an insight' than GAI as well as 'experience in nursing' and therefore be better equipped to mark assignments. Staff conveyed the importance of providing 'personalised and respectful' feedback to students who have put 'time and effort into writing the work', instead of GAI generated feedback which they believed could feel 'soulless' and 'hollow'.

Despite the overwhelming consensus that 'students deserve individualised feedback' 'written uniquely for them', one participant indicated some lecturers simply 'cut and paste in stock phrases.' Therefore, feedback written by academics is not always bespoke and may already lack the human touch.

Whereas a GAI marking tool may work for other university programmes, nursing lecturers emphasised their desire to 'do right by people' and 'make a difference'. Several staff members believed the implementation of GAI may prevent them from making this positive contribution and cultivating the next generation of

healthcare workers.

Assignments at the university are usually marked anonymously, but this can be hard to achieve because lecturers form a rapport with their students and 'can by and large work out who wrote it'. As one lecturer put it: 'As a lecturer, it can be quite hard to mark without personal interest'. Using GAI to mark assessments could enhance anonymity, providing 'more objective feedback' and may remove the narrative that students have been treated unfairly. In addition to reducing 'personal judgement' from lecturers, it was also suggested that GAI could provide students with more 'transparency' regarding the marking process and where exactly 'the marks are being gained and lost'.

Development and integration

Many questioned how a GAI marking tool would be developed and implemented. Most participants agreed that 'using general software like ChatGPT' would be impractical given 'that it is a very generalised programme' and would not 'take into account the NMC'. Therefore, the university would have to develop their own. One lecturer noted that GAI would have to be nursing 'programme specific', allowing for the incorporation of 'professional regulations' and nursing standards. The tool would require a deep insight into 'critical discussion' and 'evaluation of data', however there was hesitation amongst lecturers about how the GAI would respond when students go 'beyond the scope of even the assessor's knowledge'.

Although GAI is already used within the university, to mark 'multiple choice exams' and 'create case studies', there was a lack of knowledge regarding this technology. Students feared that GAI 'would expect things to be worded a certain way' and were unsure how GAI would be able to grade their work. Staff expressed the concern that they could use a GAI tool incorrectly, whilst others were unconvinced that the introduction of such a tool would be welcomed, with many academics being 'stuck in their ways'. One interviewee mentioned that alternate marking methods such as 'VoiceThread [software for providing verbal feedback]' have been trialled, but not adopted and GAI may meet a similar fate.

Though the importance of embracing 'innovation' was conveyed, fourth year students were anxious that they would have to 'consider a different type of writing style' to appease GAI and therefore it would be better introduced during the first year. Students in the focus groups suspected that GAI marking would favour GAI writing and students may be tempted to submit GAI-generated essays in a bid to achieve a higher grade. Staff and students seemed more open-minded at the prospect of using GAI to mark and provide formative feedback, as this often requires greater detail regarding 'syntax, grammar, structure and level of discussion' to assist the student with their summative piece. The use of GAI as a 'second check' was also suggested. However, it was pointed out that if students desired the additional feedback produced by GAI, then they could simply run it through the software themselves.

Time

When asked about possible advantages of using GAI as a tool for feedback and marking, the most prevalent response amongst staff was that it would 'reduce workloads', saving time which could be spent elsewhere. It was also suggested that GAI could be used for 'specific aspects' of the marking process, allowing 'additional time to create more effective feedback'. Although allocated the same number of calendar days to mark assignments, the actual time lecturers spent marking varied widely. Ultimately, marking takes up a 'considerable amount of time', which could be used for teaching, research or supporting students. Additionally, GAI may also reduce disparity between lectures, providing more 'objective feedback' whilst speeding up the moderation process. By increasing the rate at which essays are assessed, feedback can be given to students in a timely fashion, allowing them to improve their academic skills, incorporating

them into the next submission. While it is essential for assessment feedback to be prompt, it becomes inconsequential if the commentary is poor. One lecturer theorised that, if staff are able to mark more efficiently, this may result in an increased number of assessments students are set, giving lecturers more work to mark, creating an endless cycle.

Though most of the lecturer and student participants were convinced that GAI would increase the speed of grading, one participant mentioned that 'it probably wouldn't save an awful lot of time for quite a while, because we'd have to be trained' and furthermore, learning how to use the technology within the strict university guidelines would be labour-intensive. There was also discussion amongst students questioning whether we should pay lecturers if they were to use GAI to mark essays, when students are expected to dedicate time and effort into writing them, with many stating this seems unfair.

Discussion

This phenomenological study provides an insight into staff and student views regarding the use of GAI to mark nursing assignments. Findings were consistent with prior research on the use of GAI in academia yet filled a gap, given the lack of phenomenological research with nursing staff and student views. From the interviews and focus groups, it was clear that there was limited knowledge about GAI and this discourse, as evidenced by the findings, is characterised by a cautious optimism tempered by concerns about governance, fairness and the preservation of the human touch. Despite these concerns, the need to embrace innovation was apparent.

As an essential part of the learning process, feedback informs students about the quality of their performance, supports decision making and enhances professional and educational development. Within nursing, constructive criticism encourages reflective learning, closing the gap between actual and anticipated performance (Burgess et al., 2020). To have the desired effect, feedback must be explicit, descriptive, specific and honest (Bienstock et al., 2007), criteria demonstrated by the GAI-generated feedback in this study, but not that from the lecturer, due to insufficient detail. However, to be acted upon, feedback must also be valued. Hardavella et al (2017) found that advice given by a perceived role model holds greater value, suggesting students may be more likely to disregard GAI-generated feedback. Withey (2013) highlighted that whilst students recurrently criticise the quality of feedback, they continually make inadequate use of it. Our research showed that almost all participants favoured the GAI generated comments. However, participants were presented with only one example of each type of feedback meaning the notion that GAI feedback is more favourable may lack external validity due to potential discrepancies between academics' feedback (Schinske et al., 2014). With factors such as bias, fatigue and stress resulting in unreliable marking, GAI could eliminate these inconsistencies, increasing objectivity (Mumford et al., 2021; Ellis, 2022). Despite GAI feedback being more descriptive than lecturers' feedback, it is not as valued by students. Students may be more likely to accept constructive criticism from GAI if it is used as a tool, not a replacement, and if GAI can increase fairness through reduced marking discrepancy.

The word 'assess' derives from the Latin word 'assidere' which translates 'to sit beside', emphasising the importance of teacher-student relationships (Swaffield, 2011). A recurring theme throughout our study was the lack of human touch that marking with GAI would result in. Nevertheless, GAI is gradually becoming more human-centric due to artificial neural networks, natural language processing and deep learning (Dai et al., 2022). GAI has unique benefits because it is not affected by human limitations or errors and can provide consistent feedback (Mumford et al., 2021). GAI is already used to grade multiple choice questions, given their simplicity, but there is hesitancy regarding how effective GAI would be at marking short answer questions and essays (Ramesh et al., 2022). In this study, there was even greater apprehension concerning

the ability for GAI to mark reflective essays, which are based on experience and self-awareness, instead of academics who can draw on their own practice (Ullmann, 2019). Although GAI receives criticism for a lack of human touch, it is considered a technology that is accurate, reliable and consistent, with Korteling et al. (2021) reporting that human teams could be enhanced with GAI, resulting in fewer cognitive constraints and biases, as these systems excel in selecting and processing large amounts of data. Technological advancements have resulted in the creation of new GAI assisted essay grading platforms, such as Graide (2023), developed by the University of Birmingham. Graide (2023) works alongside academics, offering suggestions for feedback, possibly giving students their preferred amalgamation. This study suggests that participants favour GAI as a supplementary tool, rather than a replacement for lecturers in the marking and feedback process, yet they prefer GAI written feedback. Applications such as Graide (2023) may provide the optimal combination.

During the Covid-19 pandemic, lockdowns resulted in educators having to teach remotely. Despite multiple benefits including increased flexibility and elimination of costs related to commuting, students believed it had an adverse impact on their learning experience and felt less motivated to engage with teaching (Wang et al., 2018). In a study by Serhan (2020), only 9.68% of students felt Zoom improved their learning and 22.58% enjoyed using it. Students felt they were paying too much for the poor quality of education and felt disconnected from their lecturers. These concerns were reflected in our study, with the assumption that the use of GAI for marking and feedback could result in student disengagement and upset. Additionally, to slow the spread of coronavirus, a multitude of human responsibilities were replaced by GAI (Lauri et al., 2023), causing concern that GAI is creating mass unemployment, with the projection that GAI will replace five million jobs in the United States alone (Cerullo, 2023). Our research highlights that whilst participants did not believe human markers would be completely replaced by GAI, it was speculated there may be outcry from students and the public who believe lecturers are not doing the job they are paid to do, especially given the 2012 increase in tuition fees to £9,000 per year (Sá, 2014).

Students had a multitude of concerns regarding the use of GAI to mark their work, believing it would be incapable of marking reflective essays and they would have to alter their style of writing to appease a GAI marker. Throughout their training, nurses are expected to adhere to the NMC Code (NMC, 2018) and those responsible for teaching them are required to do the same. The Code (NMC, 2018) encourages healthcare professionals to respond to people's preferences and concerns, highlighting the need for student apprehensions to be acknowledged. Whilst the NMC would likely ensure that GAI used for assessment aligns with their standards which accentuate integrity, they may question how effectively GAI is able to assess sensitive and subjective topics such as patient care and decision-making.

Considering the cost of university for students in some parts of the UK, it is unsurprising that students demand a high-quality learning experience. According to the 2024 National Student Survey – an annual survey of final-year undergraduate students in the UK - 81% of respondents believed the marking and assessment had been fair, although this ranged from 36% to 100% across institutions (Office for Students, 2024). However, when students were asked how often feedback helped to improve work, only 72% responded positively. Students vocalise the need for clear feedback that facilitates reflection, allowing them to minimise the gap between current and desired educational performance before their next assignment (Blair et al., 2013). When questioned on the advantages of using GAI as a marking tool, the most notable answer amongst staff and students was the increased efficiency of marking, allowing educators to focus on other aspects of education, whilst students would have the more efficient assessment turnaround they want. Alam (2021) found that 40% of teaching time is focused on activities that could be computerised, one of which is marking and staff in this study emphasised that it is time-consuming and labour-intensive. Given

GAI efficiency and accuracy, research participants encourage the idea of lecturers working alongside GAI. A similar conclusion was reached by Mizumoto et al (2023) who highlighted the greatest benefits of using GAI systems may be in conjunction with human markers.

Strengths and limitations of the work

The inclusion of both lecturers and students was a notable strength, as it acknowledged the importance of considering the views of all stakeholders (Nyanchoka et al., 2019). In this study, participants included those who would be directly affected by the possible implementation of GAI in marking. Additionally, the use of Braun and Clarke's (2022) thematic analysis framework ensured a systematic and rigorous approach to data analysis, enhancing the credibility and trustworthiness of the findings.

A significant limitation of the study was that it was conducted by novice researchers who lacked expertise and confidence. Additionally, social desirability bias may have influenced participants' responses, leading them to answer in ways they believed would be viewed favourably by others (Bergen et al., 2020).

External generalisability, the degree to which findings can be applied to a wider context, may have been impeded due to the fact that participants were all studying or teaching within one of two universities and not further afield. The sample size was small with most participants studying children's nursing, further reducing generalisability (Murad et al., 2018). Furthermore, only one example of lecturer feedback was presented, so external validity is limited and views on the quality of academic feedback cannot be generalised due to expected variance between human markers.

Recommendations for further research

Given the contemporary nature of GAI, research into the topic is scarce, requiring further exploration. Whilst this study scrutinised feedback given by GAI in comparison to lecturers, future work could compare the overall grades given by academics to those generated by GAI. Future research could assess the ability of software such as Graide (2023) to provide feedback for nursing assignments by comparing it with general applications, such as ChatGPT and lecturer marking. Further investigation is needed on a more diverse sample to generalise the results to a wider audience (Tiokhin et al., 2019).

The results obtained from GAI models such as ChatGPT heavily rely on the formulated prompts given by a user (Hasse and Hanel, 2023). Due to time constraints, this study only utilised a single prompt to generate feedback. Future research may want to compare how feedback differs when different prompts are given. While we explored students' initial opinions on the topic, it would be informative to introduce this marking method in an educational setting to measure their motivation and engagement with assignments.

Conclusion

Most participants favoured the GAI-generated feedback, but there were concerns about how the software would be regulated and aligned with NMC standards. The potential loss of the human touch in the marking process was a concern, with educators expressing concerns about losing track of student progress. However, the increased objectivity and efficiency that GAI could bring to marking was also acknowledged, potentially eliminating the perception of unfair treatment among students. The enhanced objectivity also raised the possibility of streamlining or even removing the moderation process. Other research suggests that GAI can be influenced by the quality of its training data. While there were doubts that GAI could fully replace human markers, many participants were open to its use as a marking tool to support lecturers or to provide

formative feedback on practice assignments.

References

Al-shamasneh, A. R. M. and Obaidellah, U. H. B. (2017) 'Artificial intelligence techniques for cancer detection and classification: Review study'. *European Scientific Journal*, 13(3), pp. 342-370. https://doi.org/10.19044/esj.2017.v13n3p342

Amisha, Malik, P., Pathania, M. and Rathaur, V. (2019) 'Overview of artificial intelligence in medicine'. *Journal of Family Medicine and Primary Care*, 8(7), pp. 2328-2331. https://doi.org/10.4103/jfmpc.jfmpc_440_19

Alam, A. (2021) 'Possibilities and apprehensions in the landscape of artificial intelligence in education'. In *2021 International Conference on Computational Intelligence and Computing Applications (ICCICA)*, Nagpur, India, pp. 1-8. https://doi.org/10.1109/ICCICA52458.2021.9697272

Alamri, W. A. (2019) 'Effectiveness of qualitative research methods: Interviews and diaries'. *International Journal of English and Cultural Studies*, 2(1), pp. 65-70.

Baker, R.S. and Hawn, A. (2021) 'Algorithmic bias in education. *International Journal of Artificial Intelligence in Education*, 32, pp. 1052-1092. https://doi.org/10.1007/s40593-021-00285-9

Bergen, N. and Labonté, R. (2020) '"Everything is perfect and we have no problems": Detecting and limiting social desirability bias in qualitative research'. *Qualitative Health Research*, 30(5), pp. 783-792. https://doi.org/10.1177/1049732319889354

Bienstock, J. L., Katz, N. T., Cox, S. M., Hueppchen, N., Erickson, S. and Puscheck, E. E. (2007) 'To the point: Medical education reviews - providing feedback'. *American Journal of Obstetrics and Gynecology*, 196(6), pp. 508-513. https://doi.org/10.1016/j.ajog.2006.08.021

Blair, A., Curtis, S., Goodwin, M. and Shields, S. (2013) 'What feedback do students want?'. *Politics*, 33(1), pp. 66-79. https://doi.org/10.1111/j.1467-9256.2012.01446.x

Boud, D. and Falchikov, N. (eds.) (2007) *Rethinking assessment in higher education*. London: Routledge.

Braun, V. and Clarke, V. (2022) 'Conceptual and design thinking for thematic analysis'. *Qualitative Psychology*, 9(1), pp. 3-26. https://doi.org/10.1037/qup0000196

Bullock, A. (2016) 'Conduct one-to-one qualitative interviews for research'. *Education for Primary Care*, 27(4), pp. 330-332. https://doi.org/10.1080/14739879.2016.1176874

Burgess, A., van Diggele, C., Roberts, C. and Mellis, C. (2020) 'Introduction to the Peer Teacher Training in health professional education supplement series'. *BMC Medical Education*, 20, 454. https://doi.org/10.1186/s12909-020-02279-y

Cairns-Lee, H., Lawley, J. and Tosey, P. (2022) 'Enhancing researcher reflexivity about the influence of leading questions in interviews'. *The Journal of Applied Behavioral Science*, 58(1), pp. 164-188. https://doi.org/10.1177/00218863211037446

Cerullo, M. (2023) *Here's how many U.S. workers ChatGPT says it could replace*. MoneyWatch. Available at: https://www.cbsnews.com/news/chatgpt-artificial-intelligence-jobs/

Chaudhry, M. A. and Kazim, E. (2022) Artificial Intelligence in Education (AIEd): A high-level academic and industry note 2021. *AI Ethics*, 2, pp. 157–165. https://doi.org/10.1007/s43681-021-00074-z

Chen, L., Chen, P. and Lin, Z. (2020) Artificial intelligence in education: A review'. *Ieee Access*, 8, pp. 75264-75278. https://doi.org/10.1109/ACCESS.2020.2988510

Dai, C. P. and Ke, F. (2022) 'Educational applications of artificial intelligence in simulation-based learning: A systematic mapping review'. *Computers and Education: Artificial Intelligence*, 3, 100087. https://doi.org/10.1016/j.caeai.2022.100087

Data Protection Act 2018 (c.12), London: The Stationery Office. Available at: https://www.legislation.gov.uk/ukpga/2018/12/contents

DeJonckheere, M. and Vaughn, L. M. (2019) Semistructured interviewing in primary care research: a balance of relationship and rigour. *Family Medicine and Community Health*, 7(2), p. e000057. https://doi.org/10.1136/fmch-2018-000057

Elfil, M. and Negida, A. (2017). Sampling methods in clinical research; an educational review. *Emergency*, 5(1), p. e52. https://doi.org/10.22037/emergency.v5i1.15215

Ellis E. (2022) 'The potential of artificial intelligence in assessment feedback'. *Times Higher Education*. Available at: https://www.timeshighereducation.com/campus/potential-artificial-intelligence-assessment-feedback

George, G. (2023) 'Understanding your target audience by profiling a typical member', In S. Rowland (ed.) *Teaching science students to communicate: A practical guide*. Cham: Springer International Publishing, pp. 129–135.

Gherheș, V. (2018) 'Why are we afraid of artificial intelligence (AI).' *European Review of Applied Sociology*, 11(17), pp. 6-15. https://doi.org/10.1515/eras-2018-0006
Gibson, S., Oliver, L. and Dennison, M. (2015) *Workload challenge: Analysis of teacher consultation responses* (Vol. 355). London: Department for Education.
Gocen, A. and Aydemir, F. (2021) 'Artificial intelligence in education and schools'. *Research on Education and Media*, 12(1), pp. 13-21. https://doi.org/10.2478/rem-2020-0003
Graide (2023) *Improve your grading process with bespoke AI*. Available at: https://www.graide.co.uk/ Accessed: 11 December 2023
Hardavella, G., Aamli-Gaagnat, A., Saad, N., Rousalova, I. and Sreter, K. B. (2017) 'How to give and receive feedback effectively'. *Breathe*, 13(4), pp. 327–333. https://doi.org/10.1183/20734735.009917
Haseski (2019) What do Turkish pre-service teachers think about artificial intelligence, *International Journal of Computer Science Education in Schools,* 3(2). https://doi.org/10.21585/ijcses.v3i2.55
Hassan, A., Ali, S.A. and Abdulkhaleq, N.M.S. (2023) 'Artificial intelligence in educational examinations', In A.M.A. Musleh Al-Sartawi, A. Razzaque and M.M. Kamal (eds) *From the internet of things to the internet of ideas: The role of artificial intelligence*. EAMMIS 2022. Cham: Springer, pp. 73–85. https://doi.org/10.1007/978-3-031-17746-0_7
Haase, J. And Hanel, P. (2023) 'Artificial muses: generative artificial intelligence chatbots have risen to human-level creativity', *Journal of Creativity,* 33(3), 1000066. https://doi.org/10.1016/j.yjoc.2023.100066/
Hennink, M. and Kaiser, B. N. (2022) 'Sample sizes for saturation in qualitative research: A systematic review of empirical tests'. *Social Science and Medicine*, 292, 114523. https://doi.org/10.1016/j.socscimed.2021.114523
Holmes, W., Bialik, M. and Fadel, C. (2019) *Artificial intelligence in education: The social consequences of AI in education.* Boston, MA: The Centre for Curriculum Redesign
IDC (2023) *Worldwide spending on AI-centric systems forecast to reach $154 billion in 2023.* Available at: https://www.idc.com/getdoc.jsp?containerId=prUS50454123 Accessed: 7 August 2023
IBM (2023) *What is Generative AI?* Available at: https://www.ibm.com/topics/generative-ai Accessed: 16 August 2024
Korteling, J. E. H., van de Boer-Visschedijk, G. C., Blankendaal, R. A. M., Boonekamp, R. C. and Eikelboom, A. R. (2021) Human- versus Artificial Intelligence. *Frontiers in Artificial Intelligence*, 4, 622364. https://doi.org/10.3389/frai.2021.622364
Kumar, R. (2023) 'Faculty members' use of artificial intelligence to grade student papers: a case of implications'. *International Journal for Educational Integrity*, 19, 9. https://doi.org/10.1007/s40979-023-00130-7
Lauri, C., Shimpo, F. and Sokołowski, M. M. (2023) 'Artificial intelligence and robotics on the frontlines of the pandemic response: the regulatory models for technology adoption and the development of resilient organisations in smart cities'. *Journal of Ambient Intelligence and Humanized Computing*, 14, pp. 14753-14764. https://doi.org/10.1007/s12652-023-04556-2
Leung, F. H. and Savithiri, R. (2009) 'Spotlight on focus groups'. *Canadian Family Physician Medecin de Famille Canadien*, 55(2), pp. 218–219.
Malik, S. and Gangopadhyay, A. (2023) 'Proactive and reactive engagement of artificial intelligence methods for education: A review'. *Frontiers in Artificial Intelligence*, 6. https://doi.org/10.3389/frai.2023.1151391
MIT News (2023) *Explained: Generative AI.* Massachusetts Institute of Technology. Available at: https://news.mit.edu/2023/explained-generative-ai-1109 Accessed: 13 August 2024
Mizumoto, A. and Eguchi, M. (2023) 'Exploring the potential of using an AI language model for automated essay scoring'. *Research Methods in Applied Linguistics*, 2(2), 100050. https://doi.org/10.1016/j.rmal.2023.100050
Müller-Bloch, C. and Kranz, J. (2015) 'A framework for rigorously identifying research gaps in qualitative literature reviews', In *ICIS 2015 Proceedings: Research Methods*. Available at: https://aisel.aisnet.org/icis2015/proceedings/ResearchMethods/2
Mumford, S. and Atay, D. (2021) 'Teachers' perspectives on the causes of rater discrepancy in an English for academic purposes context'. *Assessing Writing*, 48, 100527. https://doi.org/10.1016/j.asw.2021.100527
Murad, M. H., Katabi, A., Benkhadra, R. and Montori, V. M. (2018) 'External validity, generalisability, applicability and directness: A brief primer'. *BMJ Evidence-Based Medicine*, 23(1), pp. 17-19. https://doi.org/10.1136/ebmed-2017-110800
Nah, F., Zheng, R., Cai, J., Siau, K. and Chen, L. (2023) 'Generative AI and ChatGPT: Applications, challenges and AI-human collaboration'. *Journal of Information Technology Case and Application Research*, 25(3), pp. 277-304. https://doi.org/10.1080/15228053.2023.2233814

Neubauer, B. E., Witkop, C. T. and Varpio, L. (2019) 'How phenomenology can help us learn from the experiences of others'. *Perspectives on Medical Education*, 8(2), pp. 90–97. https://doi.org/10.1007/s40037-019-0509-2

Nursing and Midwifery Council (2018) *The code: Professional standards of practice and behaviour for nurses, midwives and nursing associates.* Available at: https://www.nmc.org.uk/standards/code/ Accessed: 20 March 2023

Nyanchoka, L., Tudur-Smith, C., Porcher, R. and Hren, D. (2019) 'Key stakeholders' perspectives and experiences with defining, identifying and displaying gaps in health research: A qualitative study protocol'. *BMJ Open*, 9(8), p. e027926. https://doi.org/10.1136/bmjopen-2018-027926

Nyumba, T.O., Wilson, K., Derrick, C. J. and Mukherjee, N. (2018) 'The use of focus group discussion methodology: Insights from two decades of application in conservation'. *Methods in Ecology and evolution*, 9(1), 20-32. https://doi.org/10.1111/2041-210X.12860

Office for Students (2024) *Download the NSS data*. Available at: https://www.officeforstudents.org.uk/data-and-analysis/national-student-survey-data/download-the-nss-data/ Accessed: 19 August 2024

Pitt, E. and Norton, L. (2017) "Now that's the feedback I want!' Students' reactions to feedback on graded work and what they do with it'. *Assessment and Evaluation in Higher Education*, 42(4), 499-516. https://doi.org/10.1080/02602938.2016.1142500

Ramesh, D. and Sanampudi, S. K. (2022) 'An automated essay scoring systems: A systematic literature review'. *Artificial Intelligence Review*, 55(3), pp. 2495-2527. https://doi.org/10.1007/s10462-021-10068-2

Rodriguez, A. and Smith, J. (2018) 'Phenomenology as a healthcare research method'. *Evidence-Based Nursing*, 21(4), pp. 96–98. https://doi.org/10.1136/eb-2018-102990

Sá, F. (2014) *The effect of tuition fees on university applications and attendance: Evidence from the UK*. Institute for the Study of Labor, (8364). Available at: https://docs.iza.org/dp8364.pdf

Schinske, J. and Tanner, K. (2014) 'Teaching more by grading less (or differently)'. *CBE Life Sciences Education*, 13(2), pp. 159–166. https://doi.org/10.1187/cbe.cbe-14-03-0054

Serhan, D. (2020) 'Transitioning from face-to-face to remote learning: Students' attitudes and perceptions of using zoom during COVID-19 pandemic'. *International Journal of Technology in Education and Science*, 4(4), pp. 335-342. https://doi.org/10.46328/ijtes.v4i4.148

Swaffield S (2011) 'Getting to the heart of authentic assessment for learning'. *Assessment in Education: Principles, Policy & Practice,* 18(4), pp. 433–449. https://doi.org/10.1080/0969594X.2011.582838

Tausch, A. P. and Menold, N. (2016) 'Methodological aspects of focus groups in health research: results of qualitative interviews with focus group moderators'. *Global Qualitative Nursing Research*, 3. https://doi.org/10.1177/2333393616630466

Teherani, A., Martimianakis, T., Stenfors-Hayes, T., Wadhwa, A. and Varpio, L. (2015) 'Choosing a qualitative research approach'. *Journal of Graduate Medical Education*, 7(4), pp. 669-670. https://doi.org/10.4300/JGME-D-15-00414.1

Ullmann, T. D. (2019) 'Automated analysis of reflection in writing: Validating machine learning approaches'. *International Journal of Artificial Intelligence in Education*, 29(2), pp. 217-257. https://doi.org/10.1007/s40593-019-00174-2

Tiokhin, L., Hackman, J., Munira, S., Jesmin, K. and Hruschka, D. (2019) 'Generalizability is not optional: Insights from a cross-cultural study of social discounting'. *Royal Society Open Science*, 6(2), 181386. https://doi.org/10.1098/rsos.181386

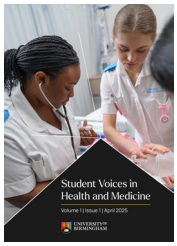
Vasileiou, K., Barnett, J., Thorpe, S. and Young, T. (2018) 'Characterising and justifying sample size sufficiency in interview-based studies: Systematic analysis of qualitative health research over a 15-year period'. *BMC Medical Research Methodology*, 18, 148. https://doi.org/10.1186/s12874-018-0594-7

Wang, Q., Huang, C. and Quek, C. L. (2018) 'Students' perspectives on the design and implementation of a blended synchronous learning environment'. *Australasian Journal of Educational Technology*, 34(1). https://doi.org/10.14742/ajet.3404

Withey, C. (2013) 'Feedback engagement: Forcing feed-forward amongst law students'. *The Law Teacher*, 47(3), 319-344. https://doi.org/10.1080/03069400.2013.851336

Zhang, T. (2023) 'The contributions of AI in the development of ideological and political perspectives in education'. *Heliyon*, 9(3), pp. e13403–e13403. https://doi.org/10.1016/j.heliyon.2023.e13403

Student Voices in Health and Medicine



Mental ill health experiences of female sex workers and their perceived risk factors: A systematic review of qualitative studies

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Abstract

Aim: To provide in-depth insights into the lived experience of sex workers' mental ill health. **Background:** Female sex workers globally are vulnerable to significant mental health challenges due to social inequalities, including classism, gender inequality, discrimination and criminalisation, coupled with stigma and violence. Understanding the mental ill health experiences of female sex workers is crucial for developing effective tailored interventions. **Design:** A systematic qualitative literature review. **Methods:** Searches across ten databases, including CINAHL Plus, Cochrane Library, Medline (1949 to current date 2022), ProQuest, PTSDPubs, PsycINFO, EMBASE, Web of Science (Core Collection), AMED, and Google Scholar. Included studies were assessed for quality using the Critical Appraisal Skills Programme (CASP) Qualitative Studies Checklist and subsequently thematically analysed. **Results:** Seventeen studies were included revealing five interconnected themes. Female sex workers frequently experience anxiety, depression and suicidal ideation, at times exacerbated by addiction as a coping mechanism. Stigma from society, family and healthcare providers leads to isolation and hindered access to care. The normalisation of violence both from clients and law enforcement contributes to severe mental health issues including Post Traumatic Stress Disorder (PTSD). Despite these challenges, Female Sex Workers employ various coping mechanisms such as rationalising their work, community mobilisation and strategic risk navigation. **Conclusions:** Female sex workers face multifaceted mental health challenges, significantly influenced by societal stigma and violence. Comprehensive support systems including mental health services, addiction support, and efforts to combat stigma and violence are essential to improving the wellbeing of female sex workers. Addressing these issues can lead to better mental health and overall wellbeing for female sex workers, creating a safer and more supportive environment. Policymakers and healthcare professionals need to collaborate to implement strategies that address these challenges and promote the wellbeing of female sex workers.

Keywords: Sex work; Mental health; Qualitative systematic review

Introduction

The exploration of mental ill health among marginalised populations has garnered significant attention in recent years (World Health Organization, 2022). Among these populations, female sex workers (FSW) are particularly vulnerable to various psychosocial challenges, given the complex interplay between their occupation, social stigma and societal attitudes (World Health Organization, 2022). Having been around since approximately 2400 BCE, the sex industry is often called the oldest profession in the world (Lerner, 1986) and is described as 'the commercial trade of sex and sexually stimulating materials' (Oxford English Dictionary, 2024). Understanding the mental ill health experiences of female sex workers is crucial for the development of effective interventions and support systems tailored to their unique needs.

Female sex workers, individuals who 'offer sexual services in exchange for compensation (i.e., money, goods, or other services)' (Sawicki et al., 2019), face a multitude of adversities, including legal and social stigmatisation, violence, substance abuse, and limited access to healthcare services (World Health Organization, 2022). These challenges can have detrimental effects on their mental wellbeing, contributing to the development and exacerbation of mental ill health disorders. It is important to understand the specific risk factors that sex workers face in relation to mental ill health, while some studies have investigated a single risk factor (Kramer, 2004; Brown 2013), they do not consider how risk factors are likely to be intertwined for many individuals (MIND, 2017).

A recent systematic review explored the relationship between sex work and mental health (Martín-Romo, 2023). Focusing on the quantitative literature, they found that depression was the most commonly reported mental health problem and that sex workers are exposed to many work-related risks including violence and high-risk sexual behaviours. This is an important review, highlighting the high prevalence of mental health issues among sex workers and underscoring the significant barriers they face in accessing healthcare, emphasising the need for targeted interventions to promote their psychological wellbeing. The aim of this current systematic review is to provide in-depth insights into the lived experience of sex workers' mental ill-health, revealing the contextual factors that quantitative data might overlook, thus informing more effective, tailored interventions and policies.

Methods

Design

This systematic qualitative literature review is reported according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) 2020 checklist (Page et al., 2021). No protocol has been registered, due to the time constraints of the student project.

Search strategy

The Population, Phenomena of Interest, Context (PICo) framework, as shown in Table 1, was used to identify search terms (Lockwood et al., 2015). Search terms were used in conjunction with subject headings, as well as all common synonyms and truncations being searched alongside Boolean operators. The results were limited to the English language only; no other limits were placed (Drucker et al., 2016).

The following databases were searched in November 2022: EMBASE, CINAHL, AMED, Cochrane Library, ProQuest, PTSDplus, Medline, PsycINFO and Web of Science (Core Collection). An example EMBASE search can be seen in Supplementary Table 1. Results were initially screened by title and abstract by single reviewers to remove irrelevant literature. The remaining results were uploaded to Rayyan, an online software

for organising and managing systematic literature reviews, (Ouzzani et al., 2016), and following duplicate removal, they were independently screened by two reviewers against the eligibility criteria listed in Table 2. Conflicts were discussed until a consensus was reached.

Table 1. Search terms

PICo framework	Search terms
Population/Context	Sex worke*; Sex work; Prostitut*; Prostitution; Strippe*; Porn star; Pornographic actress; Commercial sex; Sex trade worker; Transactional sex; Porn stars
Phenomenon of Interest	Mental health; Mental disorde*; Mental health care; Mental health treatment; Mental well-being; Psychological health; Psychological wellbeing; Psychological distress; Mental illness; Mental health problems; PTSD; Post traumatic stress disorder; Trauma; Violence; Drug and alcohol abuse; Anxiety; Depression; Suicidal behaviour; Mood disorde*; Experienc*; Occurrenc*

Google Scholar was searched using 'Publish or Perish' (Harzing, 2016). The search '("Sex worke*" OR "Sex work" OR Prostitut* OR Prostitution) AND ("Mental health" OR "Mental disorde*" OR "Mental health care" OR "Psychological distress" OR "Mental illness" OR "Mental health problems" OR PTSD OR "Post traumatic stress disorder" OR Trauma OR Violence OR Anxiety OR Depression) AND (Experienc*)' was used and limited to 200 results.

Table 2. Eligibility criteria

	Inclusion criteria	Exclusion criteria
Population	Cisgender, female sex workers, aged 18 years or older. The intimate partners of female sex workers.	Under the age of 18. People who have been sex trafficked. Sex workers who identify as transgender or male.
Exposure	Mental ill health including, but not limited to: post-traumatic stress disorder, (childhood) trauma, substance misuse, anxiety, depression, suicidal behaviour and mood disorders.	N/A
Outcome	Discussion of participants' personal experiences of mental ill health.	
Types of studies	Primary, qualitative studies.	Quantitative or mixed methods studies. Studies that do not include direct quotes from participants.
Language	English language only.	
Date range	No limits on date of publication.	

Data extraction

Data extraction was completed independently by each reviewer. The information extracted included: citation, aim, participant demographics, sample size, setting, geographic location, data collection, results, and additional comments, based on the information from the Cochrane Data Extraction Template for Included Studies (Cochrane Consumers and Communication, 2016). The data extraction tool was piloted using 5 studies.

Risk of bias

The Critical Appraisal Skills Programme (CASP) qualitative studies checklist (Critical Appraisal Skills Programme, 2022) was used to assess study quality. Alongside the CASP checklist, notes were made to enable an in-depth analysis of the strengths and limitations of the included papers. As the purpose of this review was to present an overview of findings, no studies were excluded based on quality (Butler et al.,

2016).

Data synthesis

A manual inductive approach to thematic analysis was undertaken, following the framework described by Braun and Clarke (2022). This involved data familiarisation, coding, initial theme generation and theme refining, defining and naming. This process was undertaken by one author (LM), who used a series of spider diagrams to gather data codes into groups before using this to understand, refine and name each data theme. Themes were discussed and agreed upon with the other authors.

Results

The search across 9 databases yielded 18,072 results (see Figure 1). After title and abstract screening, 416 papers were imported to Rayyan. Deduplication removed 97 papers, leaving 397 papers for full-text screening. A total of 386 papers were excluded, leaving 11 papers to be included. Additionally, three papers from Google Scholar searches were added and three further papers from reference list searching, leaving 17 papers included in this review.

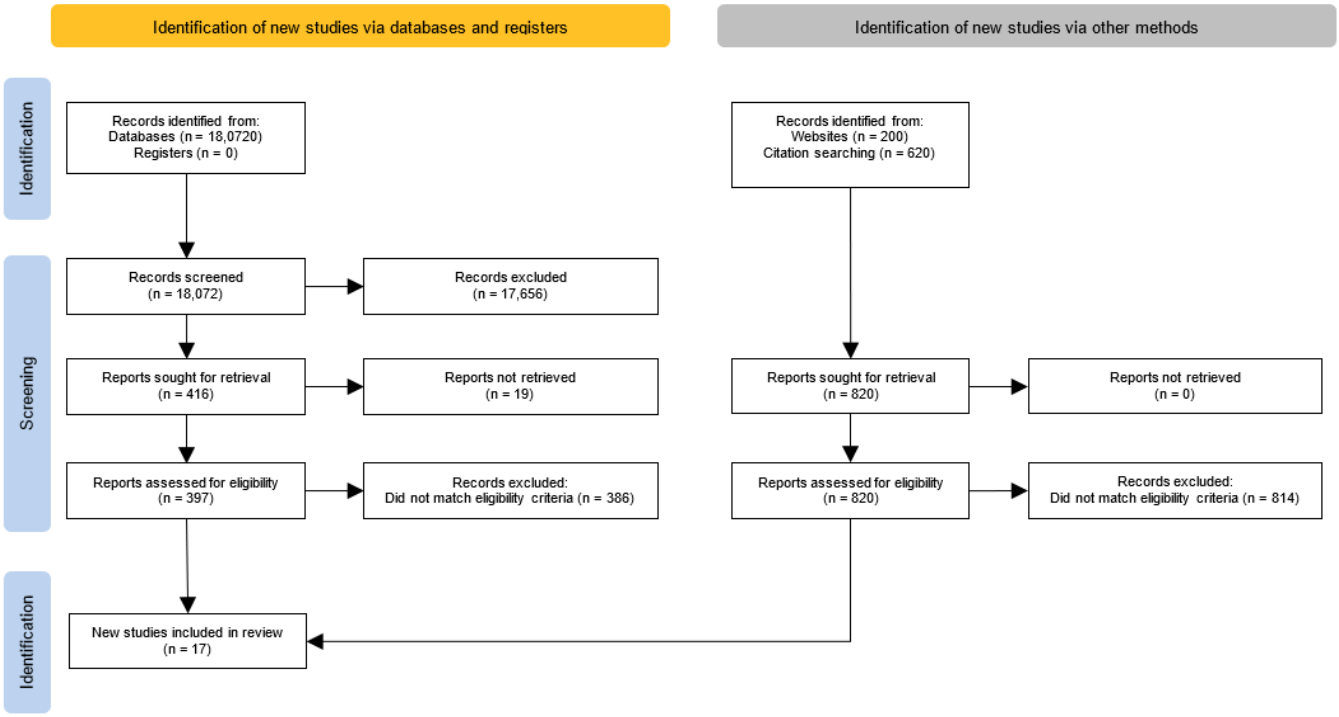


Figure 1. PRISMA flow diagram

Study Characteristics

The sample sizes ranged between 9 and 69 (Table 3). Most studies (n=16) used interviews to collect data, while one used focus group discussions. All studies, bar five, took place in lower-middle-income countries (LMICs) with the non-LMICs being the United States of America (USA; n=3), Canada (n=1) and the UK (n=1). The LMIC countries were Iran (n=3), China (n=2), India (n=2), Nepal (n=2) and one in each of the following: Kenya, Mexico, Nigeria, Tanzania and Zimbabwe.

Table 3. Study characteristics

CITATION COUNTRY	AIM	PARTICIPANT DEMOGRAPHICS	SAMPLE SIZE	DATA COLLECTION AND ANALYSIS	KEY FINDINGS
Williamson and Folaron, 2003 Unspecified cities across the USA	To explore the experiences of female sex workers working on the street.	Female sex workers aged between 18 and 35 years old.	21 female sex workers.	In-depth interviews. Analysis used substantive and theoretical coding.	Entry into the SI, daily challenges and getting out of the SI.
Jackson et al., 2007 Canada	To explore emotional stressors experienced by female sex workers in their home and work lives.	Female sex workers, 19 to 48 years old. 26 women worked with an escort service, 18 only worked on the streets, 8 only worked as escorts and 16 worked in other settings.	69 female sex workers were interviewed, but only 68 were coherent so 68 interview results were used for the findings of the study.	Open-ended interviews. Common themes and patterns were identified to find codes and generate themes and sub-themes.	Working in the SI, mental ill health, relationships with co-workers, intimate partners, and families, and being outed that you work in the SI.
Choudhury, 2010 Tijuana, Mexico	To explore how sex work impacts health.	Female sex workers, in their early 20s to mid-50s.	20 female sex workers.	Interviews that lasted 40 to 75 mins. Constant comparative method analysis which used an inductive approach to analyse data.	The effect of services on the sex workers' physical and mental ill health, and their reasons for staying in the SI.
Sallmann, 2010 Unspecified states across the USA	To explore female sex workers' experience of stigma due to being a SW and abusing substances.	Female sex workers, between 19 and 48 years old	14 female sex workers.	Tape-recorded interviews. Hermeneutic analysis to identify emergent themes and then discussions were held to decide on themes.	How female sex workers cope with stigma and their day-to-day experiences of stigma and violence.
Mellor and Lovell, 2011 UK	To explore the experiences of life conditions, sex work, health consequences and service accessibility among female sex workers.	Female sex workers aged between 32 and 40 years old.	9 female sex workers.	Semi-structured interviews with open and closed questions. Thematic analysis was used to generate codes and themes.	The female sex workers' perceptions of their health, homelessness, substance misuse and the violence they face.
Mtetwa et al., 2013 Zimbabwe	To explore why women left care after referral to a sex work programme.	Female sex workers between 18 and 48 years old.	38 female sex workers.	Focus group discussions. Transcripts were analysed using familiarisation of the data, identifying themes and topic areas, and categorising data.	Feelings of shame due to healthcare workers' attitudes, anxiety from this, and implications for practice.

CITATION COUNTRY	AIM	PARTICIPANT DEMOGRAPHICS	SAMPLE SIZE	DATA COLLECTION AND ANALYSIS	KEY FINDINGS
Oselin and Blasyak, 2013 Four different unspecified cities across the USA	To explore female sex workers' responses to violence.	Female sex workers, 20 to 47 years old who accessed support from non-governmental organisations (NGOs).	17 female sex workers.	Tape-recorded in-depth interviews. Data was coded and major data patterns were identified.	Client perpetrated violence faced by female sex workers and how they defend themselves.
Basnyat, 2014 Bhaktapur, Kathmandu, Nepal	To explore the lived experience of female sex workers and their health.	Female sex workers aged between 32 and 45 years old who engage in street-based sex work.	35 female sex workers.	Interviews. Thematic analysis was used to create codes and themes.	How female sex workers use their work to provide for themselves, financial security and how they deal with the stigma of working in the SI.
Yeun et al, 2014 Hong Kong, China	To explore challenges faced by female sex workers, how this impacts their mental ill health, resilience, and how they cope with challenges.	Female sex workers, between 24 and 55 years old.	23 female sex workers.	Audio-taped interview. Grounded theory took place for data analysis.	The emotional challenges of being a sex worker, resilience when working in the SI and how they cope with challenges.
Basnyat, 2017 Kathmandu, Nepal	To explore structural violence experienced by sex workers in Kathmandu, Nepal, and how this reduces their access to healthcare services.	Female sex workers aged between 32 and 45 years old.	35 female sex workers.	One-to-one semi-structured interviews. After 15 interviews, initial codes were shared with participants to ensure that data represented their experiences. Thematic analysis was then used.	Structural violence in the healthcare that impacts female sex workers, and the implications this should have on healthcare provision.
Blanchard et al., 2018 Kannada, India	To explore the experience of intimate partner violence and human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) in female sex workers and their intimate partners.	Female sex workers, over 21 years old.	38 interviews took place. 10 with couples, interviewed separately, 13 individual female sex workers, and 5 individual male intimate partners.	Semi-structured one-to-one in-depth interviews. Thematic analysis using coding and categorization of data using Nvivo 10 and collaborative data analysis.	The acceptance of violence due to stigma from society, gender norms and other boundaries due to sex work, and the structural violence towards intimate partner violence and condom use.
Leddy et al., 2018 Iringa, Tanzania	To explore alcohol consumption, gendered violence, and HIV risk in the SI.	Female sex workers aged between 19 and 47 years old.	24 female sex workers.	Broad, open-ended interviews. Analysis involved inductive and deductive approaches, as well as the framework approach.	Promotion of alcohol consumption in the SI, the female sex workers' thoughts on this, and their self-protection strategies.

CITATION COUNTRY	AIM	PARTICIPANT DEMOGRAPHICS	SAMPLE SIZE	DATA COLLECTION AND ANALYSIS	KEY FINDINGS
Ma and Loke, 2019 Hong Kong, China	To explore the stigma experienced by female sex workers when they access healthcare services and how they cope with it.	Female sex workers, over 18 years old and not diagnosed with a serious psychological health problem.	22 female sex workers.	Semi-structured interviews with open-ended and probing questions. Directed content analysis was used.	The stigma female sex workers face in healthcare, how they cope with this and the healthcare needs of female sex workers.
Lebni et al., 2020 Tehran, Iran	To explore the challenges Iranian female sex workers experience.	Female sex workers, between 19 and 42 years old.	22 female sex workers.	Guided questions and semi-structured interviews. Crucial phrases and sentences were identified and turned into codes, codes were then placed into categories and subcategories which were named.	Violence faced by female sex workers, how this impacts their mental, physical and sexual health, the stigma they face from society and how this impacts their lives.
Nelson, 2020 Uyo, Nigeria	To explore the lived experience of violence of SWs and how this impacts their health.	Female sex workers aged between 19 and 31 years old.	27 female sex workers.	Guided interviews. Analysis used three approaches: thematic, inductive, and data-driven.	Client perpetrated, intimate partner and police violence faced by female sex workers, and how they defend themselves.
Swathisha and Deb, 2022 Puducherry, India	To explore challenges experienced by female sex workers.	Female sex workers, between 19 and 48 years old. 9 participate in phone-based sex work, 3 in home-based sex work, and 3 in street-based sex work.	15 female sex workers.	Interviews. Thematic analysis using coding and categorisation of major themes.	Economic and social issues, and mental ill health faced by female sex workers. The study identified that these issues all interlink, and a common theme is a lack of support.
Wanjiru et al., 2022 Nairobi, Kenya	To explore how female sex workers use resources to help navigate the consequences of their work.	Female sex workers, 18 to 45 years old.	40 female sex workers, selected randomly from a pool of 1003 participants of a wider study.	Audio-recorded interview. Thematic coding and analysis using Nvivo 12.	Adverse childhood experiences, intimate partner violence, mental ill health, learning to cope using resilience, ways in which we can support SWs.

Risk of bias of included studies

All studies had a clear statement of the aim of the research, clear findings, and discussed the implications for practice and research. Seven studies did not discuss whether their research design was appropriate to address the aims of their research. Only three studies considered the researcher-participant relationship. Furthermore, only seven studies mentioned ethical considerations or ethics approval. See Table 4 for further information.

Table 4. Critical appraisal

Author (year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Score
Williamson and Folaron (2003)	Y	Y	N	Y	Y	N	N	Y	Y	Y	7/10
Jackson et al. (2007)	Y	Y	N	Y	Y	N	Y	N	Y	Y	7/10
Choudhury (2010)	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	9/10
Sallmannn (2010)	Y	Y	Y	Y	Y	N	N	Y	Y	Y	8/10
Mellor and Lovell (2011)	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	8/10
Mtetwa et al. (2013)	Y	Y	Y	Y	Y	N	N	Y	Y	Y	8/10
Oeslin and Blasyak (2013)	Y	N	Y	N	Y	N	N	Y	Y	Y	6/10
Basnyat (2014)	Y	Y	Y	Y	Y	N	N	Y	Y	Y	8/10
Yeun et al. (2014)	Y	Y	Y	Y	Y	N	N	Y	Y	Y	8/10
Basnyat (2017)	Y	Y	N	Y	Y	N	Y	Y	Y	Y	8/10
Blanchard et al. (2018)	Y	Y	Y	Y	Y	N	N	Y	Y	Y	8/10
Leddy et al. (2018)	Y	Y	N	Y	Y	N	N	Y	Y	Y	7/10
Ma and Loke (2019)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	10/10
Lebni et al. (2020)	Y	Y	Y	Y	Y	N	N	Y	Y	Y	8/10
Nelson (2020)	Y	Y	N	Y	Y	N	Y	Y	Y	Y	9/10
Swathisha and Deb (2022)	Y	Y	Y	Y	N	N	Y	N	Y	Y	7/10
Wanjiru et al. (2022)	Y	N	N	Y	Y	Y	Y	Y	Y	Y	8/10

Q1. Was there a clear statement of the aims of the research?
Q2. Is qualitative methodology appropriate?
Q3. Was the research design appropriate to address the aims of the research?
Q4. Was the recruitment strategy appropriate to the aims of the research?
Q5. Was the data collected in a way that addressed the research issue?
Q6. Has the relationship between researcher and participants been adequately considered?
Q7. Have ethical issues been taken into consideration?
Q8. Was the data analysis sufficiently rigorous?
Q9. Is there a clear statement of findings?
Q10. How valuable is the research?

Findings

This review identifies several key themes related to the mental health challenges faced by sex workers. First, experiences of mental ill health, including anxiety, depression, and suicidal ideation, highlight the psychological burden of sex work. Next, the theme of addiction reveals how sex workers often turn to substances as coping mechanisms. Stigma was a significant factor, exacerbating mental health issues and hindering access to care. The theme of normalization of violence shows how violence is an expected and pervasive part of their lives. The final theme provides a positive perspective, highlighting the coping mechanisms that FSWs develop to manage their mental health. These interconnected themes provide a comprehensive understanding of the multifaceted challenges impacting the mental wellbeing of FSWs.

Experiences of mental ill health

Many participants reported experiencing anxiety. In a study that aimed to understand their challenges, some sex workers expressed feelings of shame and guilt over their occupation and were worried about people's

perceptions of them once they learned about their jobs (Swathisha and Deb, 2022). This led to increased frustration and hopelessness, 'I have a constant fear of honour, fear of getting caught and fear of losing my husband, (Swathisha and Deb, 2022, p. 264).

Depression and suicidal ideation were expressed by many participants. Some had attempted suicide; they felt as though life would not improve and the best action to take would be to commit suicide, 'Since I got into this job, my life was over. I wish death most of the days. Sometimes I think of suicide' (Lebni et al., 2020, p. 4.).

Our analysis identified little difference between the reports of female sex workers from LMICs and non-LMICs regarding depression. For example, some participants from LMICs believed that everyone who works in the sex industry must be depressed to some extent because of the poor and stressful work environment and socially isolated living conditions (Choudhury, 2010; Lebni et al., 2020). Similarly, Mellor and Lovell (2011), who focused on understanding the wider determinants of health of UK street-based sex workers, found that many participants associated suicidal thoughts with the lifestyle of being a sex worker, 'In this line of work, you could say that we are depressed, because at times the depression just hits you' (Choudhury, 2010, p. 684).

Substance (mis)use

Many participants experienced mental ill health due to their work, which led some to use substances as a coping mechanism. This included smoking tobacco, drinking alcohol, using illegal substances and gambling. Many sex workers reported living in a cycle of their addiction and mental ill health, in which their experiences of mental ill health led to them seeking unhealthy coping mechanisms; the aftermath of this then exacerbated their mental ill health (Williamson and Folaron, 2003; Ma and Loke, 2019; Wanjiru et al., 2022). This highlights the idea that globally, female sex workers experience similar struggles with their mental ill health and perceived risk factors.

Some participants reported that the violence they experienced caused them to turn to illicit substances to help with mental separation between their physical body and their emotions (Oselin and Blasyak, 2013). Using illicit substances made this process easier, helping them alleviate their worries and anxiety about future assaults, with one participant stating that 'the drugs take away the feelings' (Williamson and Folaron, 2003, p. 280). Despite the fear being reduced momentarily, this would only help them cope for a short time (Williamson and Folaron, 2003; Yuen et al., 2014). As one participant said, 'I would put my head into something else [....] my mind was somewhere else. [....] This was easier when I'd be high' (Oselin and Blasyak, 2013, p. 285).

Two studies, one that aimed to explore alcohol consumption in the sex industry (Leddy et al., 2018) and another that aimed to understand how working in the sex industry impacted health (Choudhury, 2010), found that many sex workers expressed drinking alcohol to attract clients. They felt as though it was difficult to take part in sex work if they had not been drinking. Drinking alcohol encouraged them to feel more confident and outgoing.

Stigma

Many participants expressed experiencing stigma from society, including their families, friends, clients, and the public. These women worried about the reactions of their families if they ever found out about their work, so they hid their occupation (Yuen et al., 2014). This caused them to live in isolation, playing a role in their poor mental health, 'After my family knew that I got into this job they never wanted to see me, I lost all my old friends, I'm very alone' (Lebni et al., 2020, p. 4).

Some participants reported that they felt they were often viewed by the public as immoral because their work deviates from societal norms (Wanjiru et al., 2022). This caused prejudices and the opinion they deserve the things happening to them, such as violence and mental ill health (Lebni et al., 2020; Wanjiru et al., 2022). It was reported that labels were often used by society to dehumanise and humiliate sex workers (Sallmann, 2010; Basnyat, 2014). According to a study that recruited sex workers via a sex worker service program in the US, the participants discussed the use of the words 'whores' and 'hookers' (Sallmann, 2010, p. 150) by members of the public as hurtful and a gateway into discrimination: 'You get called vulgar names like 'whore', fingers are pointed at you, people disapprove, you get treated differently' (Basnyat, 2014, p. 1047).

For the women who left work in the sex industry, they found this stigma still follows them (Sallmann, 2010). They felt they could never fully escape the stigma and the effects this has on their mental health throughout their lifetime. Some reported feeling as though they could not seek other employment (Jackson et al., 2007). Living with this stigma had a large effect on their day-to-day lives and impacted the ways they saw themselves and others.

> Like if I get a job, somebody will recognize me and say 'oh my god, you're letting her work here as a prostitute', you know, people shoot you down cause you work the streets. You're nothing but a 'ho', and you always will be, that's their attitude (Jackson et al., 2007, p. 266).

Furthermore, stigma was reported as a significant obstacle to accessing healthcare for many participants. They felt that this stigma led to discriminatory acts such as a reduced quality of care provided by healthcare professionals (Basnyat, 2017). This directly impacted their health, as they felt they were not receiving appropriate care for their conditions (Basnyat, 2017). Some also expressed experiencing humiliation and patronisation from healthcare professionals, while receiving treatment from services, which made them feel shameful and guilty for their work and trying to seek help (Mellor and Lovell, 2011). This made the women anticipate stigma the next time they needed treatment and thus avoided getting help (Mtetwa et al., 2013; Basnyat, 2014, 2017).

> The staff there probably suspected that I was a sex worker, because they were rude and spoke to me in harsh reprimanding voices. I felt humiliated. I definitely won't go there again (Ma and Loke, 2019, p. 8).

Two studies that aimed to understand sex workers' experiences of accessing healthcare services found that most of the participants felt ashamed of their work and were worried about the consequences of being discovered (Mtetwa et al., 2013; Ma and Loke, 2019). This meant they would avoid going to health clinics to reduce the chances of being found out and being treated differently (Basnyat, 2017). As one participant shared, 'I felt ashamed of myself when I visited the social hygiene clinic… They must look down on me' (Ma and Loke, 2019, p. 8).

Normalisation of violence

The women reported expecting violence due to the stigmatisation of working in the sex industry (Sallmann, 2010; Lebni et al., 2020). Because of this stigma, the women expressed that they were dismissed when they reported the violence, and one was told she 'deserved it' (Sallmann, 2010). This normalisation of violence made some of the women fear attacks and death in the future, manifesting as anxiety and PTSD (Jackson et al., 2007; Oselin and Blasyak, 2013). One participant went as far as stating 'In the last couple of years I was out there the murder rate went up 200 percent' (Oselin and Blasyak, 2013, p. 279-280). There was a fear the next person murdered may be themselves or a friend (Jackson et al., 2007; Oselin and Blasyak, 2013), with a

participant stating, 'I thought I was going to die in the life.' (Oselin and Blasyak, 2013, p. 279).

Some women expressed undergoing verbal or physical violence from their intimate partner. The origins of this violence came from stigma, disapproval and distrust (Blanchard et al., 2018). Much like in client-perpetrated violence, stigma led many women and their partners to accept violence (Blanchard et al., 2018; Wanjiru et al., 2022). One woman expressed that 'they have that right to beat us.' (Blanchard et al., 2018, p. 7), highlighting the normalisation of violence in the sex industry. The women viewed this as punishment for their work, resulting in self-blame, distress, and fear (Blanchard et al., 2018; Nelson, 2020).

Sex workers also discussed violent encounters with the police, reporting being arrested, beaten up, verbally assaulted, and demanding that they give sex and money (Sallmann, 2010; Nelson, 2020; Swathisha and Deb, 2022; Wanjiru et al., 2022). This violence left them feeling as though they had nowhere to turn to report other injustice in their lives and reinforced societal discrimination, fear and anxiety (Nelson, 2020). An example of this is when one sex worker who lived in the US, tried to report an incident of violence to the police and she was told she 'deserved it' (Sallmann, 2010, p. 151). This study discussed how stigma from society is linked to sex workers experiencing violence, being dehumanised, and having to withstand prejudice because of their occupation. This idea led some sex workers to accept police violence (Blanchard et al., 2018; Nelson, 2020), 'Maybe it is ok for police to beat prostitutes, but I didn't do them anything' (Nelson, 2020, p. 1023).

Some US participants discussed worries about experiencing physical violence (Oselin and Blasyak, 2013). Due to sex work being unpredictable, and for example, not knowing the mood of the client, their pimp, or their intimate partner, some women expressed feelings of fear for their lives (Oselin and Blasyak, 2013). One participant reported that her anxiety was caused by the violence she experienced while working, which affected her ability to access healthcare (Mellor and Lovell, 2011). She expressed that while seeking support for her anxiety, she faced rejection from healthcare services due to asking for help 'too many times' (Mellor and Lovell, 2011, p. 317).

> I was always too nervous to go… I can't go out on my own, I got attacked in Liverpool [UK]… and I can't go out on my own at night due to my nervousness (Mellor and Lovell, 2011, p. 317).

This idea was additionally prevalent in studies from LMICs where many participants reported experiencing client-perpetrated physical and sexual violence, as well as reporting psychological violence (Blanchard et al., 2018; Lebni et al., 2020; Nelson, 2020; Swathisha and Deb, 2022; Wanjiru et al., 2022,). Psychological violence included being manipulated and called vulgar names, and for some, this caused more harm to their mental ill health than physical or sexual violence (Lebni et al., 2020). Sex workers from a Nigerian study, which explored how experienced violence impacted their health, described how discussing condom use with their clients could trigger arguments, leading to rape, beatings or being threatened, and consequently mental ill health, reduced self-efficacy and internalised stigma (Nelson, 2020).

> They will hit you so that you will just allow them to do what they want. Some will agree to use condom but later remove it… You know they are troublemakers. You don't complain unless you are ready for a fight (Nelson, 2020, p. 1022).

One study spoke about how the violence that participants faced caused PTSD (Oselin and Blasyak, 2013). For one participant, this was due to increased stress and fear from an attack by a client. She expressed that 'the stress was mainly because of the most recent guy that tried to kill me.' (Oselin and Blasyak, 2013, p. 279).

Coping mechanisms to manage mental health

Female sex workers described various coping mechanisms to navigate the challenges of their work and maintain mental well-being. Some rationalised their role by viewing it as a legitimate means of earning a living and maintaining financial independence, thus helping them find dignity and purpose despite societal stigma (Yuen et al., 2014). Additionally, some FSWs normalised their work as a survival strategy and found strength in shared experiences and collective agency, participating in community mobilisation efforts and advocacy groups (Basnyat, 2014). They also developed strategic skills to navigate risks, such as negotiating condom use (Basnyat, 2014; Leddy et al., 2018) and creating support systems within their work environment (Mtetwa et al., 2013; Leddy et al., 2018). Others maintained hope and optimism for a better future, driven by aspirations to leave sex work and improve their lives and their families (Wanjiru et al., 2022). Emotional regulation strategies, such as reframing negative thoughts, seeking temporary distractions, and accepting their situation, helped some to manage stress (Yuen et al., 2014).

To avoid the shame that some women experienced when accessing services, some women expressed a preference for visiting anonymous NGOs to seek support, as this meant they would not have to state their occupation (Ma and Loke, 2019). They felt they received educational and emotional help here, as well as accessing free condoms and healthcare services, 'Because it is a sex worker-friendly organization, I feel safe and be respected there' (Ma and Loke, 2019, p. 9).

For some, building strong support networks with peers offers practical and emotional support, creating a sense of community that buffers against isolation (Yuen et al., 2014; Wanjiru et al., 2022). While some rely on informal health information networks and seek care strategically to manage health-related challenges (Basnyat, 2015), others felt their experiences were brushed off by all support systems, leading to a decline in their mental health (Sallmann, 2010). They then felt the need to learn coping mechanisms on their own and to rely only on themselves (Wanjiru et al., 2022). One participant exemplified this, stating, 'I have no friends. There is nobody I can talk with a little.' (Lebni et al., 2020, p. 4).

Discussion

This review has synthesised the qualitative research on the mental ill health of FSWs, showing that mental ill health is significantly influenced by societal stigma and discrimination. Moreover, this stigma hinders healthcare access due to fear of judgment. Some FSWs cope through addiction, using tobacco, alcohol and drugs, which further exacerbates their mental health issues. The review highlights the normalisation of violence within the sex industry, with FSWs facing frequent physical, sexual and psychological abuse, leading to severe mental health problems such as PTSD. Additionally, a lack of support systems can leave FSWs isolated, relying on inadequate personal or peer support. Despite these challenges, some FSWs employ coping mechanisms such as rationalising their work, finding strength in community mobilisation, developing strategic skills to navigate risks and maintaining hope for a better future. While the coping mechanisms identified are vital for resilience, access to formal mental health services and systemic interventions are necessary to address the root causes, and the symptoms, of mental ill health.

Building on Martín-Romo et al. (2023), this review provides a deeper understanding of the lived experiences of FSWs, detailing the emotional and psychological impacts of stigma, violence and isolation. It explores the barriers to healthcare access and underscores the importance of both formal and informal support systems. These findings highlight the need for comprehensive, empathetic and holistic interventions tailored to the unique challenges faced by FSWs to improve their mental health and overall wellbeing.

The socio-ecological model (SEM) is a comprehensive framework that examines the interplay between

individual, relationship, community and societal level factors and their influence on behaviours and outcomes and can be used as a framework for holistic interventions; the model is widely recognised in public health and behavioural sciences for its holistic approach to addressing complex issues (Kaufman et al., 2014). Interventions based on the SEM should address all levels when tackling the mental health issues that FSWs encounter. Personal traits such as age, sex, health knowledge, attitudes, and behaviours are considered at the individual level (Kaufman et al., 2014). Social networks and interactions, such as those with family, friends and peers, form the interpersonal/network level and can significantly impact health outcomes and behaviours. The community level concerns the larger social, cultural and physical contexts, including the accessibility of resources and community norms. The institutional/health system level includes the provision of appropriate services, competent and supportive providers, and a culturally competent environment. Finally, broader structural, political and economic systems that influence health-related behaviours and outcomes are included at the societal level.

When tackling the mental health challenges faced by FSWs, interventions based on the SEM should address multiple levels of influence. At the individual level, personal characteristics such as age, sex, health knowledge, attitudes and behaviours are considered (Kaufman et al., 2014). The interpersonal level involves social networks and relationships, including family, friends, and peers, which can significantly impact health behaviours and outcomes. The community level focuses on the broader social, cultural and physical environments, including resource availability and community norms. Finally, the societal level encompasses larger structural, political, and economic systems that shape health behaviours and outcomes. By addressing these multiple dimensions, the socio-ecological model ensures a comprehensive approach to improving mental health care for FSWs, as supported by various studies and applications in public health contexts.

At the individual level, tailored mental health services and addiction support are needed. Services are often inadequate for people who experience mental illness alongside substance misuse, i.e., dual diagnosis, and this inadequacy is exacerbated by the barriers that sex workers face when accessing services (Potter et al., 2022). Integrated services, in community centres and hospitals, should offer information and support on both addiction and mental ill health so those in need are not passed between multiple services, as well as offering post-treatment support (National Institute for Health and Care Excellence, 2016). This is better for those with a dual diagnosis over receiving treatment from multiple centres as support increases (Kelly and Daley, 2013; Iversen et al., 2021). Higher levels of support have been found to reduce the usage of illicit substances and improve mental ill health (Laudet et al., 2007). Advantages include faster access to care under a multidisciplinary team and the ability to discuss health promotion with patients (Kurpas et al., 2021) However, disadvantages include a less specialised team of staff unless teams for each speciality run seamlessly together. Despite disadvantages, integrated care is the gold standard for treating dual diagnoses.

At the interpersonal level, this review shows how family, friends, intimate partners and even clients can influence FSWs' mental health. Stigma and discrimination from these relationships can lead to isolation and a lack of emotional support, worsening mental health issues. Education could be used for destigmatisation at an interpersonal level (Sawicki et al., 2019); Corrigan and Watson (2002) suggest that people who have accessible information regarding mental illness are less likely to experience negative effects from stigma and discrimination. This is because they can use this knowledge to inform their actions towards people and thoughts about mental ill health (Corrigan and Watson, 2002). As female sex workers face stigma, both outside and inside the healthcare system, workshops in hospitals would be a useful implementation to educate and reinforce the need for patient-centred, culturally competent healthcare (Rüsch et al., 2005; Sawicki et al., 2019). However, evidence for the long-term effectiveness of these educational interventions

is limited (Committee on the Science of Changing Behavioral Health Social Norms et al., 2016). That said, while these educational resources would not directly impact the mental ill health of female sex workers, they would have an indirect impact on the stigma and therefore mental ill health problems they face (Corrigan and Watson, 2002; Rüsch et al., 2005; Sawicki et al., 2019). Consequently, it seems to be a feasible option to reduce the stigma and the impact it has.

The community level reveals the pervasive normalisation of violence within the sex industry and the lack of adequate support systems. FSWs frequently face physical, sexual, and psychological violence from clients, intimate partners, and law enforcement, contributing to severe mental health issues like PTSD. The link between violence and mental ill health among sex workers has been consistently demonstrated (Alschech et al., 2020; Beattie et al., 2020; Millan-Alanis et al., 2021). This demonstrates the need for violence prevention strategies, not only to protect the physical health of sex workers but also to protect their psychological and emotional health.

Globally, it is well-documented that sex workers face human rights violations, including physical and sexual violence from police, clients and partners. They also encounter institutional discrimination when trying to access healthcare, welfare services and the criminal justice system (Schwartz et al., 2021). In response to these violations, sex worker-led organisations, such as the South African National Sex Workers' Network (Sisonke) in South Africa, have acted by offering legal advice, crisis counselling and advocacy (Crago, 2008). These efforts have had a significant impact, influencing government recommendations for law reform aimed at reducing discrimination and enhancing harm reduction as part of HIV prevention strategies. Despite these advancements, public health interventions that address violence among sex workers are limited, primarily focusing on HIV outcomes (Schwartz et al., 2021). There are few interventions designed as integrated multi-level approaches that target violence prevention and human rights violations. However, there are some noteworthy initiatives from various LMICs across Asia and Africa (Schwartz et al., 2021) as well as HICs such as the UK.

In India, the Karnataka Health Promotion Trust's programme, a component of the Avahan AIDS Initiative, collaborated with police and sex workers (Beattie et al., 2015). They trained officers and provided community mobilisation, skills-building, and legal empowerment workshops. This initiative led to a decrease in violence reports and improved the way police treat sex workers. In Mongolia, a randomised controlled trial merged HIV sexual risk reduction with a micro-savings intervention (Tsai et al., 2016). This approach reduced client violence against sex workers through skills-building and financial literacy training. The National Key Populations Programme in Kenya adopted a multi-level approach (Bhattacharjee et al., 2018). This involved violence response training for service providers and the creation of 24-hour response teams. As a result, the number of sex workers increased, and access to post-violence services improved. Furthermore, the Kenya Sex Workers Alliance (KESWA) has proposed a multi-level intervention that addresses legal and structural barriers to justice for sex workers who have experienced violence.

While there is limited evidence of the efficacy of interventions aimed at enhancing the health and wellbeing of sex workers (Hallett et al., n.d.), some community-level interventions have been shown to reduce some of the risks that FSWs face and that can increase the risk of mental ill health. For example, the Managed Approach - a coordinated approach to managing on-street sex work in Leeds – established a set of rules that were designed to reduce the likelihood of arrest or other enforcement measures for loitering, soliciting or kerb-crawling (Brown and Sanders, 2017). Over a three-year period of implementation there was a reduction in anti-social behaviour orders and Home Office cautions as well as a shift in police attitudes towards their role, from enforcement to protection.

There is much that could be done at the institutional level to support FSWs, reducing the risk of mental ill health while intervening when mental health deteriorates. Sex workers should be asked to give constructive feedback on their experiences of healthcare services so that organisations can improve policies to increase the likelihood of informed care services (Baldie et al., 2017; Bombard et al., 2018). These changes may include flexibility with appointments, easier access to primary care, trauma- and psychologically-informed staff and offering a variety of information for easier access to resources (Potter et al., 2022). Integrated services offering multifaceted treatments are necessary for those with a dual diagnosis. For example, a 'one-stop shop' for FSWs who use heroin was situated within a general practitioner clinic and provided medical, social and drug treatment services (Litchfield et al., 2010). The evaluation of this service found that the quality of life for FSWs improved, and heroin use reduced, as did self-reported sex work.

Stigma and discrimination greatly impede the uptake of HIV and sexual and reproductive health services (Geibel et al., 2017). Therefore, when minority individuals seek these services, they frequently encounter stigma from healthcare providers. Health care professionals often have both implicit and explicit biases against marginalised groups, including sex workers, LGBTQIA+ individuals, people living with HIV/AIDS, Indigenous and people of colour, refugees and asylum seekers, and the homeless. As a result, marginalised individuals often experience a higher burden of disease compared to their peers in the general population due to healthcare worker biases significantly hindering the care quality these individuals receive, perpetuating health disparities and contributing to poorer health outcomes (Geibel et al., 2017; Morris et al., 2019). Continuing educational interventions targeting healthcare professionals are vital in mitigating these unconscious biases, raising awareness about the violence and stigma faced by these populations, and ultimately improving the quality of care. A 2017 study by Geibel et al. demonstrated training healthcare professionals on sexual and reproductive health rights significantly reduced the belief that individuals with HIV should be ashamed and the perception that members of the LGBTQIA+ community are immoral. This training also increased satisfaction among service users, who felt more positively about the care provided after the professionals received stigma reduction training. Similarly, results from a systematic review, aiming to assess the effectiveness of programs aimed at reducing bias among healthcare students and providers towards LGBTQIA+ patients, found that education about bias was successful in increasing knowledge of problems faced by LGBTQIA+ individuals when accessing healthcare, improved healthcare students comfort of working with LGBTQIA+ patients and created more tolerant attitudes toward these patients (Morris et al., 2019). This work should be used as a foundation for educational interventions for healthcare professionals and students to reduce implicit and explicit bias against marginalised individuals. This is further reinforced by the idea that it is crucial to integrate such training into the curricula of healthcare programmes, ensuring future healthcare professionals are equipped with the knowledge and sensitivity required to deliver compassionate care to all patients, regardless of their background or circumstances.

Bias-oriented education and training are additionally crucial for police to reduce violence against female sex workers and better improve the support provided. Many female sex workers experience implicit biases from police officers, due to them working in high-stress environments in which police officers are likely to rely on automatic processing leading to more bias-based decisions, causing violence against sex workers and mistrust from sex workers (Barrett, 2023; Struyf, 2023). Research from a 2023 study conducted in the USA shows that bias-oriented training can help police officers recognise prejudices, ideally to ensure fair and unbiased treatment of all individuals, however, little changes were made in strategies and attitudes of officers one month after training completion (Lai and Lisnek, 2023). A similar sentiment is made by Worden et al (n.d.) in which police officers within the New York Police Department received bias-orientated education, with little longer-term impact on their approaches to marginalised individuals. This suggests that current training approaches are inadequate, and strides must be made to improve educational interventions

for police education.

At the societal level, broad systemic issues such as legal frameworks, social norms, and public policies significantly impact the mental health of FSWs. Societal stigma, discrimination and criminalisation of sex work hinder access to essential services and perpetuate mental health challenges. Public education campaigns to reduce stigma, legal reforms to protect the rights of FSWs, and policies to integrate mental health and addiction services are critical. Public education is needed to reduce perceived risk factors for mental ill health, e.g., stigma and violence (Rüsch et al., 2005; Sawicki et al., 2019). Educational programmes should aim to change individuals' preconceived perceptions (Corrigan and Watson, 2002). Posters in public spaces and social media campaigns could also be used to target a larger audience, although they may be less beneficial than more interactive educational programs (Latha et al., 2020). Legal challenges can increase risks; for example, in the UK, legal sanctions can be placed on sex workers operating on premises together, despite working together in an indoor setting reducing risks related to violence (Klambauer, 2019). As this review has shown, human rights violations against sex workers are widespread, including violence from police, clients and partners as well as discrimination in accessing services.

Strengths and limitations

Extensive database searching was conducted across ten databases, thus ensuring sufficient literature searching (Bramer et al., 2017; Bramer et al., 2018). However, the generalisability of this review may be reduced because of the focus on the experiences of cisgender female sex workers; findings should not be extrapolated to male or transgender sex workers. Additionally, the initial title and abstract screening was undertaken by a single reviewer.

A qualitative review is only as good as the studies it reviews, and there were notable omissions in the included papers. For example, only three studies used in this review's analysis considered the researcher-participant relationship. Primary researchers should acknowledge and consider the ethical implications of a research relationship (Eide and Kahn, 2008). When researchers begin to provide more of a therapeutic service, rather than data collection, perspectives may be influenced and reported findings may be altered. The consequence may be that this review's findings and implications for practice may be misinformed due to primary researcher bias, as it cannot be said whether a relationship between the researchers and participants impacted the reported findings.

This review identified some universal themes, despite the included studies being conducted across the globe. The fact that no one country dominated the literature is a notable strength of the review, meaning that a global picture has been obtained.

Conclusion

The findings of this review underscore the need for more holistic and comprehensive support systems for sex workers, including mental health services, addiction support and efforts to combat stigma and violence. Integrated care services designed to target the complex and intersecting needs of FSWs are essential for supporting those with dual diagnoses. These services are crucial in reducing mental ill-health and improving overall well-being among this population by creating a safer and more supportive environment for them. Policymakers, healthcare professionals and society as a whole need to work together to implement strategies that address these challenges and promote the well-being of sex workers.

References

Alschech J., Regehr C., Logie C.H. and Meto M.C. (2020) 'Contributors to posttraumatic stress symptoms in women sex workers'. *American Journal of Orthopsychiatry*, 90(5), pp. 567-577. https://doi.org/10.1037/ort0000457

Baldie D.J., Guthrie B., Entwistle V. and Kroll T. (2017) 'Exploring the impact and use of patients' feedback about their care experiences in general practice settings—a realist synthesis'. *Family Practice*, 35(1) pp. 13–21. https://doi.org/10.1093/fampra/cmx067

Barrett E. (2023) 'Counteracting implicit bias in the policing system: An interview with Kimberly Kahn, PhD'. *Eye on PSI CHI*, 28(1). https://doi.org/10.24839/2164-9812.Eye28.1.36

Basnyat I. (2014) 'Lived experiences of street-based female sex workers in Kathmandu: implications for health intervention strategies'. *Culture, Health & Sexuality*, 16(9) pp. 1040–51. https://doi.org/10.1080/13691058.2014.922620

Basnyat I. (2015) 'Structural Violence in Health Care'. *Qualitative Health Research,* 27(2) pp. 191–203. https://doi.org/10.1177/1049732315601665

Basnyat I. (2017) 'Structural violence in health care: Lived experience of street-based female commercial sex workers in Kathmandu'. *Qualitative Health Research,* 27(2) pp. 91-203. https://doi.org/10.1177/1049732315601665

Beattie T.S., Bhattacharjee P., Isac S., Mohan H.L., Simic-Lawson M., Ramesh B.M., Blanchard J.F., Moses, S., Watts, C.H. and Heise, L. (2015) 'Declines in violence and police arrest among female sex workers in Karnataka state, south India, following a comprehensive HIV prevention programme'. *Journal of the International AIDS Society*, 18(1) p. 20079. https://doi.org/10.7448/IAS.18.1.20079

Beattie T.S., Smilenova B., Krishnaratne S. and Mazzuca A. (2020) 'Mental health problems among female sex workers in low- and middle-income countries: A systematic review and meta-analysis'. *PLOS Medicine,* 17(9) p. 1003297. https://doi.org/10.1371/journal.pmed.1003297

Bhattacharjee P., Morales G.J., Kilonzo T.M., Dayton R.L., Musundi R.T., Mbole J.M., Malaba S.J., Ogwang B.E., Isac S.K., Moses S. and Musyoki H.K. (2018) 'Can a national government implement a violence prevention and response strategy for key populations in a criminalized setting? A case study from Kenya'. *Journal of the International AIDS Society*, 21(5) pp. 25122. https://doi.org/10.1002/jia2.25122

Blanchard A.K., Nair S.G., Bruce S.G., Ramanaik S., Thalinja R., Murthy S., Javalkar P., Pillai P., Collumbien M., Heise L., Isac S. and Bhattacharjee P. (2018) 'A community-based qualitative study on the experience and understandings of intimate partner violence and HIV vulnerability from the perspectives of female sex workers and male intimate partners in North Karnataka state, India'. *BMC Women's Health*, 18, 66. https://doi.org/10.1186/s12905-018-0554-8

Bombard Y., Baker G.R., Orlando E., Fancott C., Bhatia P., Casalino S., Onate K., Denis J.L. and Pomey M.P. (2018) 'Engaging patients to improve quality of care: A systematic review'. *Implementation Science*, 13(1) pp. 1–22. https://doi.org/10.1186/s13012-018-0784-z

Bramer W.M., Rethlefsen M.L., Kleijnen J. and Franco O.H. (2017) 'Optimal database combinations for literature searches in systematic reviews: A prospective exploratory study'. *Systematic Reviews*, 6(1). https://doi.org/10.1186/s13643-017-0644-y

Bramer W.M., De Jonge G.B., Rethlefsen M.L., Mast F. and Kleijnen J. (2018) 'A systematic approach to searching: An efficient and complete method to develop literature searches'. *Journal of the Medical Library Association*, 106(4) pp. 531–41. https://doi.org/10.5195/jmla.2018.283

Braun V. and Clarke V. (2022) 'Conceptual and design thinking for thematic analysis'. *Qualitative Psychology*, 9(1) pp. 3-26. https://doi.org/10.1037/qup000196

Brown K. and Sanders T. (2017) 'Pragmatic, progressive, problematic: Addressing vulnerability through a local street sex work partnership initiative'. *Social Policy and Society: A Journal of the Social Policy Association*, 16(3) pp. 429-411. https://doi.org/10.1017/S1474716416000634

Brown L. (2013) *Cycles of harm: Problematic alcohol use amongst women involved in prostitution*. Available from: https://s3.eu-west-2.amazonaws.com/files.alcoholchange.org.uk/documents/FinalReport_0108.pdf

Butler A., Hall H. and Copnell B. (2016) 'A guide to writing a qualitative systematic review protocol to enhance evidence-based practice in nursing and health care'. *Worldviews on Evidence-Based Nursing*, 13(3) pp. 241–9. https://doi.org/10.1111/wvn.12134]

Choudhury S.M. (2010) '"As prostitutes, we control our bodies": Perceptions of health and body in the lives of establishment-based female sex workers in Tijuana, Mexico'. *Culture, Health & Sexuality*, 12(6) pp. 677–89. https://doi.org/10.1080/13691051003797263

Cochrane Consumers and Communication. (2016) *Data extraction template for included studies*. Available at: https://cccrg.cochrane.org/sites/cccrg.cochrane.org/files/public/uploads/det_2015_revised_final_june_20_2016_nov_29_revised.doc

Committee on the Science of Changing Behavioral Health Social Norms; Board on Behavioral, Cognitive, and Sensory Sciences; Division of Behavioral and Social Sciences and Education; National Academies of Sciences, Engineering, and Medicine. (2016) *Approaches to Reducing Stigma*. Available from: https://www.ncbi.nlm.nih.gov/books/NBK384914/

Corrigan P.W. and Watson A.C. (2002) 'Understanding the impact of stigma on people with mental illness'. *World Psychiatry: Official Journal of the World Psychiatric Association (WPA)*, 1(1) pp. 16–20. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1489832/

Crago A.-L. (2008) *Our Lives Matter: Sex Workers Unite for Health and Rights*. New York: Open Society Institute.

Critical Appraisal Skills Programme (2022) CASP Qualitative Studies Checklist. Available at: https://casp-uk.net/images/checklist/documents/CASP-Qualitative-Studies-Checklist/CASP-Qualitative-Checklist-2018_fillable_form.pdf

Drucker A.M., Fleming P. and Chan A.W. (2016) 'Research techniques made simple: Assessing risk of bias in systematic reviews'. *Journal of Investigative Dermatology*, 136(11) pp. 109–14. https://doi.org/10.1016/j.jid.2016.08.021

Eide P. and Kahn D. (2008) Ethical issues in the qualitative researcher—participant relationship. *Nursing Ethics,* 15(2) pp. 199–207. https://doi.org/10.1177/0969733007086018

Geibel S., Hossain S.M.I., Pulerwitz J., Sultana N., Hossain T., Roy S., Burnett-Zieman B., Stackpool-Moore L., Friedland B.A., Yasmin R., Sadiq N. and Yam E. (2017) 'Stigma reduction training improves healthcare provider attitudes toward, and experiences of, young marginalized people in Bangladesh'. *Journal of Adolescent Health,* 60. https://doi.org/10.1016/j.jadohealth.2016.09.026

Hallett, N., Christie, C., Docherty-Smith, J., Welborn, H., Wright, H., Molloy, E., Chandan, J.S., Croxford, S., Taylor, J., Bradbury-Jones, C. *SWAN study work package 1: Literature review*. Unpublished

Harzing A.W. (2016) Publish or Perish. Available from: https://harzing.com/resources/publish-or-perish

Iversen J., Long P., Lutnick A. and Maher L. (2021) 'Chapter 6: Patterns and epidemiology of illicit drug use among sex workers globally: a systematic review', In S.M. Goldenberg, T.R. Morgan, A. Forbes and S. Baral (eds). *Sex Work, Health, and Human Rights: Global Inequities, Challenges, and Opportunities for Action*. Cham: Springer, pp. 95-118

Jackson L.A., Bennett C.G. and Sowinski B.A. (2007) 'Stress in the sex trade and beyond: Women working in the sex trade talk about the emotional stressors in their working and home lives'. *Critical Public Health,* 17(3) pp. 257–71. https://doi.org/10.1080/09581590701549535

Kaufman M.R., Cornish F., Zimmerman R.S. and Johnson B.T. (2014) 'Health behavior change models for HIV prevention and AIDS care: Practical recommendations for a multi-level approach'. *JAIDS Journal of Acquired Immune Deficiency Syndromes,*66 pp. S250-S258 https://doi.org/10.1097/QAI.0000000000000236

Kelly T.M. and Daley D.C. (2013) 'Integrated treatment of substance use and psychiatric disorders'. *Social Work in Public Health*, 28(3-4) pp. 388–406. https://doi.org/10.1080/19371918.2013.774673

Klambauer E. (2019) 'On the edges of the law: sex workers' legal consciousness in England'. *International Journal of Law in Context*, 15(3) pp. 327-343. https://doi.org/10.1017/S1744552319000041

Kramer L.A .(2004) Emotional experiences of performing prostitution. *Journal of Trauma Practice*. 2(3-4) pp. 186–97. https://doi.org/10.1300/J189v02n03_10

Kurpas D., Stefanicka-Wojtas D., Shpakou A., Halata D., Mohos A., Skarbaliene A., Dumitra G., Klimatckaia L., Bendova J. and Tkachenko V. (2021) 'The advantages and disadvantages of integrated care implementation in Central and Eastern Europe – Perspective from 9 CEE countries'. *International Journal of Integrated Care*, 21(4). https://doi.org/10.5334/ijic.5632

Lai C.K. and Lisnek J.A. (2023) 'The impact of implicit-bias-oriented diversity training on police officers' beliefs, motivations, and actions'. *Psychological Science in the Public Eye*, 34(4) pp. 424-434. https://doi.org/10.1177/09567976221150617

Latha K., Meena K., Pravitha M., Dasgupta M. and Chaturvedi S. (2020) 'Effective use of social media platforms for promotion of mental health awareness'. *Journal of Education and Health Promotion*, 9(1) pp. 124. https://doi.org/10.4103/jehp.jehp_90_20

Laudet A.B., Magura S., Vogel H.S. and Knight E. (2007) 'Support, mutual aid and recovering from dual diagnosis'. *Community Mental Health Journal*, 36(5) pp. 457-476. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1868661/

Lebni J.Y., Irandoost S.F., Ziapour A., Gharehghani M.A.M., Azar F.E.F., Soofizad G., Khosravi B. and Solhi M. (2020) 'Experiences and challenges of prostitute women in Iran: A phenomenological qualitative study'. Heliyon, 6(12) pp. 5649. https://doi.org/10.1016/j.heliyon.2020.e05649

Leddy A.M., Kerrigan D., Kennedy C.E., Mbwambo J., Likindikoki S. and Underwood C.R. (2018) "'You already drank my beer, I can decide anything": Using structuration theory to explore the dynamics of alcohol use, gender-based violence and HIV risk among female sex workers in Tanzania'. *Culture, Health & Sexuality*, 20(12) pp. 1409–23. https://doi.org/10.1080/13691058.2018.1438667

Lerner G. (1986) 'The origin of prostitution in Ancient Mesopotamia'. *Signs*, 11(2) pp. 236–54. Available from: https://www.jstor.org/stable/3174047

Litchfield J., Maronge A., Rigg T., Rees B., Harshey R. and Keen J. (2010) 'Can a targeted GP-led clinic improve outcomes for street sex workers who use heroin?' *British Journal of General Practice*, 60(576) pp. 514-516. https://doi.org/10.3399/bjgp10X514774

Lockwood C., Munn Z. and Porritt K. (2015) 'Qualitative research synthesis methodological guidance for systematic reviewers utilizing meta-aggregation'. *International Journal of Evidence-Based Healthcare*, 13(3) pp. 179-187. https://doi.org/10.1097/XEB.0000000000000062

Ma H. and Loke AY. (2019) 'A qualitative study into female sex workers' experience of stigma in the health care setting in Hong Kong'. *International Journal for Equity in Health*. 18 p. 175. https://doi.org/10.1186/s12939-019-1084-1

Martín-Romo L., Sanmartín F.J. and Velasco J. (2023) 'Invisible and stigmatized: A systematic review of mental health and risk factors among sex workers'. *Acta Psychiatrica Scandinavica*, 148(3) pp. 255-264 https://doi.org/10.1111/acps.13559

Mellor R. and Lovell A. (2011) 'The lived experience of UK street-based sex workers and the health consequences: An exploratory study'. *Health Promotion International*. 27(3) pp. 311–22. https://doi.org/10.1093/heapro/dar040

Millan-Alanis J.M., Carranza-Navarro F., de León-Gutiérrez H., Leyva-Camacho P.C., Guerrero-Medrano A.F. and Barrera F.J. (2021) 'Prevalence of suicidality, depression, post-traumatic stress disorder, and anxiety among female sex workers: A systematic review and meta-analysis'. *Archives of Women's Mental Health*. 24 pp. 867-879. https://doi.org/10.1007/s00737-021-01144-1

MIND (2017). *Understanding mental health problems*. Available at: https://www.mind.org.uk/media-a/2942/mental-health-problems-introduction-2017.pdf

Morris M., Cooper R.L., Ramesh A., Tabatabai M., Arcury T.A., Shinn M., Im W., Juarez P. and Matthews-Juarez P. (2019) 'Training to reduce LGBTQ-related bias among medical, nursing, and dental students and providers: A systematic review'. *BMC Medical Education*. 19, 325. https://doi.org/10.1186/s12909-019-1727-3

Mtetwa S., Busza J., Chidiya S., Mungofa S. and Cowan F. (2013) "'You are wasting our drugs": Health service barriers to HIV treatment for sex workers in Zimbabwe'. *BMC Public Health*. 13, 698. https://doi.org/10.1186/1471-2458-13-698

National Institute for Health and Care Excellence (2016) *Guideline scope*. Available from: https://www.nice.org.uk/guidance/ng58/documents/severe-mental-illness-and-substance-misuse-dual-diagnosis-community-health-and-social-care-services-final-scope2

Nelson E.U.E. (2020) 'The lived experience of violence and health-related risks among street sex workers in Uyo, Nigeria'. *Culture, Health & Sexuality*. 22(9) pp.1018-1031 https://doi.org/10.1080/13691058.2019.1648872

Oselin S.S. and Blasyak A. (2013) 'Contending with violence: Female prostitutes' strategic responses on the streets'. *Deviant Behavior,* 34(4) pp. 274–90. https://doi.org/10.1080/01639625.2012.735896

Ouzzani M., Hammady H., Fedorowicz Z. and Elmagarmid A. (2016) 'Rayyan—a web and mobile app for systematic reviews'. *Systematic Reviews*, 5, 210. https://doi.org/10.1186/s13643-016-0384-4

Oxford English Dictionary (2024) *sex, n.1*. Available from: https://www.oed.com/dictionary/sex_n1#eid23489815

Page M.J., McKenzie J.E., Bossuyt P.M., Boutron I., Hoffmann T.C., Mulrow C.D., Shamseer L., Tezlaff J.M., Akl E.L., Brennan S.E., Chou R., Glanville J., Grimshaw J.M., Hrobjartsson A., Lalu M.M., Li T., Loder E.W., Mayo-Wilson E., McDonald S., McGuinness L.U., Stewart L.A., Thomas J., Tricco A.C., Welch V.A., Whiting P. and Mober. (2021) 'The PRISMA 2020 statement: An updated guideline for reporting systematic reviews'. *British Medical Journal*, 372, 71. https://doi.org/10.1136/bmj.n71

Potter L.C., Horwood J. and Feder G. (2022) 'Access to healthcare for street sex workers in the UK: Perspectives and best practice guidance from a national cross-sectional survey of frontline workers'. *BMC Health Services Research*, 22, 178. https://doi.org/10.1186/s12913-022-07581-7

Rüsch N., Angermeyer M.C. and Corrigan P.W. (2005) 'Mental Illness stigma: Concepts, consequences, and initiatives to reduce stigma'. *European Psychiatry*, 20(8) pp. 529–39. https://doi.org/10.1016/j.eurpsy.2005.04.004

Sallmann J. (2010) 'Living with stigma: Women's experiences of prostitution and substance use'. *Affilia*, 25(2) pp. 146–59. https://doi.org/10.1177/0886109910364362

Sawicki D.A., Meffert B.N., Read K. and Heinz A.J. (2019) 'Culturally competent health care for sex workers: An examination of myths that stigmatize sex work and hinder access to care'. *Sexual and Relationship Therapy*, 34(3) pp. 355–71. https://doi.org/10.1080/14681994.2019.1574970

Schwartz S., Viswasam N. and Abdalla P. (2021) 'Integrated interventions to address sex workers' needs and realities: Academic and community insights on incorporating structural, behavioural, and biomedical approaches'. In: S.M. Goldenberg, R.M. Thomas, A. Forbes and S. Baral (eds) *Sex Work, Health, and Human Rights: Global Inequities, Challenges, and Opportunities for Action*. Cham : Springer. https://doi.org/10.1007/978-3-030-64171-9_13 pp. 231-253

Struyf P. (2023) 'To report or not to report? A systematic review of sex workers' willingness to report violence and victimization to police'. *Trauma, Violence & Abuse*, 24(5) pp. 3065-3077. https://doi.org/10.1177/15248380221122819

Swathisha P, and Deb S. (2022) 'Challenges faced by female commercial sex workers in Puducherry, India: A qualitative inquiry'. *Indian Journal of Gender Studies*, 29(2) pp. 258-272 https://doi.org/10.1177/09715215221082180

Tsai L.C., Carlson C.E., Aira T., Norcini Pala A., Riedel M. and Witte S.S. (2016) 'The impact of a microsavings intervention on reducing violence against women engaged in sex work: A randomized controlled study'. *BMC International Health and Human Rights*. 16, 27. https://doi.org/10.1186/s12914-016-0101-3

Wanjiru R., Nyariki E., Babu H., Lwingi I., Liku J., Jama Z., Kung'u M., Ngrukiri P., The Maisha Fiti Study Champions, Nyamweya C., Shah P., Okumu M., Weiss H., Kaul R., Beattie T.S., Kimani J. and Seeley J. (2022) 'Beaten but not down! Exploring resilience among female sex workers (FSWs) in Nairobi, Kenya'. *BMC Public Health*. 22, 965. https://doi.org/10.1186/s12889-022-13387-3

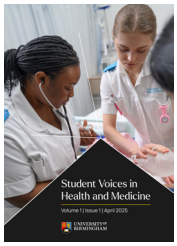
Williamson C. and Folaron G. (2003) 'Understanding the experiences of street level prostitutes. *Qualitative Social Work: Research and Practice*, 2(3) pp. 271–87. https://doi.org/10.1177/14733250030023004

Worden R.E., McLean S.J., Engel R.S., Cochran H., Corsaro N., Reynolds D., Najdowski C.J. and Isaza G.T. (n.d.) *The impacts of implicit bias awareness training in the NYPD*. Available at: https://static1.squarespace.com/static/5b7ea2794cde7a79e7c00582/t/6539470a5d6d6f79ba086f3f/1698252637552/impacts-of-implicit-bias.pdf

World Health Organization (2022) *World mental health report: transforming mental health for all*. Available from: https://www.who.int/publications/i/item/9789240049338

Yuen W.W.Y., Wong W.C.W., Holroyd E. and Tang C.S.K. (2014) 'Resilience in work-related stress among female sex workers in Hong Kong'. *Qualitative Health Research*, 24(9) pp. 1232–41. https://doi.org/10.1177/1049732314544968

Student Voices in Health and Medicine



Legalising assisted dying: Why nurses' voices are vital in crafting safe and effective policy and legislation

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Abstract

Assisted dying involves the self-administration of prescribed life-ending drugs by mentally competent patients, with euthanasia as a subset where these drugs are administered by healthcare professionals. The legalisation of assisted dying has expanded globally, and while it remains illegal in the United Kingdom, ongoing debates may signal a shift in that direction. Despite their central role in end-of-life care, nurses have been commonly overlooked throughout the process of legalisation. This opinion piece explores the value of involving nurses in the development of policies and legislation related to assisted dying. It also analyses the potential implications of nurse involvement, offering key recommendations should the United Kingdom move towards legalisation. Drawing on lessons from countries where assisted dying has been legalised, this piece argues that nurses' inclusion in the legalisation process is invaluable. Involving nurses could protect them from legal ambiguities present in other countries which lead to poorer practice and risk of prosecution and enhance team dynamics. In addition to improving patient experiences of assisted dying by nature of nurses' emphasis on holistic care and patient advocacy. However, a boost in end-of-life care education, a cultural shift away from traditional hierarchies in healthcare and the physician-centredness of assisted dying, as well as workplace protections against psychological impacts are necessary for these benefits to materialise.

Keywords: Assisted dying; Legalisation; Nurse

Introduction

Aged 18, during my gap year, I was employed as a live-in-carer. At one point during a placement supporting a woman in her 90s with incurable multi-morbidities, she held my hand with teary eyes and stated, "I want to die, please help me". This poignant request was my first encounter with a wish to hasten death and is now one of several I have witnessed in clinical practice as a student nurse, which has sparked my interest in the role nurses play at the end of life. As professionals who often spend the greatest amount of time with dying patients, nurses may build trusting, closer connections and their role encompasses diverse responsibilities (Sekse et al., 2018). Namely, acting as the patient's advocate, coordinating care from other providers, providing comfort and support to families, as well as meeting the physical, psychosocial and spiritual needs of the patient. In tandem several challenges exist, such as limited time and resources to reflect and debrief in the face of increasing workload complexity, constrained legitimacy in care planning compared to doctors, and insufficient training and emotional support for managing care for dying patients. Given the multifaceted roles and complexities characterising nursing care at the end of life, and the evolving debate over the legalisation of assisted dying (AD) in the United Kingdom, this opinion piece aims to explore the value of involving nurses in policies and legislation concerning AD, (House of Commons Health and Social Care Committee, 2024). Said exploration will be aided by analysis of the implications of nurse involvement in AD including both the benefits and associated challenges to inform key recommendations on this matter

This author contends that the voice of the nursing profession is vital to ensuring that the safest and highest quality of care is provided should AD be legalised, but great efforts must be made to mitigate potential negative consequences for nurses like those related to the ethical and professional challenges to be discussed.

Background

Assisted dying refers to the prescription of life-ending drugs that a mentally competent patient administers themselves, (British Medical Journal, n.d.). Euthanasia constitutes a subset of said practice, where the drugs are directly administered to a consenting patient. Attached to these processes are criteria of varied complexity, for instance, whether a condition is terminal or a minimum age (Mroz et al., 2020). AD remains a hotly debated topic with proponents emphasising honouring autonomy and alleviating suffering (Fontalis et al., 2018). Conversely, opponents focus on the ethical principle of clinicians to not harm and the risks of abuses that disregard a patient's wishes.

Nevertheless, since 2002 when AD was first legalised in the Netherlands, the number of jurisdictions that have brought about legalisation has grown to over 18 across Northern America, Oceania and Europe, with several others considering it (Mroz et al., 2020). Currently, in the United Kingdom, Section 2(1) of the Suicide Act 1961, deems any acts assisting the suicide of another, a criminal offence (Lipscombe et al., 2024). Private member Bills in the House of Commons and the Lords in 2015 and 2021 have failed to achieve legalisation. However, an e-petition requesting parliamentary time allocation and a vote on AD has sparked debate in the Commons since April 2024. Notably Sir Keir Starmer, the new prime minister, expressed commitment to allowing time for debate and a free vote on an AD Bill (Pike, 2024). Thus, on the 26th of July, a Bill has now had its first reading in the House of Lords.

Yet concerningly, where AD has been legalised, there is evidence that nurses' roles are overlooked. A scoping review of international legislation and literature by Bellon et al. (2022) found that legislation regarding roles assumed by nurses throughout euthanasia was lacking and resulted in nurses practising outside of legal regulations. Further, research largely explores the roles of physicians or attitudes of

healthcare workers to AD (Sandham et al., 2022) with little focus on nurses (Pesut et al., 2019).

The Royal College of Nursing, a nursing union and professional body, affirms that care for those dying is at the core of nursing practice where nurses can make a substantial difference and has voted to support the principles of AD at its 2024 Congress (2024). Anticipating potential implications for members, the College insists their voice is included. It is thus paramount for nursing students and practitioners alike to explore what said implications may be to maximise their influence on the processes and principles concerning AD.

Evidence and Analysis

To begin, the strongest assertion of the value of nurse involvement in policy and legislation development can be identified by learning from the aforementioned political ramifications occurring in regions where AD has been legalised. An article by Banner et al. (2019) and meta-synthesis by Bustin et al. (2024) concerning said ramifications in Canada and Australia highlight that inconsistency and variability present within legislation concerning nurses' responsibilities have left them uncertain and feeling at legal risk of prosecution. For instance, the line between prohibited solicitation of AD and the provision of information may be blurred by a nurse-patient therapeutic relationship (Banner et al., 2019). In turn, this is said to negatively affect end-of-life care by disrupting decision-making and fuelling disconnect. Meanwhile in Belgium, though nurses are legally prohibited from administering lethal drugs, an anonymous questionnaire identified that nurses were delegated by physicians to administer lethal drugs in 26.8% of 142 deaths, demonstrating considerable misconduct (Bilsen et al., 2014). Considering that nurses constitute the biggest sector of healthcare professionals and practice most closely with patients as Banner et al. (2019) note, their ongoing engagement with political activism is paramount if such ambiguity concerning legal intricacies is to be avoided in the UK.

Besides the aforementioned benefit to legislative clarity, involving nurses in the politico-legal decision-making surrounding AD from the outset could have a positive impact on the quality of AD care determined by team dynamics in practice. Indeed, in a scoping review of the role of nurses in euthanasia Bellon et al. (2022) posit that for the care surrounding AD to be effective and holistic, the entire process requires multi-disciplinary input. Akin to the importance of multidisciplinary decision-making in palliative and end-of-life care more broadly (Borgstrom et al., 2024), no singular professional will have all of the knowledge and skills necessary for navigating AD alone (Fujioka et al., 2018). Despite this, a scoping review of healthcare professionals' views on AD implementation by Fujioka et al. (2018) found that 13/33 articles noted a lack of interprofessional collaboration. The traditionally hierarchical structure within healthcare which sees doctors at the top with the highest authority may explain said occurrence (Fujioka et al., 2018; Vatn and Dahl, 2022) but a commitment to giving nurses a voice in AD policy could promote change.

Looking more closely at the unique contribution that nurses could bring to AD policy and legislation, builds upon the benefits of their inclusion. Described as a 'distinctive gaze' by Thorne (2018) the nurses' approach to care comprises a commitment to upholding patient dignity, valuing of holism in acknowledging each patient's individuality and multidimensional needs, and constructing orderly co-ordination between service providers. Further, functioning as patient advocates is a role instilled within nurses' code of ethics across the globe, including that of the UK's Nursing and Midwifery Council, comprised of several attributes such as safeguarding patients from misconduct (Abbasinia et al., 2020). These contributions are key to fulfilling the attainment of a good death, described across literature reviews as, promoting dignity through the maintenance of independence and respect for preferences throughout the dying process (Meier et al., 2016). In addition to being seen as a person and receiving help to prepare for death (Krikorian et al., 2020). Arguably, concerning AD, the nurse's role as a patient advocate grows in importance as it may serve to alleviate the risk that the vulnerable patient seeking AD is doing so due to coercion – a key argument against

AD legalisation (Fontalis et al., 2018).

On the contrary, despite the benefits to nursing involvement in policy and legislation related to AD, some challenges exist in parallel. A literature review exploring newly qualified nurses' (NQNs) views on their readiness for working with dying patients (Gillan et al., 2014), in addition to several more recent qualitative studies, suggests that NQNs do not feel well-prepared and report insufficient knowledge about end-of-life care (Andersson et al., 2016, Croxon et al., 2018). Although the generalisability of the abovementioned research may be considered constrained by relatively small sample sizes, (the review includes 18 papers, and the studies, six and seven participants respectively), said findings may nevertheless indicate that end-of-life care education requires greater emphasis if nurses of the future are to actually practice the policies others establish. Indeed, a qualitative study and an evidence synthesis of the experiences of nurses participating in AD where it has been legalised, highlight an added layer of the skills necessary (Pesut et al., 2019; Sandham et al., 2022). Ending a patient's life was found to produce moral conflicts for nurses and a perception that they were killing (Pesut et al., 2019). As such, an example of additional education necessitated by AD is in the realm of moral reasoning (Bustin et al., 2024). Equally, partaking in AD is not without psychological ramifications. A qualitative study exploring Flemish nurses' experiences of working with euthanasia 15 years following legalisation found that nurses continued to feel several intense emotions from suffocation to disbelief (Bellens et al., 2020). Said responses are explained by the rapid nature of AD which differs from a gradual natural death (Pesut et al., 2019) and reveals a requirement for increased psychological protection. As such, if the benefits of nursing involvement in AD policy and legislation are to materialise, a foundation supporting the related educational and psychological needs of nurses in practice must be in place.

Discussion and Implications

The evidence explored within this paper clearly illustrates that AD legalisation is far from a simple process, where the existence of ambiguities poses risks to patient care and nurses' integrity. Hierarchical power imbalances can impede interprofessional collaboration to the detriment of AD quality. Further, nurses' distinct lens and domain of practice could prove invaluable to planning safe and effective AD processes. However, existing end-of-life care educational deficits amongst NQN's, alongside the psychological impacts of partaking in AD, present challenges for the nursing profession to contend with. Crucially, a limitation that must be acknowledged concerns the use of the learning from the AD legalisation of other nations, which may not necessarily reflect the UK, thus limiting generalisability.

Nevertheless, said findings offer a valuable starting point and have significant implications. Namely, concerning who should be involved in the planning and development of AD policy and legislation, as well as the cultural mindset surrounding AD, education, and the workplace. Beyond the predominant insistence that policymakers ensure nurses have a voice on this issue, the author recommends a collaborative approach to AD in place of the traditionally physician-centred, which conceals the multidisciplinary input required. More emphasis in pre-registration education on care for dying patients is needed, with communication, morals and ethics being named topics in literature (Pesut et al., 2019). Further, opportunities for mentoring and de-briefing must be a required element of AD processes to counteract psychological impacts and resultant burnout risk amongst nurses and multidisciplinary colleagues (Bustin et al., 2024).

Conclusion

To conclude, this opinion piece demonstrates that involving nurses in policies and legislation concerning AD can safeguard them from legal risks owed to nurses' critical role at the end of life. As well as, enhancing the

quality of AD, as experienced by patients, through a cultural shift towards multidisciplinary approaches with resultant benefits. Still, to ensure nursing efforts to enhance AD policy and legislation are truly productive, they must be paired with robust initiatives to improve end-of-life education and prevent burnout. Should assisted dying be legalised in the UK, care must be taken to assure the safety and well-being of patients and providers. Drawning on lessons learnt across the globe, and the unique roles of nurses, this opinion piece constitutes a stepping stone towards achieving responsible implementation.

References

Abbasinia, M., Ahmadi, F. and Kazemnejad, A. 2020. Patient advocacy in nursing: A concept analysis. *Nursing Ethics*, 27(1), pp. 141–151. https://doi.org/10.1177/0969733019832950

Andersson, E., Salickiene, Z. and Rosengren, K. (2016) 'To be involved — A qualitative study of nurses' experiences of caring for dying patients', *Nurse Education Today*, 38(1), pp. 144-149. https://doi.org/10.1016/j.nedt.2015.11.026

Banner, D., Schiller, C. J. and Freeman, S. (2019) 'Medical assistance in dying: A political issue for nurses and nursing in Canada', *Nursing Philosophy*, 20(1), pp. e12281. https://doi.org/10.1111/nup.12281

Bellens, M., Debien, E., Claessens, F., Gastmans, C. and Dierckx De Casterlé, B. (2020) '"It is still intense and not unambiguous." Nurses' experiences in the euthanasia care process 15 years after legalisation', *Journal of Clinical Nursing*, 29(1), pp. 492-502. https://doi.org/10.1111/jocn.15110

Bellon, F., Mateos, J. T., Pastells-Peiró, R., Espigares-Tribó, G., Gea-Sánchez, M. and Rubinat-Arnaldo, E. (2022) 'The role of nurses in euthanasia: A scoping review', *International Journal of Nursing Studies*, 134(1), pp. 104286. https://doi.org/10.1016/j.ijnurstu.2022.104286

Bilsen, J., Robijn, L., Chambaere, K., Cohen, J. and Deliens, L. (2014) 'Nurses' involvement in physician-assisted dying under the euthanasia law in Belgium', *International Journal of Nursing Studies*, 51(1), pp. 1696-7. https://doi.org/10.1016/j.ijnurstu.2014.05.007

Borgstrom, E., Cohn, S., Driessen, A., Martin, J. and Yardley, S. (2024) 'Multidisciplinary team meetings in palliative care: an ethnographic study', *BMJ Supportive & Palliative Care*, 14(1), pp. e448.

British Medical Journal (no date) *Assisted Dying*. Available at: https://www.bmj.com/assisted-dying. Accessed: 10 June 2024.

Bustin, H., Jamieson, I., Seay, C. and Reid, K. (2024) 'A meta-synthesis exploring nurses' experiences of assisted dying and participation decision-making', *Journal of Clinical Nursing*, 33(1), pp. 710-723. https://doi.org/10.1111/jocn.16949

Croxon, L., Deravin, L. and Anderson, J. (2018) 'Dealing with end of life—New graduated nurse experiences', *Journal of Clinical Nursing*, 27(1), pp. 337-344. https://doi.org/10.1111/jocn.13907

Fontalis, A., Prousali, E. and Kulkarni, K. (2018) 'Euthanasia and assisted dying: What is the current position and what are the key arguments informing the debate?' *Journal of the Royal Society of Medicine,* 111, pp. 407-413. https://doi.org/10.1177/0141076818803452

Fujioka, J. K., Mirza, R. M., Mcdonald, P. L. and Klinger, C. A. (2018). 'Implementation of medical assistance in dying: A scoping review of health care providers' perspectives'. *Journal of Pain and Symptom Management,* 55, 1564-1576.e9. https://doi.org/10.1016/j.jpainsymman.2018.02.011

Gillan, P. C., Van Der Riet, P. J. and Jeong, S. (2014) 'End of life care education, past and present: A review of the literature', *Nurse Education Today*, 34(1), pp. 331-342. https://doi.org/10.1016/j.nedt.2013.06.009

House of Commons Health and Social Care Committee (2024) *Assisted Dying/Assisted Suicide.* London: UK Parliament.

Krikorian, A., Maldonado, C. and Pastrana, T. (2020) 'patient's perspectives on the notion of a good death: A systematic review of the literature', *Journal of Pain and Symptom Management,* 59(1), pp. 152-164. https://doi.org/10.1016/j.jpainsymman.2019.07.033

Lipscombe, S., Dawson, J. & Rough, E. (2024) *The Law on Assisted Suicide*. London: UK Parliament.

Meier, E. A., Gallegos, J. V., Thomas, L. P. M., Depp, C. A., Irwin, S. A. and Jeste, D. V. (2016) 'Defining a good death (successful dying): Literature review and a call for research and public dialogue', *American Journal of Geriatric Psychiatry*, 24(1), pp. 261-271. https://doi.org/10.1016/j.jagp.2016.01.135

Mroz, S., Dierickx, S., Deliens, L., Cohen, J. and Chambaere, K. (2020) 'Assisted dying around the world: A status quaestionis', *Annals of Palliative Medicine*, 10(1), pp. 3540-3553. https://doi.org/10.21037/apm-20-637

Pesut, B., Thorne, S., Greig, M., Fulton, A., Janke, R. & Vis-Dunbar, M. 2019. Ethical, policy, and practice implications of nurses' experiences with assisted death: A synthesis. *ANS Advances in Nursing Science,*

42(3), pp. 216-230. https://doi.org/10.1097/ANS.0000000000000276
Pike, M. (2024) *Assisted dying bill to be introduced in house of lords, paving the way for law change*. Dignity in Dying. Available at: https://www.dignityindying.org.uk/news/assisted-dying-bill-to-be-introduced-in-house-of-lords-paving-the-way-for-law-change/
Royal College of Nursing (2024) *Resolution: Assisted dying*. Available at: https://www.rcn.org.uk/congress/congress-events/assisted-dying-2024
Sandham, M., Carey, M., Hedgecock, E. and Jarden, R. (2022) 'Nurses' experiences of supporting patients requesting voluntary assisted dying: A qualitative meta-synthesis', *Journal of Advanced Nursing*, 78(1), pp. 3101-3115. https://doi.org/10.1111/jan.15324
Sekse, R. J. T., Hunskår, I. and Ellingsen, S. (2018) 'The nurse's role in palliative care: A qualitative meta-synthesis', *Journal of Clinical Nursing*, 27(1), pp. e21-e38. https://doi.org/10.1111/jocn.13912
Thorne, S. (2018) 'In search of our collective voice', *Nursing Inquiry*, 25(1), pp. e12266. https://www.doi.org/10.1111/nin.12266
Vatn, L. and Dahl, B. M. (2022) 'Interprofessional collaboration between nurses and doctors for treating patients in surgical wards', *Journal of Interprofessional Care*, 36(1), pp. 186-194. https://doi.org/10.1080/13561820.2021.1890703

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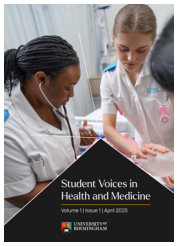

The nurses' role in reducing delirium risk in older adults: A focus on modifiable risk factors

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Abstract

This opinion piece aims to discuss modifiable risk factors, highlight the important role nurses play in delirium prevention and discuss preventative measures that can be implemented. Delirium is a complex and multifaceted neuropsychiatric syndrome associated with the disorientation of attention, memories and hallucinations and is known to impact an individual's functionality and physical health. The condition is often associated with prolonged hospital stays, higher mortality, and prolonged cognitive and functional decline. Delirium can also incur high financial costs and emotional burdens for families and caregivers. Therefore, the identification of risk factors is important to the prevention and management of this morbid disease. Delirium is prevalent amongst the older adult population, it is often undiagnosed within healthcare, thus nurses play an imperative role in managing delirium and providing compassionate and tailored interventions to minimise the incidence and impact of delirium in older adults. Nurses can play a role in modifying factors to ensure that preventative measures are implemented to reduce the risk of delirium. However, an open-minded attitude and a knowledge of delirium are essential to effectively implement preventative measures to prevent poor outcomes associated with delirium.

Keywords: Delirium; Prevention; Risk

Introduction

Delirium is described as an acute onset of deficits in attention and other aspects of cognition which can manifest with suspiciousness, misperceptions and hallucinations (Seiler et al., 2019; Wilson et al., 2020). Symptoms can often fluctuate abruptly (Johansson et al., 2018). Delirium commonly impacts older adults who are defined as those over the age of 65 (Sabharwal et al., 2015; Ouchi et al., 2017). Delirium in older adults can differ substantially between specialities and settings. Rates are much higher in hospitalised settings, particularly in intensive care units (ICU), immediate care units, and medical services (Fuchs, 2020) with nearly a third of patients admitted to ICU developing delirium (Salluh et al., 2015).

Delirium is a costly condition associated with high healthcare costs (Thom et al., 2019). In the UK, an episode of delirium alone is reported to cost an additional £1275 for the NHS due to prolonged hospital stay (Young and Inouye, 2007). Delirium remains under-recognised in the healthcare system, with detection rates as low as 30% in hospitals (Inouye et al., 2014). Various authors have argued that underdiagnosis of delirium is often due to the lack of knowledge within the healthcare system among nurses and physicians (Inouye et al., 2014; Ritter et al., 2018). Furthermore, misidentification of delirium can be due to its many labels within healthcare such as acute mental status change, confusion, acute brain dysfunction, and brain failure (Hall et al., 2012). Delirium can present differently amongst individuals depending on the subtype one might have, varying from hyperactive (agitated), hypoactive (lethargic), and mixed (a combination of both) (Smit et al.,2022).

This opinion piece aims to provide insight for nurses to identify modifiable and non-modifiable risk factors associated with delirium in older adults. There are a multitude of modifiable risk factors for delirium, those that have been identified for this opinion piece are anticholinergic medications (Saluhdeen et al., 2015; Pioli et al, 2018; Reiter et al., 2021) and environmental factors such as patient transfers. Notably, age and cognitive impairment are common risk factors that are non-modifiable (Schenning and Deiner., 2015; Zaal et al., 2015; Wu et al., 2021). This opinion piece also seeks to help nurses recognise their pivotal role in detecting and preventing delirium. By applying the knowledge gained, nurses may become more aware of risk factors and implement targeted interventions to improve patient outcomes.

Evidence and Analysis

Nurses play a fundamental role in delirium prevention in older adults (Min et al., 2022; Sist et al., 2024), as they have more direct contact with patients than other healthcare professionals (Hoch et al., 2022). They may be the first to notice a change in mental status (Bennet, 2019) by identifying a change in their baseline. Nurses can reportedly prevent delirium in up to thirty to forty per cent of at-risk patients (Faught et al., 2014). Despite this, studies have noted that nurses often lack an understanding of risk factors for delirium in older adults (Tauro, 2014; Grover et al., 2022; Ceccarelli et al., 2024). Furthermore, a more pronounced gap in knowledge is even evident in multiple studies as nurses were unable to identify delirium in patients (Akrour and Velroo, 2017; Helgesen et al., 2020; Waszynski et al., 2024). One study found that 53.1% of ICU nurses had never been educated on delirium, leading to gaps in understanding its risk factors and complications (Lange et al., 2023). This is disturbing considering the high prevalence of delirium in the ICU (Ali et al., 2021). Thus, an understanding and recognition of risk factors for delirium is crucial for early prevention and treatment.

Non-modifiable factors cannot be changed, while modifiable factors, like the environment, can be adjusted to reduce risk. Prominent non-modifiable risk factors include older age (Kubota et al.,2018; Magny et al., 2018; Muraquetand et al., 2021) and having a cognitive impairment such as dementia (Schenning and

Deiner, 2015; Zaal et al., 2015; Wu et al., 2021). Early identification of these risk factors can help reduce adverse outcomes associated with delirium such as decreased quality of life, functional decline and death (Barra et al., 2023). However, since factors such as a person's age cannot be changed, focusing on modifiable risk factors may be more beneficial for patient outcomes. This is supported by the National Institute for Health and Care and Excellence (NICE; 2023) and the Scottish Intercollegiate Network (2022) in their clinical guidelines on delirium, which support targeting modifiable risk factors when treating delirium. Emphasis on modifiable risk factors may have significant implications for healthcare professionals, influencing their clinical practice and approach to delirium management. Such modifiable risk factors include environmental factors such as transfers at nighttime, anticholinergic drugs, opioids, poor nutrition and iatrogenic events and polypharmacy (NICE, 2023), which is the regular use of five or more drugs (Varghese et al., 2024).

Environmental aspects such as transfers have been associated with increased delirium risk among older adults. Night-time transfers, in particular, have been associated with an increased incidence of delirium as well as feelings of stress and anxiety. A nurse-led project found that elderly patients were being moved unnecessarily, which heightened stress levels in those with pre-existing dementia, further exacerbating their agitation and emotional instability (Cole et al., 2018). Additionally, the association between nighttime transfers and disturbances have been associated with an increased risk of anxiety, agitation and sleep deprivation, all of which contribute to delirium (Farasat et al., 2020). Light and sound were identified as modifiable risk factors for delirium among elderly patients (Ali et al., 2020). Goldberg et al. (2015) and Bo et al. (2016) identified significant associations between room transfers, prolonged stays in the emergency department and the incidence of delirium among the elderly patient population. Repeated changing was found to increase anxiety and stressors amongst elderly patients, which increased disorientation.

Medications have also been associated with delirium in older adults. In a systematic review by Clegg and Young (2011), various medication classes associated with delirium were listed. These included anticholinergics, benzodiazepines, opioid medications, antihistamines and dihydropyridines, and potentially antiparkinson medications, steroids and NSAIDs. Alagiakrishnan and Wiens (2004) suggest that drug-induced delirium is high among the elderly, particularly those with dementia, and that the risk of anticholinergic toxicity is greater in this population. Anticholinergic drugs such as promethazine and morphine are significant contributors to the onset of delirium, with promethazine having a more pronounced impact on patients compared to morphine (Van Yperen et al., 2019) thus emerging as a distinctive risk factor for delirium. Polypharmacy is also associated with delirium (Nishtala and Chyou., 2020) and is common in the elderly population (Delara et al., 2022). It is suggested that the administration of five or more drugs to the older individual plays a role in inducing delirium as well as worsening it (Kurisu et al., 2020). However, people prescribed five or fewer medications may experience shorter delirious episodes (Van Velthuijsen et al., 2018).

A lack of knowledge of delirium may prove detrimental to elderly patients. Some research has shown that nurses with poor knowledge of delirium have more negative attitudes towards it (Zamoscik et al., 2017; Xing et al., 2022), which can potentially result in poor clinical practice and outcomes (Yu et al., 2023; Mathew et al., 2024). However, not all research suggests that nurses have a negative attitude towards delirium (Eyayu et al., 2024, Hebeshy et al., 2024). Bennet (2019) notes that nurses can also miss the subtle signs of delirium or confuse them with other disorders, such as dementia, due to their similar presentation. This may be common in older patients, as dementia is prevalent within this population (Alzheimer's Association, 2024). Thus, nurses' attitudes towards delirium can also be detrimental to the care of patients who may present with challenging symptoms such as agitation and shouting. Delirium and its symptoms can be difficult

to identify and manage; however, if spotted early, nurses play a vital role in modifying care to prevent the adverse outcomes associated with delirium.

Discussion and Implications

Addressing the gap in nurses' ability to detect delirium is crucial, as it often stems from a lack of understanding of specific risk factors. Nurses must differentiate between modifiable risks, such as medication use or environmental factors and non-modifiable risks, such as age or underlying comorbidities. Educational interventions are essential for enhancing knowledge, but evidence suggests that knowledge alone is insufficient to change clinical practice (Yanamadala et al., 2017; Eagles et al., 2022). However, equipping nurses with the skills and tools to identify and mitigate risks, such as the Confusion Assessment Method (CAM), a validated tool for delirium detection (Green et al., 2019), is a critical first step. These strategies can increase nurses' confidence, possibly change attitudes towards delirium and encourage earlier detection, and ultimately reduce morbidity.

As discussed, polypharmacy and anticholinergic drugs are established modifiable risk factors for delirium in older adults. Medication reviews are vital, as polypharmacy increases the risk of adverse drug reactions and cognitive impairment. Nurses play a pivotal role in initiating medication reviews or advocating for them with prescribing doctors, ensuring only necessary medications are administered. Tools such as the STOPP (Screening Tool of Older Persons' potentially inappropriate Prescriptions)/START (Screening Tool to Alert to Right Treatment) criteria (O'Mahoney et al., 2015) can help identify potentially inappropriate medications and reduce adverse effects. Anticholinergic drugs should be carefully reviewed, including assessing the necessity of their use and duration. Despite these efforts, limitations arise from the need for polypharmacy in managing complex comorbidities in older adults. This highlights the importance of nurses raising awareness of the overprescription of patient medications with relevant multidisciplinary teams, to weigh the benefits of treatment against the risk of developing delirium.

Non-pharmacological approaches further support delirium prevention by promoting holistic and patient-centred care. Avoiding unnecessary nighttime transfers can help prevent overstimulation, maintain sleep cycles and thus, reduce stress-related delirium risks (Goldberg et al., 2015; Bannon et al., 2018). Re-orientation strategies, such as using clocks, calendars, or familiar objects, can help patients feel grounded in their environment. Critics argue that the primary condition necessitating hospitalisation may be a stronger predictor of delirium than environmental factors (Evensen et al., 2018). Nonetheless, nurses' use of these approaches fosters meaningful interaction, enhances patient care, and supports overall well-being, reinforcing their essential role in reducing delirium risks.

Conclusion

Overall, both modifiable and non-modifiable risk factors have been identified for delirium amongst older adults and implications on how to reduce and further prevent these risk factors have been discussed to reduce delirious episodes. As nurses work more closely with patients than any other health professional, they must prioritise practical solutions to detect and prevent delirium in older adults. It is important for them to understand the critical role they play in prevention. Strategies to achieve this include education to improve understanding of delirium, medication reviews and focusing on environmental factors such as avoiding transfers at nighttime. However, these solutions are only effective once nurses embrace and cultivate an open-minded perspective and attitude towards their role in preventing delirium in older adults.

References

Ali, M.A., Hashmi, M., Ahmed, W., Raza, S.A., Khan, M.F. and Salim, B. (2021) 'Incidence and risk factors of delirium in surgical intensive care unit'. *Trauma Surgery & Acute Care Open*, 6(1), p. e000564. https://doi.org/10.1136/tsaco-2020-000564

Akrour, R. and Verloo, H. (2017) 'An observational study of community health care nurses' knowledge about delirium'. *Nursing: Research and Reviews*, 7(1), pp. 29–36. https://doi.org/10.2147/nrr.s133973

Alagiakrishnan, K. and Wiens, C.A. (2004) 'An approach to drug induced delirium in the elderly'. *Postgraduate Medical Journal*, 80(945), pp. 388–393. https://doi.org/10.1136/pgmj.2003.017236

Alzheimer's Association (2024) *What is dementia? Alzheimer's disease and dementia*. Available at: https://www.alz.org/alzheimers-dementia/what-is-dementia Accessed: 2 November 2024.

Bannon, L., McGaughey, J., Verghis, R., Clarke, M., McAuley, D.F. and Blackwood, B. (2018) 'The effectiveness of non-pharmacological interventions in reducing the incidence and duration of delirium in critically ill patients: A systematic review and meta-analysis'. *Intensive Care Medicine*, 45(1), pp. 1–12. https://doi.org/10.1007/s00134-018-5452-x

Bennett, C. (2019) 'Caring for patients with delirium'. *Nursing*, 49(9), pp. 17–20. https://doi.org/10.1097/01.nurse.0000577772.92256.8a

Bo, M., Bonetto, M., Bottignole, G., Porrino, P., Coppo, E., Tibaldi, M., Ceci, G., Raspo, S., Cappa, G. and Bellelli, G. (2016) 'Length of stay in the emergency department and occurrence of delirium in older medical patients'. *Journal of the American Geriatrics Society*, 64(5), pp. 1114–1119. https://doi.org/10.1111/jgs.14103

Burton, J.K., Siddiqi, N., Teale, E.A., Barugh, A. and Sutton, A.J. (2019) 'Non-pharmacological interventions for preventing delirium in hospitalised non-ICU patients'. *Cochrane Database of Systematic Reviews*, 4. https://doi.og/10.1002/14651858.cd013307

Caplan, G.A., Teodorczuk, A., Streatfeild, J. and Agar, M.R. (2019) 'The financial and social costs of delirium'. *European Geriatric Medicine*, 11(1), pp. 105–112. https://doi.org/10.1007/s41999-019-00257-2

Ceccarelli, A., Maddalena Ballarin, Montalti, M., Ceccarelli, P., Mazzini, S., Minotti, A., Gori, D. and Senni, M. (2024) 'Delirium diagnosis, complication recognition, and treatment knowledge among nurses in an italian local hospital: a cross-sectional study'. *Nursing reports*, 14(2), pp. 767–776. https://doi.org/10.3390/nursrep14020059

Cole, E. (2018) *Dementia and delirium: Making late-night patient transfers a thing of the past*. Available at: https://rcni.com/nursing-standard/features/dementia-and-delirium-making-late-night-patient-transfers-a-thing-of-past-130071 Accessed: 21 July 2024

Clegg, A. and Young, J.B. (2010) 'Which medications to avoid in people at risk of delirium: a systematic review'. *Age and Ageing*, 40(1), pp. 23–29. https://doi.org/10.1093/ageing/afq140

Delara, M., Murray, L., Jafari, B., Bahji, A., Goodarzi, Z., Kirkham, J., Chowdhury, Z. and Seitz, D.P. (2022) 'Prevalence and factors associated with polypharmacy: A systematic review and Meta-analysis'. *BMC Geriatrics*, 22, 601. https://doi.org/10.1186/s12877-022-03279-x

Eagles, D., Cheung, W.J., Avlijas, T., Yadav, K., Ohle, R., Taljaard, M., Molnar, F. and Stiell, I.G. (2022) 'Barriers and facilitators to nursing delirium screening in older emergency patients: A qualitative study using the theoretical domains framework'. *Age and Ageing*, 51(1), afab256. https://doi.org/10.1093/ageing/afab256

Evensen, S., Saltvedt, I., Lydersen, S., Wyller, T.B., Taraldsen, K. and Sletvold, O. (2018) 'Environmental factors and risk of delirium in geriatric patients: An observational study'. *BMC Geriatrics*, 18, 282. https://doi.org/10.1186/s12877-018-0977-y

Eyayu R.A., Zeleke T.G., Chekol W.B., Melesse, D.Y. and Ashagrie, H.E. (2024). 'Assessment of level of knowledge, attitude, and associated factors toward delirium among health professionals working in intensive care unit multicenter, cross-sectional study, Amhara region comprehensive specialized hospitals, Northwest Ethiopia, 2023'. *Frontiers in Public Health*, 12(6). https://doi.org/10.3389/fpubh.2024.1338760

Farasat, S., Dorsch, J.J., Pearce, A.K., Moore, A.A., Martin, J.L., Malhotra, A. and Kamdar, B.B. (2020) 'Sleep and Delirium in Older Adults'. *Current Sleep Medicine Reports*, 6(3), pp. 136–148. https://doi.org/10.1007/s40675-020-00174-y

Faught, D.D. (2014) 'Delirium: The nurse's role in prevention, diagnosis, and treatment'. *Medsurg Nursing: Official Journal of the Academy of Medical-Surgical Nurses*, 23(5), pp. 301–305. Available at: https://pubmed.ncbi.nlm.nih.gov/26292435/

Favreault, M. and Johnson, R.W. (2021). *The risk and costs of severe cognitive impairment at older ages: Key findings from our literature review and projection analyses research brief*. ASPE: Office of the Assistant

Secretary for Planning and Evaluation. Available at: https://aspe.hhs.gov/reports/risk-costs-severe-cognitive-impairment-older-ages-key-findings-our-literature-review-projection-0 Accessed: 10 December 2023

Goldberg, A., Straus, S.E., Hamid, J.S. and Wong, C.L. (2015) 'Room transfers and the risk of delirium incidence amongst hospitalized elderly medical patients: a case–control study'. *BMC Geriatrics*, 15, 69. https://doi.org/10.1186/s12877-015-0070-8

Green, J.R., Smith, J., Teale, E., Collinson, M., Avidan, M.S., Schmitt, E.M., Inouye, S.K. and Young, J. (2019) 'Use of the confusion assessment method in multicentre delirium trials: training and standardisation'. *BMC Geriatrics*, 19, 107. https://doi.org/10.1186/s12877-019-1129-8

Grover, S., Mehra, A., Sharma, N., Sahoo, S. and Dua, D. (2022) 'Knowledge and attitude of nurses toward delirium'. *Annals of Indian Psychiatry*. 6(1), pp. 73-81. https://doi.org/10.4103/aip.aip_134_21

Hall, R.J., Meagher, D.J. and MacLullich, A.M.J. (2012) 'Delirium detection and monitoring outside the ICU'. *Best Practice & Research Clinical Anaesthesiology*, 26(3), pp. 367–383. https://doi.org/10.1016/j.bpa.2012.07.002

Hebeshy, M.I., Gaballah, S.H. and Ibrahim, N.M. (2024) 'Assessment of ICU nurses' competency towards delirium among critically ill patients'. *BMC Nursing*, 23, 769. https://doi.org/10.1186/s12912-024-02330-z

Helgesen, A.K., Adan, Y.H., Dybvik Bjørglund, C., Weberg-Haugen, C., Johannessen, M., Åsmul Kristiansen, K., Vasskog Risan, E., Relusco, M.L., Skaarer-Heen, H.M., Sørensen, T.S., Vedå, L. and Abrahamsen Grøndahl, V. (2020) 'Nurses' experiences of delirium and how to identify delirium—A qualitative study'. *Nursing Open*, 8(2), pp .844–849. https://doi.org/10.1002/nop2.691

Hoch, J., Bauer, J.M., Bizer, M., Arnold, C. and Benzinger, P. (2022) 'Nurses' competence in recognition and management of delirium in older patients: development and piloting of a self-assessment tool'. *BMC Geriatrics*, 22, 879. https://doi.org/10.1186/s12877-022-03573-8

Inouye, S.K., Westendorp, R.G. and Saczynski, J.S. (2014) 'Delirium in elderly people'. *The Lancet*, 383(9920), pp. 911–922. https://doi.org/10.1016/s0140-6736(13)60688-1

Johansson, Y.A., Bergh, I., Ericsson, I. and Sarenmalm, E.K. (2018) 'Delirium in older hospitalized patients—signs and actions: a retrospective patient record review'. *BMC Geriatrics*, 18, 43. https://doi.org/10.1186/s12877-018-0731-5

Kubota, K., Suzuki, A., Ohde, S., Yamada, U., Hosaka, T., Okuno, F., Fujitani, I., Koitabashi, A., Shimada, G. and Kishida, A. (2018) 'Age is the most significantly associated risk factor with the development of delirium in patients hospitalized for more than five days in surgical wards'. *Annals of Surgery*, 267(5), pp. 874–877. https://doi.org/10.1097/sla.0000000000002347

Kurisu, K., Miyabe, D., Furukawa, Y., Shibayama, O. and Yoshiuchi, K. (2020) 'Association between polypharmacy and the persistence of delirium: a retrospective cohort study', *BioPsychoSocial Medicine*, 14, 25. https://doi.org/10.1186/s13030-020-00199-3

Lange, S., Mędrzycka-Dąbrowska, W., Friganovic, A., Oomen, B. and Krupa, S. (2022) 'Non-pharmacological nursing interventions to prevent delirium in icu patients - An umbrella review with implications for evidence-based practice'. *Journal of Personalized Medicine*, 2(5), p. 760. https://doi.org/10.3390/jpm12050760

Lange, S., Mędrzycka-DąbrowskaW., Tomaszek, L., Wujtewicz, M. and Krupa, S. (2023) 'Nurses' knowledge, barriers and practice in the care of patients with delirium in the intensive care unit in Poland - A cross-sectional study'. *Frontiers in Public Health*, 11. https://doi.org/10.3389/fpubh.2023.1119526

Magny, E., Le Petitcorps, H., Pociumban, M., Bouksani-Kacher, Z., Pautas, É., Belmin, J., Bastuji-Garin, S. and Lafuente-Lafuente, C. (2018) 'Predisposing and precipitating factors for delirium in community-dwelling older adults admitted to hospital with this condition: A prospective case series'. *PLOS One*, 13(2), p. e0193034. https://doi.org/10.1371/journal.pone.0193034

Marcantonio, E.R. (2017) 'Delirium in hospitalized older adults', *New England Journal of Medicine*, 377(15), pp. 1456–1466. https://doi.org/10.1056/nejmcp1605501

Mathew, C., Ashok, A.V. and Punnoose, V.P. (2024) 'Knowledge of delirium among ICU nursing staff: A cross-sectional study'. *Indian journal of psychological medicine*, 46(6), pp. 552–557. https://doi.org/10.1177/02537176241229174

Min, L.X., Trina, L.Z.H. and Jeanette, I. (2021) 'Nurses' experiences in the management of delirium among older persons in acute care ward settings: A qualitative systematic review and meta-aggregation'. *International Journal of Nursing Studies*, 127, 104157. https://doi.org/10.1016/j.ijnurstu.2021.104157

Nishtala, P.S. and Chyou, T. (2020) 'Identifying drug combinations associated with acute kidney injury using association rules method'. *Pharmacoepidemiology and Drug Safety*, 29(4), pp. 467–473. https://doi.org/10.1002/pds.4960

National Institute of Health and Care Excellence (NICE) (2023). *Recommendations | Delirium: prevention, Diagnosis and Management | Guidance*. NICE. Available at: https://www.nice.org.uk/guidance/cg103/chapter/Recommendations Accessed 1 August 2024

National Institute of Health and Care Excellence (NICE) (2024) *CKS is only available in the UK*. NICE. Available at: https://cks.nice.org.uk/topics/adverse-drug-reactions/background-information/preventing-adrs Accessed 30 August 2024.

O'Mahony, D., O'Sullivan, D., Byrne, S., O'Connor, M.N., Ryan, C. and Gallagher, P. (2015) 'STOPP/START criteria for potentially inappropriate prescribing in older people: Version 2'. *Age and Ageing*, 44(2), pp. 213–218. https://doi.org/10.1093/ageing/afu145

Ouchi, Y., Rakugi, H., Arai, H., Akishita, M., Ito, H., Toba, K. and Kai, I. (2017) 'Redefining the elderly as aged 75 years and older: Proposal from the Joint Committee of Japan Gerontological Society and the Japan Geriatrics Society'. *Geriatrics & Gerontology International*,17(7), pp. 1045–1047. https://doi.org/10.1111/ggi.13118

Pioli, G., Bendini, C., Giusti, A., Pignedoli, P., Cappa, M., Iotti, E., Ferri, M.A., Bergonzini, E. and Sabetta, E. (2018) 'Surgical delay is a risk factor of delirium in hip fracture patients with mild–moderate cognitive impairment'. *Aging Clinical and Experimental Research*, 31(1), pp. 41–47. https://doi.org/10.1007/s40520-018-0985-y

Reiter, L., Stenberg-Nilsen, H. and Økland, H.G. (2021) 'Use of anticholinergic drugs in older patients', *Tidsskrift for Den Norske Legeforening*, 141. https://doi.org/10.4045/tidsskr.20.0775

Ritter, S.R.F., Cardoso, A.F., Lins, M.M.P., Zoccoli, T.L.V., Freitas, M.P.D. and Camargos, E.F. (2018) 'Underdiagnosis of delirium in the elderly in acute care hospital settings: Lessons not learned'. *Psychogeriatrics*, 18(4), pp. 268–275. https://doi.org/10.1111/psyg.12324

Salluh, J.I.F., Wang, H., Schneider, E.B., Nagaraja, N., Yenokyan, G., Damluji, A., Serafim, R.B. and Stevens, R.D. (2015) 'Outcome of delirium in critically ill patients: systematic review and meta-analysis', *BMJ*, 350(1), p. h2538. https://doi.org/10.1136/bmj.h2538

Schenning, K.J. and Deiner, S.G. (2015) 'Postoperative delirium in the geriatric patient'. *Anesthesiology Clinics*, 33(3), pp. 505–516. https://doi.org/10.1016/

Seiler, A., Blum, D., Deuel, J.W., Hertler, C., Schettle, M., Zipser, C.M., Ernst, J., Schubert, M., von Känel, R. and Boettger, S. (2021) 'Delirium is associated with an increased morbidity and in-hospital mortality in cancer patients: Results from a prospective cohort study', *Palliative and Supportive Care*, 19(3), pp. 294–303. https://doi.org/10.1017/s147895152000139x

Siddiqi, N., House, A.O. and Holmes, J.D. (2006) 'Occurrence and outcome of delirium in medical in-patients: a systematic literature review'. *Age and Ageing*, 35(4), pp. 350–364. https://doi.org/10.1093/ageing/afl005

Scottish Intercollegiate Guidelines Network (2019) *Risk reduction and management of delirium A national clinical guideline*. Available at: https://www.sign.ac.uk/media/1423/sign157.pdf Accessed: 20 June 2024

Sist, L., Nikita Valentina Ugenti, Chiappinotto, S., Messina, R., Rucci, P. and Palese, A. (2024) 'Reasons influencing the nurses' prioritization process while preventing and managing delirium: Findings from a qualitative study'. *Aging Clinical and Experimental Research*, 36, 178. https://doi.org/10.1007/s40520-024-02818-3

Smit, L., Wiegers, E.J.A., Trogrlic, Z., Rietdijk, W.J.R., Gommers, D., Ista, E. and van der Jagt, M. (2022) 'Prognostic significance of delirium subtypes in critically ill medical and surgical patients: A secondary analysis of a prospective multicenter study'. *Journal of Intensive Care*, 10, 54. https://doi.org/10.1186/s40560-022-00644-1

Tauro, R. (2014) 'Delirium awareness - Improving recognition and management through education and use of a care pathway', *BMJ Quality Improvement Reports*, 2(2), p. u203195.w1451. https://doi.org/10.1136/bmjquality.u203195.w1451

Van Rompaey, B., Elseviers, M.M., Schuurmans, M.J., Shortridge-Baggett, L.M., Truijen, S. and Bossaert, L. (2009) 'Risk factors for delirium in intensive care patients: A prospective cohort study', *Critical Care*, 13(3), p. R77. https://doi.org/10.1186/cc7892

Van Velthuijsen, E.L., Zwakhalen, S.M.G., Pijpers, E., van de Ven, L.I., Ambergen, T., Mulder, W.J., Verhey, F.R.J. and Kempen, G.I.J.M. (2018) 'Effects of a medication review on delirium in older hospitalised patients: A comparative retrospective cohort study', *Drugs & Aging*, 35(2), pp. 153–161. https://doi.org/10.1007/s40266-018-0523-9

Van Yperen, D.T., Raats, J.W., Dokter, J., Ziere, G., Roukema, G.R., van Baar, M.E. and van der Vlies, C.H. (2019) 'Prevalence and risk factors for delirium in elderly patients with severe burns: A retrospective cohort study'. *Journal of Burn Care & Research*, 41(2), pp. 371-376. https://doi.org/10.1093/jbcr/irz161

Varghese, D., Ishida, C., Patiel, P. and Haseer Koya, H. (2023) 'Polypharmacy'. In StatsPearls. Treasure Island (FL): StatsPearls Publishing. Available at: https://www.ncbi.nlm.nih.gov/books/NBK532953 Accessed 7October 2023

Waszynski, C., Kessler, J., Chhabra, J., Nowicki, T. and Greco, S. (2024) 'Nurses' knowledge, confidence, detection and actions related to delirium care in the post-acute setting'. *Delirium Communications*. https://doi.org/10.56392/001c.92213

Wilson, J.E., Mart, M.F., Cunningham, C., Shehabi, Y., Girard, T.D., MacLullich, A.M.J., Slooter, A.J.C. and Ely, E.W. (2020) 'Delirium', *Nature Reviews Disease Primers*, 6(1), pp. 1–26. https://doi.org/10.1038/s41572-020-00223-4

Wu, J., Gao, S., Zhang, S., Yu, Y., Liu, S., Zhang, Z. and Mei, W. (2021) 'Perioperative risk factors for recovery room delirium after elective non-cardiovascular surgery under general anaesthesia', *Perioperative Medicine*, 10, 3. https://doi.org/10.1186/s13741-020-00174-0

Xing, H., Zhu, S., Liu, S., Xia, M., Jing, M., Dong, G., Ni, W. and Li, L. (2022) 'Knowledge, attitudes and practices of ICU nurses regarding subsyndromal delirium among 20 hospitals in China: a descriptive cross-sectional survey'. *BMJ Open*, 12(9), p. e063821. https://doi.org/10.1136/bmjopen-2022-063821

Yanamadala, M., Wieland, D. and Heflin, M.T. (2013) 'Educational interventions to improve recognition of delirium: A systematic review'. *Journal of the American Geriatrics Society*, 61(11), pp. 1983–1993. https://doi.org/10.1111/jgs.12522

Young, J. and Inouye, S.K. (2007). 'Delirium in older people', *BMJ*, 334(7598), pp. 842–846. https://doi.org/10.1136/bmj.39169.706574.ad

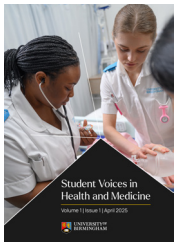
Yu, M., Mi, J., Zhang, C., Chen, H. and Luo, X. (2023). 'Knowledge, attitude and practice regarding hypoactive delirium among ICU nurses: A nationwide cross-sectional study'. *Nurse Education in Practice*, 72(1), p. 103749. https://doi.org/10.1016/j.nepr.2023.103749

Zaal, I.J., Devlin, J.W., Peelen, L.M. and Slooter, A.J.C. (2015). 'A systematic review of risk factors for delirium in the ICU'. *Critical Care Medicine*, 43(1), pp. 40–47. https://doi.org/10.1097/ccm.0000000000000625

Zamoscik, K., Godbold, R. and Freeman, P. (2017) 'Intensive care nurses' experiences and perceptions of delirium and delirium care'. *Intensive and Critical Care Nursing*, 40(1), pp. 94–100. https://doi.org/10.1016/j.iccn.2017.01.003

Zhao, Q., Liu, S., Zhao, H., Dong, L., Zhu, X. and Liu, J. (2023) 'Non-pharmacological interventions to prevent and treat delirium in older people: An overview of systematic reviews'. *International Journal of Nursing Studies*, 148(148), p. 104584. https://doi.org/10.1016/j.ijnurstu.2023.104584

Student Voices in Health and Medicine



How effective are cannabis-based products for paediatric epilepsy?

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Abstract

Epilepsy affects children's development and quality of life and antiepileptic drugs are often ineffective for children with drug resistant epilepsy. Some evidence suggests that cannabis-based products may offer potential benefits for children with drug resistant epilepsy by reducing the frequency of seizures. Epidiolex is a cannabis-based product licenced for a small number of children in the UK but concerns about adverse events (AEs) limit its wider use. This opinion piece considers the effectiveness of cannabis-based products for paediatric drug-resistant epilepsy and the associated risks. Cannabis-based products may have detrimental long-term effects and there are concerns about the safety of certain derivatives. Consequently, while cannabis-based products may be effective for reducing seizures in paediatric epilepsy, a definitive answer about whether benefits outweigh risks remains unclear. This paper concludes that more research is needed to investigate the safety of cannabis-based products. Once a more definitive answer is established, evidence-based education and practice may improve the accessibility and availability of products and offer more families informed choices about treatments for epilepsy.

Keywords: Epilepsy; Children; Cannabis

Introduction

Epilepsy affects one in 200 children in the UK (Nair and O'Dwyer, 2010). Seizures occur due to excessive electrical discharges in brain cells; their location determines the seizure experienced (Nair and O'Dwyer, 2010). There are multiple types of epileptic seizures, epilepsy types and syndromes, with a variety of underlying causes. The International League Against Epilepsy (ILAE) published the most recent definitions in 2017 and defined three diagnostic levels, seizure type, epilepsy type and epilepsy syndrome, emphasising aetiology should be considered at every level (Wirrell et al., 2022).

Treatment for epilepsy involves antiepileptic drugs, which block sodium and calcium channels or enhance the inhibitory neurotransmitter gamma aminobutyric acid (GABA) (Parker et al., 2022). This reduces glutamate release, an excitatory neurotransmitter, preventing seizures from spreading in the brain (Parker et al., 2022). Despite antiepileptic drugs, 30% of children with epilepsy have drug resistant epilepsy, where two or more antiepileptic drugs cannot control seizures (Campos-Bedolla et al., 2022). Dravet syndrome (DS) and Lennox-Gastaut syndrome (LGS) are severe developmental and epileptic encephalopathies that typically begin in childhood and are often resistant to treatment (Ali et al., 2018). This evidence-based opinion piece focuses on these syndromes due to the substantial body of research available on them.

Drug resistant epilepsy affects children's attention, concentration, and memory (Löscher et al., 2020). Learning can be affected by somnolence caused by antiepileptic drugs, due to their possible negative side effects on cognition and attention processes (Lagae, 2006), as well as being affected by post-seizure confusion (postictal state) and interictal epileptiform activity, the discharges that occur in the brain between seizures (Karaoglu et al., 2021). Parents express concerns surrounding behaviour, communication, sleep and social isolation (Kerr et al., 2011). Families caring for a child with drug resistant epilepsy in the UK may carry a large financial burden, due to costs of treatment and ability for parents to continue work alongside caring responsibilities (Ali et al., 2014). Additionally, drug resistant epilepsy syndromes have high mortality (Parker et al., 2022). The impact on quality of life for children and their families and the risks associated with drug resistant epilepsy highlights why there is an urgent need for alternative treatment.

Cannabis for treatment of paediatric epilepsy has been utilised in medicine for over 10,000 years (Billakota et al., 2019). Chinese documents report cannabis as a treatment for epilepsy 4700 years ago and Irish physician O'Shaughnessy introduced the anticonvulsant effects of cannabis to Western medicine in the late 19th Century (Billakota et al., 2019). Small studies then emerged in the 1970s investigating cannabis as a treatment for epilepsy (Russo, 2017). Cannabis contains over 100 cannabinoids, but the two most biologically active and researched are Δ^9-tetrahydrocannabinol (THC) and cannabidiol (CBD) (Ali et al., 2018). CBD is most researched due to its anticonvulsive effects and lack of psychoactive properties, unlike THC, which is psychoactive (Thompson et al., 2020).

Studies have explored compounds with varying ratios of CBD and THC. Whilst THC may have anticonvulsive effects, its psychoactive properties, potential negative impacts, and inconsistent performance in seizure models have made it undesirable for further development (Perucca, 2017). Studies have therefore focused on CBD, although its mechanism of action is poorly understood and research is ongoing (Alsolamy et al., 2023). Several clinical trials assessed CBD as epilepsy treatment in the 90's, but small sampling led to inconsistent results (Billakota et al., 2019). Further research was accelerated by media coverage, in the US, of the successful case of Charlotte Figi in 2014 (Ali et al., 2018). Charlotte, who had DS was started on a low dose of CBD, she experienced >90% reduction in seizures (Maa and Figi, 2014).

Epidiolex, a CBD-only component, is licenced for children in the UK with DS and LGS over the age of two (National Institute for Health and Care Excellence (NICE), 2019). However, adverse events (AEs) and

unknown physiological effects cause concern for physicians and there is currently limited access in the NHS (Fischer et al., 2020). NICE (2019) suggests there is not enough evidence to determine whether CBD and THC are safe and effective, calling for more research. This opinion piece investigates the effectiveness of cannabis-based products for paediatric epilepsy, using studies published between 2012 and 2023. The children within the studies had drug resistant epilepsy, more specifically LGS and DS and were 1-18 years old.

Seizure Frequency

Many studies have found that cannabis-based products can reduce seizure frequency. A retrospective study by Tzadok et al. (2016) observed that 52% of children between the ages of 1-18 in Israel experienced >50% reduction in seizure frequency, while a later study led by the same author (Tzadok et al, 2022) reported a reduction in only 40% of participants. Similarly, Caraballo and Valenzuela (2021), in another retrospective study found a >50% reduction in half of the children in their Canadian study, who were aged between 16-22 months. However, as retrospective studies, data were not collected in a predesignated proforma, consequently some data may be missing, reducing internal validity (Hess, 2004).

Scheffer et al. (2021) observed a 44% reduction in seizure frequency in children aged 3-18 in Australia and New Zealand. However, whilst specifying this was a non-randomised controlled trial, there was no control group. Instead, it was described as a 'before and after' study, but failed to elaborate, resulting in ambiguity. Despite this, Paulus et al. (2013) justifies studies without control when there is insufficient evidence in literature to suggest the intervention is associated with the outcome. This rationale could apply to cannabis-based products, as they represent a relatively new and emerging area of treatment for paediatric epilepsy (Alsolamy et al., 2023).

An open label prospective study in the US found 56% of children aged 1-17 had >50% reduction in seizures (Sands et al., 2018). Similarly, Caraballo et al.'s (2022) prospective cohort study observed a 78% reduction for children aged 2-17 in Argentina. Although these studies observed a reduction in seizure frequency, prospective design involved a long follow up period, which can increase the risk of dropouts and threaten internal validity due to attrition bias (Deeks et al., 2003). Furthermore, Tzadok et al. (2022) found 36% of participants developed a tolerance to treatment, necessitating an increase in dose. Despite the uncertainty surrounding the validity of these studies, the overall weight of evidence supports the conclusion that cannabis-based products are clearly related to a reduction in seizure frequency.

Positive Effects

Many studies have found positive effects, the most common being improved alertness, observed in 39% (Tzadok et al., 2022), 56% (Tzadok et al., 2016), 40% (Scheffer et al., 2021) and 59% (Caraballo et al., 2022) of participants. Children also experienced improvements in communication, with 25% (Tzadok et al., 2022; Tzadok et al., 2016), 38% (Scheffer et al., 2021) and 39% (Caraballo et al., 2022) showing progress over the course of the study periods. Other effects noted across studies included improvements to sleep, behaviour, school attendance and reduced duration of postictal symptoms (those which occur between a seizure subsiding and the child's return to baseline) (Scheffer et al., 2021; Tzadok et al., 2022; Caraballo et al., 2022) Consequently, based on the available evidence, cannabis-based products may improve children's quality of life.

Adverse events

Although studies suggest cannabis-based products effectively reduce seizure frequency and induce positive effects, all reported adverse events. Understanding adverse events is vital to ensure that unrecognised risks are identified promptly, and action can be taken to ensure medicines are used safely (NICE, 2024). Adverse events were reported by 87% (Tzadok et al., 2022), 45% (Tzadok et al., 2016), 96% (Scheffer et al., 2021) and 80% (Sands et al., 2018) of participants. The most common included: somnolence, diarrhoea, vomiting, behavioural disturbances and weight loss. Three studies reported serious adverse events in 23% (Sands et al., 2018), 14% (Knupp et al., 2019) and 21% (Scheffer et al., 2021) of participants. Examples of serious adverse events across studies included status epilepticus and catatonic psychosis.

Interactions

Drug interactions with other antiepileptic drugs were reported. Scheffer et al. (2021) reported somnolence was more common in children taking clobazam, additionally, these children experienced less seizure improvement than other participants. Sands et al. (2018) observed behavioural changes in children taking clobazam, alongside valproic acid; three developed elevated alanine aminotransferase levels (a liver enzyme), which normalised with CBD dose reduction. Caraballo et al. (2022) reported that clobazam increased somnolence, which was reversed by reducing the dose of clobazam. However, both Caraballo et al. (2022) and Scheffer et al. (2021) found no significant changes in alanine aminotransferase levels. However, the small sample sizes in all studies, threatens both internal and external validity, suggesting that conclusions from these findings may have limited reliability (Smith and Noble, 2014). Consequently, there is uncertainty surrounding interactions, coupled with the presence of adverse events that raises significant questions about the safety and clinical application of cannabis-based products for children.

Aetiology

Some studies explored the relationship between seizure aetiology (the cause or origin of epilepsy) and response to cannabis-based products. Scheffer et al. (2021) reported that 43% of children with DS and 39% in LGS responded to treatment. In a comparable study, Caraballo et al. (2022) observed that 84% of children with LGS achieved >50% reduction in seizures and all children with DS in this study became seizure free. Knupp et al. (2019) suggested there may be differences in response between children with DS and LGS, but did not explore this further, limiting the strength of their conclusions and suggesting there may be an association between aetiology and effectiveness of cannabis-based products. Similarly, Tzadok et al. (2016) observed a 23% response rate in children with DS, compared to 88% in those with LGS, but their later study (Tzadok et al., 2022) concluded that seizure aetiology was not associated with a response. These conflicting findings highlight the uncertainty around whether cannabis-based products are more effective for certain types of drug-resistant epilepsy. Whilst some evidence suggests variability in response based on epilepsy syndrome, further research is needed to clarify these associations.

Discussion

Overall, the evidence suggests cannabis-based products may be effective in treatment of epilepsy, due to seizure reduction and positive effects. Conversely, adverse events and drug interactions, alongside methodological limitations in studies mean a definitive answer regarding the safe use of these medications for all children with drug resistant epilepsy is unclear.

Based on the available evidence, it is clear cannabis-based products are somewhat effective for children

with LGS and DS in reducing seizure frequency and may have positive effects, which include improvements to fatigue, social interaction, mood and cognition (Rosenberg et al., 2017., Porcari et al., 2018). However, observations within these presentations of epilepsy and all aetiologies need further examination because studies are currently small, and literature is focused on DS and LGS (Treves et al., 2021).

There is evidence of an association between CBD and adverse events, such as gastrointestinal, sleep disturbances and nausea, as well as interactions between CBD and clobazam (Pamplona et al., 2018). Additionally, some children experienced elevated alanine aminotransferase levels and adverse mental events, and current understanding is limited surrounding the long-term effects of cannabis on the developing brain and liver (Fischer et al., 2020). Evidence is largely inconclusive and suggests AEs, interactions and long-term developmental outcome measures remain unclear. Consequently, healthcare professionals are reluctant to prescribe CBD in the NHS, limiting access for families and leading to some families choosing to purchase products privately or using unlicensed medications (Calapai et al., 2023).

The studies investigated here used products containing varying amounts of CBD and THC, however Treves et al. (2021) suggested benefits of CBD are annulled in products containing THC. Ali, Scheffer and Sadleir (2018) expressed concerns about long-term effects THC can have on the developing brain, suggesting the manufacturing quality of cannabis-based products is variable, with many not meeting standards for medical use. This raises concerns for parents purchasing unlicensed medications. Additionally, Klotz et al. (2020) outlined that the benefits of cannabis-based products have been oversold and parents often have disproportionate expectations. Consequently, the various derivatives of cannabis require study to determine their safety.

Implications

There are several ethical considerations salient to the use of cannabis-based products, related to social context and misconceptions (Glickman and Sisti, 2019). Whilst fundamental to discuss within this topic, the small scope of this piece restricts the extent to which concepts can be discussed.

The uncertainty surrounding which derivatives of cannabis are safe to use and the long-term effects, specifically on the brain and liver presents a significant gap in current knowledge and understanding. Further research is therefore required to determine which products are safe over an extended period.

The concerns of healthcare professionals, their reluctance to prescribe cannabis-based products and unrealistic expectations of parents has some current implications for education. While further research is currently required, healthcare professionals need to ensure they remain up to date with emerging evidence to ensure they can provide evidence-based information to families. Understanding the current and emerging evidence base will ensure clinicians and parents are well-informed and in equipoise, used to describe individuals that are not biased to outcomes and are prepared it may not be what they expected (Dewar et al., 2023). More research in this area has potential to improve the future accessibility of prescriptions of CBD. Consequently, the risks associated with families purchasing unlicensed medications containing harmful derivatives will be reduced. Increased research and education have implications for nurses who will be better able to help parents and children make informed treatment choices.

Conclusion

Considering evidence, I believe it is unclear how effective cannabis-based products are for paediatric epilepsy. Findings suggest cannabis-based products reduce seizure frequency and induce positive effects. However, there are AEs, concerns surrounding long-term impacts and questions regarding the safety of

products containing THC. Consequently, further research should be conducted investigating the effect cannabis-based products have over a more sustained period and consider products containing which derivatives are safe. Subsequent evidence-based education for healthcare professionals and parents should be introduced, to inform individuals of the advantages and disadvantages and increase knowledge. These advancements may lead to increased accessibility and enable nurses to help families make informed decisions. Despite uncertainties, cannabis-based products may have benefits within paediatric epilepsy. Further research is of utmost importance to answer current questions, to better understand risks and ultimately continue to improve the lives of children with epilepsy.

References

Ali, M.A., Elliott, R.A. and Tata, L.J. (2014) 'The direct medical costs of epilepsy in children and young people: A population-based study of health resource utilisation', *Epilepsy Research*, 108(3), pp. 576–586. https://doi.org/10.1016/j.eplepsyres.2013.12.014

Ali, S., Scheffer, I.E. and Sadleir, L.G. (2018) 'Efficacy of cannabinoids in paediatric epilepsy', *Developmental Medicine and Child Neurology*, 61(1), pp. 13–18. https://doi.org/10.1111/dmcn.14087

Alsolamy, R.M., Almaddah, T., Aljabri, A., Maaddawi, H.A., Alzahrani, F. and Gashlan, M. (2023) 'Knowledge and attitude of Saudi physicians toward cannabidiol for pediatric epilepsy: A cross-sectional study', *Cureus*, 15(3), pp. 36622-36623. https://doi.org/10.7759/cureus.36622

Billakota, S., Devinsky, O. and Marsh, E. (2019) 'Cannabinoid therapy in epilepsy', *Current Opinion in Neurology*, 32(2), pp. 220–226. https://doi.org/10.1097/wco.0000000000000660

Calapai, F., Esposito, E., Ammendolia, L., Mannucci, C., Calapai, G., Curro, M., Cardia, L. and Chinou, I. (2023) 'Pharmacovigilance of unlicensed cannabidiol in European countries', *Phytotherapy Research*, 11(1). https://doi.org/10.1002/ptr.8028

Campos-Bedolla, P., Feria-Romero, I. and Orozco-Suárez, S. (2022) 'Factors not considered in the study of drug-resistant epilepsy: Drug-resistant epilepsy: Assessment of neuroinflammation', *Epilepsia Open*, 7(1), pp. 68–80. https://doi.org/10.1002/epi4.12590

Caraballo, R. and Valenzuela, G.R. (2021) 'Cannabidiol-enriched medical cannabis as add-on therapy in children with treatment-resistant West Syndrome: A study of eight patients', *Seizure*, 92, pp. 238–243. https://doi.org/10.1016/j.seizure.2021.10.002

Caraballo, R., Reyes, G., Demirdjian, G., Huaman, M. and Gutierrez, R. (2022) 'Long-term use of cannabidiol-enriched medical cannabis in a prospective cohort of children with drug-resistant developmental and epileptic encephalopathy', *Seizure*, 95, pp. 56–63. https://doi.org/10.1016/j.seizure.2022.01.001

Deeks, J., Dinnes, J., D'Amico, R., Sowden, A.J., Sakarovitch, C., Song, F., Petticrew, M. and Altman, D.G. (2003) 'Evaluating non-randomised intervention studies', *Health Technology Assessment*, 7(27). https://doi.org/10.3310/hta7270

Dewar, B., Chevrier, S., De Meulemeester, J., Fedyk, M., Rodriguez, R., Kitto, S., Saginur, R. and Shamy, M. (2023) 'What do we talk about when we talk about "equipoise"? Stakeholder interviews assessing the use of equipoise in clinical research ethics', *Trials*, 24(1). https://doi.org/10.1186/s13063-023-07221-3

Fischer, A.S., Tapert, S., Louie, D., Schatzberg, A.F. and Singh, M.K. (2020) 'Cannabis and the developing adolescent brain', *Current Treatment Options in Psychiatry*, 7(2), pp. 144–161. https://doi.org/10.1007/s40501-020-00202-2

Glickman, A. and Sisti, D. (2019) 'Prescribing medical cannabis: Ethical considerations for primary care providers', *Journal of Medical Ethics*, 46(4), pp. 227–230. https://doi.org/10.1136/medethics-2019-105759

Hess, D.R. (2004) 'Retrospective studies and chart reviews', *Respiratory Care*, 49(10), pp. 1171-1174

Karaoglu, P., Yis, U., Polat, A.I., Ayanoglu, M. and Hiz, S. (2021) 'Clinical predictors of drug-resistant epilepsy in children', *Turkish Journal of Medical Sciences*, 51(3), pp. 1249–1252. https://doi.org/10.3906/sag-2010-27

Kerr, C., Nixon, A. and Angalakuditi, M. (2011) 'The impact of epilepsy on children and adult patients' lives: Development of a conceptual model from qualitative literature', *Seizure*, 20(10), pp. 764–774. https://doi.org/10.1016/j.seizure.2011.07.007

Klotz, K.A., Schonberger, J., Nakamura, L., Antonio-Arce, V.S., Bast, T., Wiemer-Kruel, A., Schubert-Bast, S., Broggraefe, I., Syrbe, S. and Jacobs, J. (2020) 'Expectations and knowledge of cannabidiol therapy for childhood epilepsy — a German caregiver survey', *Epilepsy and Behavior*, 111, pp. 107268-107269. https://doi.org/10.1016/j.yebeh.2020.107268

Knupp, K.G., Rice, J.D., Helmkamp, L.J., Galinkin, J., Sempio, C., Jost, K. and Chapman, K.E. (2019) 'Prospective evaluation of oral cannabis extracts in children with epilepsy', *Seizure*, 72, pp. 23–27. https://doi.org/10.1016/j.seizure.2019.09.007

Lagae, L. (2006) 'Cognitive side effects of anti-epileptic drugs. The relevance in childhood epilepsy.', *Seizure*, 15(4), pp. 235–241. https://doi.org/10.1016/j.seizure.2006.02.013

Löscher, W., Potschka, H., Sisodiya, S.M. and Vezzani, A. (2020) 'Drug resistance in epilepsy: Clinical impact, potential mechanisms, and new innovative treatment options', *Pharmacological Reviews*, 72(3), pp. 606–638. https://doi.org/10.1124/pr.120.019539

Maa, E. and Figi, P. (2014) 'The case for medical marijuana in epilepsy', *Epilepsia*, 55(6), pp. 783–786. https://doi.org/10.1111/epi.12610

Nair, D.R. and O'Dwyer, R. (2010) *Epilepsy: An atlas of investigation and management*. Oxford: Clinical Publishing.

National Institute for Health and Care Excellence (NICE) (2024) *BNF - Adverse reactions to drugs*. Available at: https://bnf.nice.org.uk/medicines-guidance/adverse-reactions-to-drugs/ Accessed: 30 October 2024.

National Institute for Health and Care Excellence (NICE). (2019) *Cannabidiol with clobazam for treating seizures associated with Lennox–Gastaut syndrome. Clinical guideline [TA615]*. Available at: https://www.nice.org.uk/guidance/ta615 Accessed: 20 October 2023.

Pamplona, F.A., da Silva, L.R. and Coan, A.C. (2018) 'Potential clinical benefits of CBD-rich cannabis extracts over purified CBD in treatment-resistant epilepsy: Observational data meta-analysis', F*rontiers in Neurology*, 9, pp. 759-760. https://doi.org/10.3389/fneur.2018.00759

Parker, L., Rock, E.M. and Mechoulam, R. (2022) *CBD: What does the science say?* Cambridge, MA: The MIT Press.

Paulus, J.K., Dahabreh, I.J., Balk, M.E., Avendano, E.E., Lau, J. and Ip, S. (2013) 'Opportunities and challenges in using studies without a control group in comparative effectiveness reviews', *Research Synthesis Methods*, 5(2), pp. 152–161. https://doi.org/10.1002/jrsm.1101

Perucca, E. (2017) 'Cannabinoids in the treatment of epilepsy: Hard evidence at last?', J*ournal of Epilepsy Research*, 7(2), pp. 61–76. https://doi.org/10.14581/jer.17012

Porcari, G.S., Fu, C., Doll, E.D., Carter, E.G. and Carson, R.P. (2018) 'Efficacy of artisanal preparations of cannabidiol for the treatment of epilepsy: Practical experiences in a tertiary medical center', E*pilepsy and Behavior*, 80, pp. 240–246. https://doi.org/10.1016/j.yebeh.2018.01.026

Rosenberg, E.C., Louik, J., Conway, E., Devinsky, O. and Friedman, D. (2017) 'Quality of life in childhood epilepsy in pediatric patients enrolled in a prospective, open-label clinical study with cannabidiol', *Epilepsia*, 58(8), pp. 96-100. https://doi.org/10.1111/epi.13815

Russo, E.B. (2017) 'Cannabis and epilepsy: An ancient treatment returns to the fore', *Epilepsy and Behavior*, 70, pp. 292–297. https://doi.org/10.1016/j.yebeh.2016.09.040

Sands, T.T., Rahdari, S., Oldham, M.S., Nunes, E.C., Tilton, N. and Cilio, M.R. (2018) 'Long-term safety, tolerability, and efficacy of cannabidiol in children with refractory epilepsy: Results from an expanded access program in the US', *CNS Drugs*, 33(1), pp. 47–60. https://doi.org/10.1007/s40263-018-0589-2

Scheffer, I.E., Hulihan, J., Messenheimer, J., Ali, S., Keenan, N., Griesser, J., Gutterman, D.L., Sabree, T. and Sadleir, L.G. (2021) 'Safety and tolerability of transdermal cannabidiol gel in children with developmental and epileptic encephalopathies', *JAMA Network Open*, 4(9). https://doi.org/10.1001/jamanetworkopen.2021.23930

Smith, J. and Noble, H. (2014) 'Bias in research', *Evidence-Based Nursing*, 17(4), pp. 100-101. https://doi.org/10.1136/eb-2014-101946

Thompson, M.D., Martin, R.C., Grayson, L.P., Ampah, S.B., Cutter, G., Szaflarski, J.P. and Bebin, E.M. (2020) 'Cognitive function and adaptive skills after a one-year trial of cannabidiol (CBD) in a pediatric sample with treatment-resistant epilepsy', *Epilepsy and Behavior*, 111, pp. 107299-107300. https://doi.org/10.1016/j.yebeh.2020.107299

Treves, N., Mor, N., Allergaert, K., Bassalov, H., Berkovitch, M., Stolar, O.E. and Matok, I. (2021) 'Efficacy and safety of medical cannabinoids in children: A systematic review and meta-analysis', *Scientific Reports*, 11(1). https://doi.org/10.1038/s41598-021-02770-6

Tzadok, M., Hamed, N., Heimer, G., Zohar-Dayan, E., Rabinowicz, S. and Zeev, B.B. (2022) 'The long-term effectiveness and safety of cannabidiol-enriched oil in children with drug-resistant epilepsy', *Pediatric Neurology*, 136, pp. 15–19. https://doi.org/10.1016/j.pediatrneurol.2022.06.016

Tzadok, M., Uliel-Siboni, S., Linder, Ilan., Kramer, Uri., Epstein, O., Menascu, S., Nissenkorn, A., Yosef, O.B., Hyman, E., Granot, D., Dor, M., Lerman-Sagie, T. and Ben-Zeev, B. (2016) 'CBD-enriched medical cannabis for intractable pediatric epilepsy: The current Israeli experience', *Seizure*, 35, pp. 41–44. https://

doi.org/10.1016/j.seizure.2016.01.004
Wirrell, E., Tinuper, P., Perucca, E. and Moshe, S.L. (2022) 'Introduction to the epilepsy syndrome papers', *Epilepsia*, 63(6), pp. 1330–1332. https://doi.org/10.1111/epi.17262

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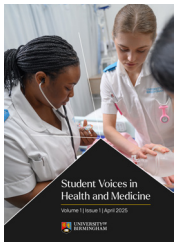

Effective recognition and mitigation of self-harm and suicide among adolescents

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Abstract

Self-harm and suicide are related behaviours and there are circumstances where individuals may engage in self-harming behaviours without the intention of ending their life. Risk of suicide among adolescents is increasing (Bould et al., 2019; Iacobucci, 2020), warranting its focus in this paper. To tackle the issue of suicide, identifying risk factors is essential in practice to mitigate risk of harm. Risk factors among adolescents includes appetite loss, antidepressants, high impulsivity, low social support, and self-esteem, tobacco and any psychiatric illness, such as depression. A notable finding in existing literature is the interrelationship between self-harm and suicide, suggesting risk factors for self-harm can also help to identify those at risk of suicide in practice. A key challenge in the recognition of risk factors among adolescents relates to the stigma surrounding mental health, which is associated with reluctance to disclose behaviour that may signal concern. Adolescents may be reluctant to share concerns and there is a lack of research exploring the reasons for this and the ways this challenge can be addressed. Improving healthcare professional awareness about risk factors and specific challenges that adolescents experience in disclosing them can aid collaborative working between adolescents and healthcare professionals to improve outcomes. This paper discusses key issues related to the recognition of risk factors, which may aid mitigation for adverse outcomes.

Keywords: Suicide; Self-harm; Risk factors; Adolescents

Introduction

Self-harm is the deliberate act of inflicting injury or damage to oneself. This can present in various ways such as cutting, burning and hitting oneself (Angelotta, 2015; Azam et al., 2017). Suicide is an act of intentionally causing one's own death (Azam et al., 2017; Harmer et al., 2023). Not all cases of suicide are intentional. There are situations where individuals may engage in self-harming behaviours without the intention of ending their life. Clinical features of self-harm can be visibly evident in cutting or burning or self-poisoning by overdose. In contrast, the clinical features of suicidal thoughts may be ominous or ambiguous with patients presenting with feelings of hopelessness, distract, lack of pleasure or preoccupation of death (Azam et al., 2017).

Identifying risk factors for both self-harm and suicide is essential in mitigating potentially fatal outcomes or harmful behaviours (Dovjak and Kukec, 2019). This is a particularly pertinent issue among adolescents because it is when children go through a lot of changes physically, emotionally, and socially and are at a period of risk (Best and Ban, 2021; Uccella et al., 2023). Adolescents can become vulnerable to mental health problems such as depression, eating disorders (ED) and psychosis (Blakemore, 2019), increasing the risk of self-harm or suicide.

Since 2012, the Department of Health has outlined a 'preventing suicide strategy' to save lives. Despite this, suicide and self-harm among young people is increasing (Garratt et al., 2024). Typically, suicidal thoughts become prevalent between 12-17 years (Nock et al., 2012) and suicidal deaths between 15-19 (Kolves and de Leo, 2017). Youth who self-harm tend to be younger and those who commit suicide tend to be older (Cybulski et al., 2021) suggesting a deterioration over time. While every case is unique, identifying risk factors that can be applied in healthcare practice may help mitigate further increase and prevent harm (Levi-Belz et al., 2019). Identifying risk factors should start early to ensure best possible treatment success so patients avoid further deterioration post-adolescence. Support and intervention from caregivers, such as parents and teachers, that is maintained and regular, can alleviate risk of negative outcomes to mental health (Dalton et al., 2020).

This paper critically discusses the evidence related to a number of risk factors among adolescents which may aid health professionals in the recognition and initiation of mitigation plans that ultimately prevent harm.

Discussion of Evidence

Risk factors for both self-harm and suicide among adolescents are identified as appetite loss (Kitagawa et al., 2017), depression, any psychiatric illness and being prescribed antidepressants (Cybulski et al., 2021). Risk factors for self-harm are high impulsivity (Aldrich et al., 2018), suicidal ideation (SI), low social support and self-esteem (Huang et al., 2017). In contrast, specific risk factors for suicide include the use of tobacco (Huang et al., 2017) and history of self-harm (Cybulski et al., 2021).

The relationship between self-harm and suicidal ideation

Self-harm may predict SI, but the interrelationship is complex. Evidence suggests there is a bidirectional relationship between self-harm and suicide. Engaging in self-harm increases likelihood of SI (Ribeiro et al., 2016; Asarnow et al., 2020) and having SI increases the likelihood to engage in self-harm (han et al., 201; Iorfino, 2020). This supports the claim that risk factors for either potentially apply to both self-harm and SI. Suicide is considered a type of self-harm because it is deliberate (Clarke et al., 2019). However, some

literature challenges this assumption. For example, personality traits such as high impulsivity is considered a predictor for self-harm (Aldrich et al., 2018) and some theory supports that suicidal individuals may have a tendency for high impulsivity (Klonsky and May, 2015; Ramezani, 2024). The reasoning is that impulsivity can transition and translate to suicidal behaviour, involving planning and executing suicidal actions (Paashaus et al., 2021). In contrast, studies such as Moore et al. (2022) and Hadzic et al. (2019) claim that there is a weak relationship between impulsivity and SI and that each situation is individual. This suggests that distinct factors and circumstances should be considered in the recognition of risk.

Antidepressants and risk of suicide

The therapeutic use of antidepressants does not increase the risk of suicide. Cybulski et al. (2021) suggest that antidepressant use may predict self-harm and suicide, however numerous other studies do not support this finding. Critical appraisal of Cybulski et al. (2022) study reveals numerous shortfalls in the methodology which could explain differing findings. Cybulski et al. (2022) extracted data from electronic health records. While Weiskopf and Weng (2013) emphasise the quality of electronic health records in terms of their 'completeness' and 'correctness', the method of data collection relies on the accurate input of data and presents limitations when data may be missing. This is limited by the coding strategy used in the study. To gather case controls characteristics, the authors used Read Codes and International Classification of Disease coding version 10 (ICD-10). This strategy is common and a helpful way to categorise the conditions and traits of individuals, especially in hospital and emergency department statistics (Peng et al., 2018). However, the reliability of ICD-10 coding is questioned by numerous sources (Daniels et al., 2021; Asadi, Hosseini and Almasi, 2022) where its complexity led to significant uncertainties and lack of standardisation (Stausberg et al., 2008). Despite the potential limitations in the coding approach, the data recorded and gathered using the Clinical Practice Research Datalink (CPRD) enables a thorough analysis of several related factors through its rich and large data (Herrett et al., 2015)

Some antidepressants have warning labels to warn there is an increased risk of suicidality (Nydegger, 2014), but there is a lack of certainty in existing literature. A study by Coupland et al. (2015) showed no significant difference in the rate of self-harm and suicide with antidepressants. Health professionals must consider the circumstances of individuals and whether use of antidepressants could be a predictor. Regardless of the possible association with increased risk of suicide, the benefits offered by antidepressant use is well-documented and evidenced. A meta-analysis by Cipriani et al. (2018) accounts strongly for the efficacy of antidepressants through many randomised controlled trials with placebos. Given that depression and suicide are linked (Orsolini et al., 2020), antidepressants are beneficial once therapeutic effect is achieved and unlikely to increase risk of self-harm, SI and suicide.

Appetite, eating disorders, self-harm and suicide

Changes in appetite and pre-existing psychiatric illness are associated with increased risk of self-harm, SI and suicide. Kitagawa et al. (2017) suggests appetite loss is a strong predictor for self- harm and suicide among adolescents but, there is not a casual long-term association reported as this research design was cross-sectional. While Kitagawa et al.(2017) concluded that appetite loss is a predictive factor, there may be other explanations for appetite changes. For example, Fujihira (2023) suggests appetite may change from season to season and Connelly (2016) implies that cross-sectional studies show inability to determine causality. This supports the notion that appetite may be variable and not predictive of self-harm or suicide in Kitagawa et al. (2017). Understanding individual appetite changes over time can better inform health professionals in recognising risk. EDs among adolescents may present with appetite loss (Witte et al., 2023).

Perkins et al. (2021) conducted a longitudinal study that highlighted both bulimia nervosa and anorexia nervosa may present with appetite loss among adolescents which is associated with self-harm and SI after 6 months. Ahn et al. (2019) found suicidal attempts were recorded in 20.8% of 899 patients with a diagnosed ED. In addition, a study by Patel et al. (2021) found that adolescents with anorexia nervosa exhibit a higher prevalence of suicidal ideation (45.8%) compared to those with bulimia nervosa (36.7%). More recently, a meta-analysis by Amiri and Khan (2023) found a high prevalence of both self-harm and suicide is associated with a diagnosis of ED. Overall, existing literature suggests that appetite changes are a recognised risk factor associated with self-harm, SI and suicide.

EDs and appetite loss is associated with psychiatric disorders, including mood disorders (Witte et al., 2023; Favril et al., 2023). Thirty-eight meta-analyses found that psychiatric disorders including mood-disorders and EDs can be responsible for a ten-fold increase in suicidal-related deaths (Favril et al, 2023). Suicide cases worldwide are pronominally psychiatric illness related (Bachmann, 2018) suggesting that any psychiatric illness, including depression among adolescents increases the risk of suicide (Kobeissy, 2019; Cybulski et al., 2022). Many researchers agree that depression is linked to suicidality (Bernaras et al., 2019; Cai et al, 2021; Grossberg and Rice, 2023) meaning it is a risk factor that can enable health professionals to recognise and mitigate self-harm, SI and suicide.

Social isoloation, self-harm and suicide

Social isolation and low self-esteem are associated with increased risk of self-harm and suicide. Huang et al. (2017) suggests that a lack of social support and low self-esteem are risk factors for self-harm, but not suicide. Huang et al. (2017) drew data from self-reported anonymous questionnaires. This was useful in knowing the participants short, quick and easy answers in relation to the questions. However, there is a risk of response bias. Referenced standard assessment tools were used in this study showcasing reliability and validity, but students may answer questions in a way that they think is socially desirable or that they believe aligns with what the researcher wants to hear (Althubaiti, 2016; Sadan, 2017), especially when it comes to sensitive topics like SI/Self-harm (Conelly, 2016). This can affect the accuracy and reliability of the data collected.

Despite the limitations of Huang at al. (2017), theory by Joiner (2005) supports that low social support and low self-esteem is associated with self-harm as well as suicide. Joiner (2005) claims that this association can be explained by the interpersonal psychological theory of suicide. Joiner (2005) suggests some individuals may be more prone to suicidal thoughts and behaviours and there are three dominant factors that contribute towards increased risk of suicide: “perceived burdensomeness”, “thwarted belongingness”, and “acquired capability”. While ‘acquired capability’ relates to individuals taking action, ‘perceived burdensomeness’ and ‘thwarted belongingness’ relate to how low levels of social support might contribute towards social disconnection and lack of reciprocal experiences and self-esteem (Diamond, 2022). Motillon-Toudic et al. (2022) suggest this and explains how low social support and social isolation is associated with suicide. Furthermore, a study by Almansour and Siziya (2017) found that loneliness and lack of close friends contribute to SI which is linked to low social support. Social connectedness is closely related to self-esteem, and both have found to be associated with self-harm (Forrester et al., 2017; Junker et al., 2019). This connection is also strengthened in a systematic review by Dat et al. (2022) overall highlighting that literature consistently indicates low social support and low self-esteem are risk factors for self-harm, SI and suicide.

Tobacco, self-harm and suicide

Tobacco use may be a risk factor for SI, suicide and self-harm. Tobacco is reported to be a predictor for

suicide but not self-harm among adolescents (Huang et al., 2017). In addition, Cho (2020) found that tobacco use is highly associated with SI in a cross-sectional study. These claims are further supported by Poorolajal & Darvishi (2016) who conducted a meta-analysis that found strong evidence that smoking is a risk factor for suicide. However, there are a few studies that have found an association between smoking as a risk factor for self-harm. Despite this, a study by Korhonen et al. (2018) found significant increased risk for self-injury among adolescents who regularly use tobacco. Smoking can increase perceived pleasure among young adults (Gubner et al., 2018) therefore the likelihood that adolescents consider smoking as self-harm is minimal. Some researchers argue that because tobacco use is evidenced to cause health problems, it should be considered a method of self-harm (Burešová, 2016). While there is some debate in this area, evidence suggests that tobacco use is a risk factor for SI and suicide and may be considered an act of self-harm itself.

Implications for practice

Identifying risk factors for self-harm and suicide is important because it allows for a proper holistic assessment of adolescents to assess the likelihood they would engage in self-harm and suicide. Wright, Dave & Dogra (2017) suggest health professionals should question adolescents about risk factors sensitively and gently. If the questions lead to the notion of self-harm and the urge is present, the risk is high. However, many adolescents do not disclose their intent or seek help, even when known to suffer from a current mental health challenge (Divin et al., 2018). Disclosure is an ongoing issue which has been discussed in professional literature for over a decade. Rickwood et al. (2007) noted that youth are less likely to or do not seek professional help despite experiencing mental health problems. This raises questions about whether the issue lies with the youth or health services. Dillinger (2021) suggests disclosure may be limited due to stigma surrounding mental health problems. Some adolescent patients will avoid being vulnerable to healthcare providers because of difficulty in trusting health professionals (Schouten, 2017). This may result in dismissive behaviours from adolescents in response to questions asked about suicide or self-harm. Pearson & Hyde (2020) highlights that many adolescents with mental health problems prefer to seek help from informal sources such as friends and family. It may be that adolescents fear escalation of concerns which alters their engagement with professionals in both schools and clinical areas. Healthcare professionals and many young people are aware that there is a professional and legal duty to escalate situations if patients pose a threat to themselves and/or public as specified by the Department of Health & Social Care (2021) and The Care Act (2014). Parents generally require to be informed about their child's problems (Care Quality Commission, 2019) and the Department for Education (2024) encourages schools and colleges to share information about concerns relating to the welfare of children with parents or guardians. However, adolescents may fear escalation of concerns to their parents and other professionals, which may contribute towards their reluctance to discuss and share accurate information about risk factors. This can present barriers to mitigation efforts in clinical practice. More research is needed to understand how fear of escalation plays a role in why adolescents refrain from disclosing to professionals and pursuing professional assistance.

The concept of Gillick competence is important to consider in this discussion. Gillick competence is relevant in all situations, but particularly in cases where there are risk factors and competency is required for a child under the age of 16 to decide. If a child under 16, has capacity, they will be able to understand the evidence-based information provided by health professionals, they can weigh up risks and benefits and make a voluntary decision (Griffith, 2016). This means parents do not have to make any decisions or even be informed if there is a conflict with the child's decision. A qualitative study by Meinhardt et al. (2022) in New Zealand found that young people want a voice in the development of processes that affect them, specifically

in favour of student led decisions including the contents shared about their cases. This raises important questions about whether parents of Gillick competent children should be informed about potential or actual self-harming behaviours and increased risk of SI and suicide. The decision to share information with parents hinges on the disclosure and co-operation of adolescents with health professionals. More research would be valuable in other populations to see if they share similar concerns, and an attempt should be made to change ways in adolescent settings that are favourable to them.

At times, additional barriers for disclosure exist. For example, culture may influence what is considered acceptable and whether mental health problems are stigmatised. Among ethnic minority groups, stigmatisation is more likely when compared with white ethnicity and this may influence whether adolescents from ethnic minorities disclose information (Misra et al., 2021). Cultural reluctance can further complicate the clinician's ability to engage with patients effectively and may lead to an underreporting of SI. This along with fear of escalation can express the necessity of a nuanced understanding of each adolescent's unique case. Health professionals require skills in recognition and screening for risk factors that appreciate the barriers to disclosure of information and can inform their assessment and decisions. Many clinicians do not routinely screen for suicide risk (Inman et al., 2019), despite the importance of recognition and plans for mitigation before situations escalate. Once recognised, suicidal interventions are more likely to be effective if they are collaborative and team based (Breslin et al., 2020) meaning every health professional in the multidisciplinary team plays a role in identifying risk factors and contributing towards mitigation.

This paper has discussed a range of risk factors that are evidence based. This may aid health professionals in recognising risks factors and making plans to mitigate self-harm, SI and suicide while also understanding the complexities of adolescents seeking help.

Conclusion

There are a range of risk factors identified in this paper for self-harm, SI and suicide among adolescents. A notable finding highlighted in this paper is the interrelationship between self-harm, SI and suicide suggesting risk factors for self-harm and SI can also indicate increased suicide risk. Evidence suggests self-harm risk tends to occur among younger adolescents and suicide in older adolescents which can be useful for health professionals to consider in holistic assessments to prevent attempted suicide as they develop. This paper highlights that disclosure of risk factors is very sensitive and personal and that a fear of escalation may influence disclosure. Even when adolescents are Gillick competent, disclosure and seeking help may be influenced by several factors including stigma, cultural norms or expectations. This paper advocates for attempts to understand adolescents, so that risks factors can be identified, and collaborative approaches can be adopted for mitigation plans that improve their quality of life.

Reference list

Ahn, J., Lee, J. H. and Jung, Y. C. (2019) 'Predictors of suicide attempts in individuals with eating disorders'. *Suicide & Life-Threatening Behavior*, 49(3), pp. 789–797. https://doi.org/10.1111/sltb.12477

Aldrich, J. T., Wielgus, M. D. and Mezulis, A. H. (2018) 'Low physiological arousal and high impulsivity as predictors of self-injurious thoughts and behaviors among adolescents', *Journal of Adolescence,* 62, pp. 55–60. https://doi.org/10.1016/j.adolescence.2017.11.006

Almansour, A. M. and Siziya, S. (2017) 'Suicidal ideation and associated factors among school going adolescents in Swaziland'. *African Health Sciences*, 17(4), pp. 1172–1177. https://doi.org/10.4314/ahs.v17i4.26

Althubaiti A. (2016) 'Information bias in health research: definition, pitfalls, and adjustment methods'. *Journal of Multidisciplinary Healthcare*, 9, pp. 211–217. https://doi.org/10.2147/JMDH.S104807

Amiri, S. and Khan, M. A. (2023) 'Prevalence of non-suicidal self-injury, suicidal ideation, suicide attempts, suicide mortality in eating disorders: a systematic review and meta-analysis'. *Eating Disorders*, 31(5), pp. 487–525. https://doi.org/10.1080/10640266.2023.2196492

Angelotta, C. (2015) "Defining and refining self-harm'. *The Journal of Nervous and Mental Disease*, 203(2), pp. 75–80. https://doi.org/10.1097/nmd.0000000000000243

Asadi, F., Hosseini, M. A. and Almasi, S. (2022) 'Reliability of trauma coding with ICD-10'. *Chinese Journal of Traumatology,* 25(2), pp. 102–106. https://doi.org/10.1016/j.cjtee.2021.08.005

Asarnow, J. R., Goldston, D. B., Tunno, A. M., Inscoe, A. B. and Pynoos, R. (2020) 'Suicide, self-harm and traumatic stress exposure: A trauma-informed approach to the evaluation and management of suicide risk'. *Evidence-Based Practice in Child and Adolescent Mental Health,* 5(4), pp. 483–500. https://doi.org/10.1080/23794925.2020.1796547

Azam, M., Qureshi, M. and Kinnair, D (2017) *Psychiatry: A Clinical Handbook*. Bandbury: Scion Publishing

Bachmann S. (2018) 'Epidemiology of suicide and the psychiatric perspective'. *International Journal of Environmental Research and Public Health*, 15(7), p. 1425. https://doi.org/10.3390/ijerph15071425

Bernaras, E., Jaureguizar, J. and Garaigordobil, M. (2019) 'Child and adolescent depression: A review of theories, evaluation instruments, prevention programs, and treatments'. *Frontiers in Psychology*, 10, p. 543. https://doi.org/10.3389/fpsyg.2019.00543

Best, O. and Ban, S. (2021) 'Adolescence: Physical changes and neurological development'. *British Journal of Nursing*, 30(5), pp. 272-275. https://doi.org/10.12968/bjon.2021.30.5.272

Blakemore, S.J. (2019) 'Adolescence and mental health'. *The Lancet*, 393(10185), pp. 2030-2031. https://doi.org/10.1016/S0140-6736(19)31013-X

Bould, H., Mars, B., Moran, P., Biddle, L. and Gunnell, D. (2019) 'Rising suicide rates among adolescents in England and Wales'. *The Lancet*, *394*(10193), 116-117.

Breslin, K., Balaban, J., and Shubkin, C.D. (2020) 'Adolescent suicide: What can pediatricians do?' *Current Opinions in Pediatrics*, 32(4), pp. 595-600. https://doi.org/10.1097/MOP.0000000000000916

Burešová, I. (2016) 'Self-harm classification system development-theoretical study'. *Review of Social Sciences,*1(4), pp. 13-20. https://doi.org/10.18533/rss.v1i4.211

Cai, H., Xie, X. M., Zhang, Q., Cui, X., Lin, J. X., Sim, K., Ungvari, G. S., Zhang, L. and Xiang, Y. T. (2021) 'Prevalence of suicidality in major depressive disorder: A systematic review and meta-analysis of comparative studies. *Frontiers in Psychiatry*, 12, 690130. https://doi.org/10.3389/fpsyt.2021.690130

Care Act (2014) '*C42 & C45*. Available at: https://www.legislation.gov.uk/ukpga/2014/23/contents Accessed: January 2024

Care Quality Commission (2019) *Brief guide: Capacity and competence in under 18s*. London: Care Quality Commission

Chan, M.K.Y., Bhatti, H., Meader, N., Stockton, S., Evans, J., O'Connor, R.C., Kapur, N. and Kendall, T. (2016) 'Predicting suicide following self-harm: systematic review of risk factors and risk scales'. *British Journal of Psychiatry,* 209(4), pp.277–283. https://doi.org/10.1192/bjp.bp.115.170050

Cho M. S. (2020) 'Use of alcohol, tobacco, and caffeine and suicide attempts: Findings from a nationally representative cross-sectional study. *Journal of Primary Care & Community Health*, 11. https://doi.org/10.1177/2150132720913720

Cipriani, A., Furukawa, T.A., Salanti, G., Chaimani, A., Atkinson, L.Z., Ogawa, Y., Leucht, S., Ruhe, H.G., Turner, E.H., Higgins, J.P.T., Egger, M., Takeshima, N., Hayasaka, Y., Imai, H., Shinohara, K., Tajika, A., Ioannidis, J.P.A. and Geddes, J.R. (2018) 'Comparative efficacy and acceptability of 21 antidepressant drugs for the acute treatment of adults with major depressive disorder: A systematic review and network meta-analysis'. *The Lancet*, 391(10128), pp.1357–1366. https://doi.org/10.1016/s0140-6736(17)32802-7

Clarke, S., Allerhand, L. A. and Berk, M. S. (2019) 'Recent advances in understanding and managing self-harm in adolescents'. *F1000Research*. 8(F1000 Faculty Rev), p. 1794 https://doi.org/10.12688/f1000research.19868.1

Connelly, L.M. (2016) 'Cross-sectional survey research'. *Medsurg Nursing*, 25(5), pp. 369-370

Coupland, C., Hill, T., Morriss, R., Arthur, A., Moore, M. and Hippisley-Cox, J. (2015) 'Antidepressant use and risk of suicide and attempted suicide or self harm in people aged 20 to 64: Cohort study using a primary care database'. *BMJ,* 350, h517. https://doi.org/10.1136/bmj.h517

Cybulski, L., Ashcroft, D. M., Carr, M. J., Garg, S., Chew-Graham, C. A., Kapur, N. and Webb, R. T. (2021) 'Risk factors for nonfatal self-harm and suicide among adolescents: Two nested case–Control Studies conducted in the UK clinical practice research datalink', *Journal of Child Psychology and Psychiatry*, 63(9), pp. 1078–1088. https://doi.org/10.1111/jcpp.13552

Dalton, L., Rapa, E. and Stein, A. (2020) 'Protecting the psychological health of children through effective

communication about COVID-19'. *The Lancet Child & adolescent health*, 4(5), pp. 346–347. https://doi.org/10.1016/S2352-4642(20)30097-3

Daniels, A., Muloiwa, R., Myer, L. and Buys, H. (2021) 'Examining the reliability of ICD-10 discharge coding in Red Cross War Memorial Children's Hospital administrative database'. *South African Medical Journal,* 111(2), pp. 137–142. https://doi.org/10.7196/SAMJ.2021.v111i2.14686

Dat, N. T., Mitsui, N., Asakura, S., Takanobu, K., Fujii, Y., Toyoshima, K., Kako, Y. and Kusumi, I. (2022) 'The effectiveness of self-esteem-related interventions in reducing suicidal behaviors: A systematic review and meta-analysis. *Frontiers in Psychiatry,* 13, 925423. https://doi.org/10.3389/fpsyt.2022.925423

Department for Education (2024) *Information sharing: Advice for practitioners providing safeguarding services for children, young people, parents and carers*. London: Department for Education

Department of Health & Social Care (2021) *Information sharing: Advice for practitioners providing safeguarding services for children, young people, parents and carers.* Available at: https://www.gov.uk/government/publications/consensus-statement-for-information-sharing-and-suicide-prevention/information-sharing-and-suicide-prevention-consensus-statement Accessed: 19 February 2025

Diamond, G., Kodish, T., Ewing, E. S. K., Hunt, Q. A. and Russon, J. M. (2022) 'Family processes: Risk, protective and treatment factors for youth at risk for suicide'. *Aggression and Violent Behavior*, 64, 101586. https://doi.org/10.1016/j.avb.2021.101586

Dillinger R. L. (2021) 'Addressing the stigma surrounding serious mental illness in adolescents: A brief intervention. *The Psychiatric Quarterly*, 92(1), pp. 161–167. https://doi.org/10.1007/s11126-020-09787-6

Divin, N., Harper, P., Curran, E., Corry, D. and Leavey, G. (2018) 'Help-seeking measures and their use in adolescents: A systematic review'. *Adolescent Research Review*, 3(1), pp. 113–122. https://doi.org/10.1007/s40894-017-0078-8

Dovjak, M. and Kukec, A. (2019) *Creating healthy and sustainable buildings: An assessment of health risk factors*. Cham: Springer.

Favril, L., Yu, R., Geddes, J. R. and Fazel, S. (2023) 'Individual-level risk factors for suicide mortality in the general population: An umbrella review'. *The Lancet Public Health*, 8(11), pp. e868–e877. https://doi.org/10.1016/S2468-2667(23)00207-4

Forrester, R. L., Slater, H., Jomar, K., Mitzman, S. and Taylor, P. J. (2017) 'Self-esteem and non-suicidal self-injury in adulthood: A systematic review'. *Journal of Affective Disorders*, 221, pp. 172–183. https://doi.org/10.1016/j.jad.2017.06.027

Fujihira, K., Takahashi, M., Wang, C. and Hayashi, N. (2023) 'Factors explaining seasonal variation in energy intake: a review'. *Frontiers in Nutrition*, 10, 1192223. https://doi.org/10.3389/fnut.2023.1192223

Garratt, K., Kirk-Wade, E. and Long, R. (2024) *Children and young people's mental health: Policy and services (England)*. London: House of Commons Library. Available at: https://researchbriefings.files.parliament.uk/documents/CBP-7196/CBP-7196.pdf

Griffith R. (2016) 'What is Gillick competence?'. *Human Vaccines & Immunotherapeutics*, 12(1), pp. 244–247. https://doi.org/10.1080/21645515.2015.1091548

Grossberg, A. and Rice, T. (2023) 'Depression and suicidal behavior in adolescents'. *The Medical Clinics of North America*, 107(1), pp. 169–182. https://doi.org/10.1016/j.mcna.2022.04.005

Gubner, N. R., Thrul, J., Kelly, O. A. and Ramo, D. E. (2018) 'Young adults report increased pleasure from smoking cigarettes when drinking alcohol but not when using marijuana'. *Addiction Research & Theory*, 26(1), pp. 71–76. https://doi.org/10.1080/16066359.2017.1311877

Hadzic, A., Spangenberg, L., Hallensleben, N., Forkmann, T., Rath, D., Strauß, M., Kersting, A. and Glaesmer, H. (2019) 'The association of trait impulsivity and suicidal ideation and its fluctuation in the context of the Interpersonal Theory of Suicide'. *Comprehensive Psychiatry*, 98, 152158. https://doi.org/10.1016/j.comppsych.2019.152158

Harmer, B., Lee, S., Duong, T. V. H. and Saadabadi, A. (2023) *Suicidal ideation*. Treasure Island (FL): StatPearls Publishing. Available at: https://pubmed.ncbi.nlm.nih.gov/33351435/

Herrett, E., Gallagher, A. M., Bhaskaran, K., Forbes, H., Mathur, R., van Staa, T. and Smeeth, L. (2015) 'Data resource profile: Clinical practice research datalink (CPRD)'. *International Journal of Epidemiology*, 44(3), pp. 827–836. https://doi.org/10.1093/ije/dyv098

Huang, Y.-H., Liu, H.-C., Sun, F.-J., Tsai, F.-J., Huang, K.-Y., Chen, T.-C., Huang, Y.-P. and Liu, S.-I. (2017) 'Relationship between predictors of incident deliberate self-harm and suicide attempts among adolescents', *Journal of Adolescent Health*, 60(5), pp. 612–618. https://doi.org/10.1016/j.jadohealth.2016.12.005

Iacobucci, G. (2020) 'Suicide rates continue to rise in England and Wales'. *BMJ,* 370, m3431. https://doi.org/10.1136/bmj.m3431.

Inman, D. D., Matthews, J., Butcher, L., Swartz, C. H. and Meadows, A. L. (2019) 'Identifying the risk of suicide among adolescents admitted to a children's hospital using the ask suicide-screening questions'. *Journal of Child and Adolescent Psychiatric Nursing*, 32(2), pp. 68-72. https://doi.org/10.1111/jcap.12235

Iorfino, F., Ho, N., Carpenter, J. S., Cross, S. P., Davenport, T. A., Hermens, D. F., Yee, H., Nichles, A., Zmicerevska, N., Guastella, A., Scott, E. and Hickie, I. B. (2020) 'Predicting self-harm within six months after initial presentation to youth mental health services: A machine learning study. *PloS One,* 15(12), e0243467. https://doi.org/10.1371/journal.pone.0243467

Joiner, T.E. (2005) *Why people die by suicide*. Cambridge, Massachusetts: Harvard University Press.

Junker, A., Nordahl, H.M., Bjørngaard, J.H. and Bjerkeset, O. (2019) 'Adolescent personality traits, low self-esteem and self-harm hospitalisation: A 15-year follow-up of the Norwegian Young-HUNT1 cohort. *European Child & Adolescent Psychiatry*, 28(3), pp. 329–339. https://doi.org/10.1007/s00787-018-1197-x

Kitagawa, Y., Ando, S., Yamasaki, S., Foo, J.C., Okazaki, Y., Shimodera, S., Nishida, A., Togo, F. and Sasaki, T. (2017) 'Appetite loss as a potential predictor of suicidal ideation and self-harm in adolescents: A school-based study', *Appetite*, 111, pp. 7–11. https://doi.org/10.1016/j.appet.2016.12.026

Klonsky, E. D. and May, A. M. (2015) 'Impulsivity and suicide risk: Review and clinical implications. *Psychiatric Times*, *32*(8).

Kobeissy, F.H. (2019) *Psychiatric disorders: Methods and protocols*. 2nd ed. New York: Humana Press.

Kolves, K. and de Leo, D. (2017) 'Suicide methods in children and adolescents'. *European Child and Adolescent Psychiatry,* 26, pp. 155–164.

Korhonen, T., Sihvola, E., Latvala, A., Dick, D. M., Pulkkinen, L., Nurnberger, J., Rose, R. J. and Kaprio, J. (2018) 'Early-onset tobacco use and suicide-related behavior - A prospective study from adolescence to young adulthood'. *Addictive Behaviors,* 79, pp. 32–38. https://doi.org/10.1016/j.addbeh.2017.12.008

Levi-Belz, Y., Gvion, Y. and Apter, A. (2019) 'Editorial: The psychology of suicide: From research understandings to intervention and treatment'. *Frontiers in psychiatry*, 10, p. 214. https://doi.org/10.3389/fpsyt.2019.00214

Meinhardt, I., Cuthbert, S., Gibson, K., Fortune, S. and Hetrick, S.E. (2022) 'Young people and adult stakeholders' reflections on how school staff should support students who self-harm: A qualitative study'. *Journal of Adolescence*, 94(7), pp. 969–980. https://doi.org/10.1002/jad.12078

Misra, S., Jackson, V. W., Chong, J., Choe, K., Tay, C., Wong, J. and Yang, L. H. (2021) 'Systematic review of cultural aspects of stigma and mental illness among racial and ethnic minority groups in the United States: Implications for interventions'. *American Journal of Community Psychology*, pp. 68(3-4), 486–512. https://doi.org/10.1002/ajcp.12516

Moore, F. R., Doughty, H., Neumann, T., McClelland, H., Allott, C. and O'Connor, R. C. (2022) 'Impulsivity, aggression, and suicidality relationship in adults: A systematic review and meta-analysis. *eClinicalMedicine*, 45, 101307. https://doi.org/10.1016/j.eclinm.2022.101307

Motillon-Toudic, C., Walter, M., Séguin, M., Carrier, J. D., Berrouiguet, S. and Lemey, C. (2022) 'Social isolation and suicide risk: Literature review and perspectives'. *European Psychiatry:* T*he Journal of the Association of European Psychiatrists*, 65(1), e65. https://doi.org/10.1192/j.eurpsy.2022.2320

Nock, M.K., Borges, G. and Ono, Y. (2012) *Suicide: Global perspectives from the WHO World Mental Health Surveys.* Cambridge: Cambridge University Press.

Nydegger, R.V. (2014) *Suicide and mental health*. Santa Barbara: Greenwood

Orsolini, L., Latini, R., Pompili, M., Serafini, G., Volpe, U., Vellante, F., Fornaro, M., Valchera,A., Tomasetti, C., Fraticelli, S., Alessandrini, M., La Rovere, R., Trotta, S., Martinotti, G., Di Giannantonio, M. and De Berardis, D. (2020) 'Understanding the Complex of Suicide in Depression: from Research to Clinics'. *Psychiatry Investigation*, 17(3), pp. 207–221. https://doi.org/10.30773/pi.2019.0171

Paashaus, L., Forkmann, T., Glaesmer, H., Juckel, G., Rath, D., Schönfelder, A. & Teismann, T. (2021) 'From decision to action: Suicidal history and time between decision to die and actual suicide attempt. *Clinical Psychology & Psychotherapy*, 28(6), pp. 1427-1434. https://doi.org/10.1002/cpp.2580

Patel, R. S., Machado, T. and Tankersley, W. E. (2021) 'Eating disorders and suicidal behaviors in adolescents with major depression: Insights from the US hospitals. *Behavioral Sciences*, 11(5), p. 78. https://doi.org/10.3390/bs11050078

Pearson, S. and Hyde, C. (2020) 'Influences on adolescent help-seeking for mental health problems'. *Journal of Psychologists and Counsellors in Schools*, 31(1), pp.110-121.https://doi.org/10.1017/jgc.2020.28

Peng, M., Eastwood, C., Boxill, A., Jolley, R. J., Rutherford, L., Carlson, K., Dean, S. and Quan, H. (2018) 'Coding reliability and agreement of International Classification of Disease, 10th revision (ICD-10) codes in emergency department data'. *International Journal Of Population Data Science,* 3(1), p. 445. https://doi.org/10.23889/ijpds.v3i1.445

Perkins, N. M., Ortiz, S. N., Smith, A. R. and Brausch, A. M. (2021) 'Suicidal ideation and eating disorder symptoms in adolescents: The role of interoceptive deficits'. *Behavior Therapy*, 52(5), pp. 1093–1104. https://doi.org/10.1016/j.beth.2021.03.005

Poorolajal, J. and Darvishi, N. (2016) 'Smoking and suicide: A meta-analysis'. *PloS One*, 11(7), e0156348. https://doi.org/10.1371/journal.pone.0156348

Ramezani, E. and Nourimoghadam, S. (2024) 'Suicidal tendency and impulsivity and integrative self-knowledge among the adult population'. *International Journal of High Risk Behaviors and Addiction*, 13(1), e137037. https://doi.org/10.5812/ijhrba-137037

Ribeiro, J. D., Franklin, J. C., Fox, K. R., Bentley, K. H., Kleiman, E. M., Chang, B. P. and Nock, M. K. (2016) 'Self-injurious thoughts and behaviors as risk factors for future suicide ideation, attempts, and death: A meta-analysis of longitudinal studies'. *Psychological Medicine*, 46(2), pp. 225-236.

Rickwood, D. J., Deane, F. P. and Wilson, C. J. (2007) 'When and how do young people seek professional help for mental health problems?'. *The Medical journal of Australia,*187(S7), pp. S35–S39. https://doi.org/10.5694/j.1326-5377.2007.tb01334.x

Sadan, V., (2017) 'Data collection methods in quantitative research'. *Indian Journal of Continuing Nursing Education*, 18(2), pp.58-63.

Schouten, R. (2017) *Mental health practice and the law.* Oxford: Oxford University Press

Stausberg, J., Lehmann, N., Kaczmarek, D. and Stein, M. (2008) 'Reliability of diagnoses coding with ICD-10'. *International Journal of Medical Informatics,* 77(1), pp. 50–57. https://doi.org/10.1016/j.ijmedinf.2006.11.005

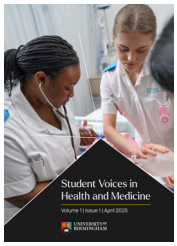
Uccella, S., Cordani, R., Salfi, F., Gorgoni, M., Scarpelli, S., Gemignani, A., Geoffroy, P.A., Gennaro, L.D., Palagini, L., Ferrara, M. and Nobili, L. (2023) 'Sleep deprivation and insomnia in adolescence: implications for mental health'. *Brain Sciences*, 13(4), p. 569. https://doi.org/10.3390/brainsci13040569

Weiskopf, N. G. and Weng, C. (2013) 'Methods and dimensions of electronic health record data quality assessment: enabling reuse for clinical research'. *Journal of the American Medical Informatics Association: JAMIA*, 20(1), pp. 144–151. https://doi.org/10.1136/amiajnl-2011-000681

Witte, M.A., Harbeck Weber, C., Lebow, J., LeMahieu, A., Geske, J., Witte, N., Whiteside, S., Loth, K. and Sim, L. (2023) 'Lifetime prevalence of psychiatric disorders in adolescents with unexplained weight loss, underweight, or poor appetite'. *Journal of Developmental & Behavioral Pediatrics*, 44(4), p. e277. https://doi.org/10.1097/DBP.0000000000001173

Wright, B., Dave, S. and Dogra, N. (2017) *100 cases in psychiatry*. Boca Raton (FL): CRC Press

Student Voices in Health and Medicine



LEARNING DEVELOPMENT AND PRACTICE

Learning and development opportunities for healthcare students to monitor vital signs and improve patient outcomes

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Abstract

Vital sign monitoring is a crucial component of patient care as it facilitates the detection of developing complications. This paper provides healthcare students with a practical guide for understanding the importance of monitoring vital signs, the tools available for intermittent and continuous monitoring, and the strategies and learning opportunities available to address and overcome common challenges surrounding vital signs monitoring. Normal adult physiological parameters are presented, including temperature, blood pressure, pulse rate, oxygen saturation and respiratory rate, essential for assessing a patient's status and recognising deterioration. The advantage of continuous monitoring is discussed for high-risk cases where early recognition is imperative because physiological changes can occur rapidly and indicate an impending or sudden severe deterioration, such as a cardiac arrest. Continuous vital sign monitoring enables health professionals to recognise early signs of deterioration more easily, particularly in intensive care units. Nevertheless, challenges exist for both continuous monitoring, such as difficulties in gaining precise continuous measurements, limited medical equipment to maintain continuous monitoring and the increased time required by health professionals to ensure that continuous monitoring is effective. As such, most clinical areas currently adopt intermittent vital signs monitoring using tools such as the National Early Warning Score (NEWS2). This means healthcare students must contribute towards decisions surrounding who requires continuous vital signs monitoring, the intervals or situations where measurement of vital signs is imperative for improving treatment and the recognition of vital signs changes that may indicate deterioration. This requires considerable skill and this paper outlines the learning opportunities available for healthcare students to develop skills and decision making surrounding vital signs monitoring that can improve outcomes for patients.

Keywords: *Vital signs monitoring; Physiological parameters; NEWS2*

Introduction

For healthcare students, vital sign monitoring is an essential skill because it enables changes in the condition of patients to be recognised, ensuring prompt and effective responses during clinical placements. The five vital signs used to assess the physiological status of the body include temperature, blood pressure (BP), heart rate (HR), oxygen saturation (SpO2) and respiratory rate (RR). In healthy adults, normal vital sign ranges at rest are a temperature of 36.5 to 37.3 Celsius, BP between 90/60 and 120/80 mmHg, HR of 60 to 100 beats per minute, SpO2 between 95% and 99% and RR of 12 to 18 breaths per minute (Ball et al., 2022). Undertaking the assessment of the vital signs enables health professionals to identify physiological changes that may indicate the presence of an underlying pathophysiological condition. This can aid clinical decision making and enable health professionals to determine the effectiveness of treatments (Mok et al., 2015a).

How are vital signs systematically monitored?

Intermittent vital signs monitoring using track and trigger systems have been used in hospitals to enhance the recognition and management of deteriorating adult patients (Wuytack et al., 2017). An example of such a system is the National Early Warning Score (NEWS2), which was developed and updated by the Royal College of Physicians (2017) and is used to enhance patient safety and outcomes. This system employs a scoring mechanism that considers six physiological parameters (RR, SpO2, BP, HR, consciousness level, and temperature) that are commonly taken in hospitals (Treacy et al., 2022). Scores are then given depending on the deviation from the normal range to assist healthcare givers on the best actions to take to ensure positive outcomes for patients.

Key tools for monitoring vital signs

NEWS2 scoring system: Helps assess risk level for clinical deterioration by translating and assigning six key physiological parameters to a score.

RR: Measures the frequency of breaths, providing information about respiratory function and detecting signs of distress or physiological changes that are attributable to increased respiratory demand.

Pulse oximeter: Monitors oxygen saturation levels in the blood, by using red and infrared lights that pass through a part of the body such as the fingertip. Oxygenated and deoxygenated haemoglobin absorb the light sources differently so the device can measure how much light source passes through the body and provide a percentage of the oxygenated haemoglobin. This can aid in the detection of respiratory problems or can indicate an underlying condition that is increasing respiratory demand. This can include many conditions such as cardiac conditions or acute conditions like sepsis.

BP: Measures the pressure of the circulating blood against the vessel walls in mmHg when the heart contracts (systolic pressure) and when the heart relaxes (diastolic pressure) that can identify a range of conditions. Abnormal BP is caused by abnormalities in cardiovascular function, such as hypertension due to cardiovascular disease or shock due to loss of circulating volume known as hypovolaemic shock, a lack of perfusion to the heart muscle known as cardiogenic shock, shock related to a nervous system insult known as neurologic shock or septic shock which can result in a lack of circulating volume. Abnormalities in BP can be caused for other reasons that disrupt the normal cardiovascular function of the heart.

HR: HR is a measure of how many times the heart beats each minute and can aid in the detection of several diseases and causes for deterioration. The heartbeat is regulated by a series of mechanisms, all of which could lead to a change in rhythm or rate. The heart is a unique muscle that is myogenic meaning

that it creates its own electrical signals without input from the nervous system. Despite this, the nervous system can still influence HR through mechanisms which involve receptors that measure the pressure of blood leaving the heart called baroreceptors, which send signals to the brain and can prompt the release of hormones such as noradrenaline and adrenaline. Problems can occur with electrical signals in the heart muscle or with pressure of the blood leaving the heart for numerous reasons. Changes in HR are most often patterned with changes to BP. For example, if the circulating volume reduces due to large blood loss, there will be less pressure leaving the heart, so the heart rate will increase to maintain pressure. Clinically, less circulating volume results in lower BP and increased HR (tachycardia). HR changes may reflect heart function, and aid in identifying arrhythmias, tachycardia, or bradycardia, which can signal cardiac or systemic problems.

Consciousness level assessment: Evaluates neurological status, helping detect conditions like stroke, head injury, or altered mental status.

Body temperature: Detects hyperthermia or hypothermia, indicating infections or other systemic issues.

BOX 1. BENEFITS AND CHALLENGES OF SYSTEMATIC MONITORING

Benefits of systematic monitoring

NEWS2 could prevent more than 1,800 deaths per year caused by patient deterioration within hospital facilities (National Health Service (NHS) England, 2021). Comprehensive assessments of patient health integrate changes in vital signs, overall health status and other clinical indicators (Churpek et al., 2016). Early identification supports informed decision-making (Stellpflug et al., 2021).

Challenges of systematic monitoring

Inaccurate measurements, such as insufficient counting of a duration of 60 seconds for RR, can be misleading regarding the patient's condition (Brekke et al., 2019). Inconsistent application of monitoring protocols across facilities can limit effectiveness (Kayser et al., 2023).

Intermittent vs continuous monitoring of vital signs for detection of patient deterioration: Strengths and challenges

The practice of monitoring vital signs requires more than simply recording them manually at intervals, as this approach is not always successful in detecting sudden and long-term changes in the condition of a patient during a treatment regimen (Prgomet et al., 2016). Intermittent vital signs monitoring completed at incorrect intervals can lead to delays in treatment and ultimately, adverse outcomes.

Advancements in healthcare technology, such as wearable technologies, new digital tools and methods for continuous monitoring have revolutionised vital signs monitoring. For instance, it is now possible to track vital signs in real-time providing immediate data to healthcare professionals using many types of continuous monitoring technology (Cardona-Morrell et al., 2015). The use of such technology is common practice in hospitals, especially in intensive care units (ICUs) where the timely diagnosis of deterioration is essential. Healthcare professionals can detect the earliest symptoms of patient deterioration through continuous monitoring, making it an indispensable component of health-care practice in hospitals (Brekke et al., 2019).

Regular monitoring of vital signs by either intermittent monitoring or recording vital signs from continuous monitoring at intervals, is essential experience for healthcare students that enables development of skills in evaluating treatment effectiveness, detecting complications as early as possible and confidently

participating in clinical decision-making processes (Babar and Kanani, 2020). Students can gain experience in recognising changes in vital signs associated with infections, cardiovascular diseases, fluid imbalances, and numerous other outcomes (Considine et al., 2024).

In certain monitoring of vital signs is especially important for improving outcomes, such as in critical cases. In these situations, undertaking a vital signs assessment accurately provides the clinical team with crucial information related to the condition of a patient and subsequent treatment decisions (Da Silva, 2021). For instance, elevated BP and HR can prompt anticipation of the need for urgent resuscitation and timely response and treatment may prevent complications and ultimately be lifesaving (Mubthia et al., 2024).

Students need to be familiar with patterns of physiological change that may indicate specific underlying health issues. For instance, Septic shock may present with low BP, increased HR, low or high body temperature and increased RR that reflects the underlying pathophysiology and precedes life-threatening complications of sepsis such as cardio-pulmonary arrest (Nino et al., 2020). The holistic picture of the patient and the variations and patterning of vital signs over time can improve the effectiveness of recognising deterioration and improving outcomes. This is a limitation of NEWS2 because subtle changes in vital sign patterning may indicate impeding deterioration that may not reach the level of triggering concern on the NEWS2 scoring. Being able to recognise vital signs patterning can enable earlier recognition of deterioration and improve treatment efforts and outcomes. This is true in acute and non-acute circumstances. For example, in patients receiving treatment for hypertension, an improvement in BP may indicate the value of the treatment but the NEWS2 score may not change (Sahu et al., 2022). Conversely, patterning changes of vital signs may imply the need for further diagnosis or modification of existing treatment, even when the scoring on NEWS2 does not change. Despite the significant advancements, challenges remain, such as using real-time data in decisions and the lack of standard protocols for vital signs (Giordano et al., 2021). Learning to address these issues helps students detect problems early, make better decisions, and improve patient safety and outcomes (Haegdorens et al., 2024).

This paper offers a comprehensive guide to vital sign monitoring for healthcare students. It starts by exploring the significance of monitoring and the main parameters used. Next, it examines tools like the National Early Warning Score (NEWS2) and discusses the difficulties students may face, such as inaccurate measures and resource limitations. Lastly, it provides useful methods for efficient monitoring, highlighting the role of these skills in improving patient safety, building confidence during clinical placements, and enhancing teamwork in healthcare settings.

Effectiveness of vital signs monitoring for improving outcomes

Several studies highlight the predictive value of vital sign monitoring in healthcare settings:

- **Physiological changes**: can occur six to 48 hours before events such as cardiac arrest and ICU admission (Sun et al., 2020).
- **Abnormal vital signs** found in 59% of patients one to four hours prior to cardiac arrest, with critically abnormal signs in 13% (Andersen et al., 2016).
- **Decline indicators**: 80% of patients displayed indications of a decline in vital signs 24 hours prior to a negative event (Trocki and Craig-Rodrigues, 2020).

Collectively, these studies emphasise the need for early identification and management of abnormal vital signs to prevent complications. Studies by Mok et al. (2015b) and Kayser et al. (2023) revealed that nurses' attitudes and practices determine the reliability of intermittent vital sign monitoring that accurately indicates a patient's health status. These studies suggest that vital sign monitoring is not always effective

and varies according to who is undertaking the assessment. However, it is worth noting that Mok et al.'s (2015b) research was undertaken at a single hospital, so the results may not be generalisable. One solution to variation according to individual practitioner is to undertake vital signs monitoring continuously. Stellpflug et al. (2021) demonstrated the potential for continuous monitoring with the help of tools, which can improve identification of the deterioration of a patient and Verrillo et al. (2019) observed that there are benefits of continuous monitoring in postoperative care. However, continuous monitoring requires advanced technology equipment which is costly and not widely available for every patient.

In 2015, 7% of acute hospital deaths and serious incidents reported to the National Reporting and Learning System were attributable to the failure to recognise or manage a patient's deterioration or to respond to it in a timely manner (NHS Improvement, 2016). Contributory factors may include improper and infrequent assessment and calculation of vital signs, leading to the generation of inaccurate assessment, and increased likelihood of a failure to recognise changes in the patient's status (Brekke et al., 2019). For instance, RR is often obtained incorrectly because it is not taken for the recommended full minute (Rimbi et al., 2019).

In addition to measurement issues, other factors that impact recognition of patient deterioration include a lack of resources in healthcare facilities and fluctuating patient status which can occur rapidly (Vincent et al., 2018). For instance, a rapid decrease in BP may suggest shock or haemorrhage, whilst fluctuations in SpO2 may suggest respiratory problems (Richards and Wilcox, 2014). Identifying changes at the right time can help to promptly identify deterioration aiding timely decisions about treatment (Leenen et al., 2020). NHS Improvement (2016) indicates that lack of recognition or management of a patient's deterioration is one of several factors contributing towards hospital mortality. Other factors include a high workload, lack of resources, and the complexity of patients' diseases (Vincent et al., 2018). Resource constraints and staff shortages can impede the implementation of effective vital signs monitoring practice, while rapidly changing patient conditions and deterioration poses additional challenges (Griffiths et al., 2018). The effectiveness of vital sign monitoring also varies across different healthcare settings and students can prepare through engagement in real world learning opportunities to build skills in vital signs monitoring.

Real-world learning opportunities for building skills in vital signs monitoring

Vital signs monitoring should be undertaken and interpreted in context, meaning that individual patients and their unique heath status and history should be critically considered in the interpretation of any assessment undertaken. This section summarises the opportunities that students can engage with to build skills in vital signs assessment

Case-based learning opportunities

Case-based learning can offer healthcare students opportunities to make judgments in situations that mimic real patient scenarios. A case study encourages students to apply theoretical knowledge to real-world problems through active processes of assessment, diagnosis, care planning, and evaluation of treatment options (Mahdi et al., 2020). The process of engaging with case studies encourages active learning and integration of knowledge specific to the context of cases, including individual related pharmacology, physiology, and individualised patient care planning. For example, a healthcare student could be presented with the case of a 65-year-old male with poorly controlled diabetes, hypertension, and a recent stroke. They would need to assess the patient's medical history, understand potential drug interactions, and suggest a treatment plan that addresses both the stroke and diabetes management. In so doing, the student would learn how to think critically and apply theoretical knowledge in a practical setting and case (Rizka et al., 2024).

Simulation-based learning opportunities

Simulation-based learning involves creating realistic practice scenarios where students can participate in undertaking clinical skills, such as vital signs monitoring in a controlled environment. This is especially useful for skills that present risk to patients' safety, such as managing a cardiac arrest or administering anaesthesia. Simulation provides opportunity for students to practice hands-on skills without any immediate pressure or risk to real patients (Sanasilapin and Karunasawat, 2023).

For example, A student may participate in a simulation where they must anticipate collapse by recognition of vital signs deterioration and perform Cardio-Pulmonary Resuscitation (CPR) on a mannequin in a simulated hospital setting. Aspects of the simulation may include time-based elements for vital signs monitoring and feedback on technique of monitoring and performing CPR. Individual simulation scenarios can provide students with individualised feedback about specific areas to improve vital signs monitoring, decisions made surrounding monitoring and on CPR, such as chest compression depth. Simulation enables students to learn in a low-pressure environment while encountering realistic vital signs deterioration scenarios which can build confidence in skills and abilities (Poudel, 2021).

Peer learning and collaborative opportunities

Healthcare is inherently collaborative, requiring effective teamwork between nurses, doctors, technicians, and other professionals. Peer learning exercises help students understand the dynamics of interprofessional collaboration and improve their communication and problem-solving skills (Frei-Landau and Levin, 2023). For example, in a group exercise, healthcare students might be asked to manage a patient in a simulated emergency room. Students can assume the roles of different professionals. The multi-professional team must communicate vital signs assessments effectively, make timely decisions collaboratively, and ensure they are effectively working together. Peer learning opportunities involving teamwork can build skills in teamwork that crucial to patient outcomes (Șipoș et al., 2024).

Simulated patient interaction opportunities

In healthcare, the ability to communicate clearly with patients and colleagues is essential. Students can practice patient interaction skills through communication-based simulation exercises following assessment of vital signs. This can include developing communication skills surrounding vital signs monitoring such as delivering bad news, explaining a concern or possible diagnosis, or reassuring an anxious patient (Kwame and Petrucka, 2020). Feedback from peers or instructors on communication style, tone, and clarity helps to refine students' skills and ability to handle sensitive conversations in real-world healthcare environments (Lee et al., 2020).

Time management skills in vital signs monitoring

Learning opportunities that enable time management and prioritisation skills in vital signs assessments for patients can aid student skills in leadership and decision making in real-world settings. Healthcare students often face demanding workloads involving multiple patients with varied needs. Learning opportunities that include time-management strategies, such as using a to-do list or the 'two-minute rule' (immediately tackling tasks that take less than two minutes), enables students to become more efficient in real-world settings (Molina-Mula and Gallo-Estrada, 2020).

Clinical reflection learning opportunities

Reflection allows healthcare students to critically evaluate their actions and decisions, learn from mistakes, and identify areas for improvement. In clinical practice, students reflect on their experiences and integrate their observations into their learning (Cattani Rentes, 2023). Vital signs monitoring can inform clinical reflection on assessments and decision making that may improve patient care and outcomes. Reflection on assessment through methods which includes vital signs monitoring encourages continuous professional learning, self-assessment and growth (Johnson-Agbakwu et al., 2023).

Discussion

Research evidence discussed highlights aspects of vital sign monitoring important for consistently preventing patient deterioration (Padilla and Mayo, 2018). For healthcare students, learning vital signs monitoring skills early in training through diverse learning opportunities prepares them to identify deterioration promptly and make informed clinical decisions during placements. Accurate and regular monitoring in combination with proper understanding and interpretation of all vital signs is essential for timely diagnosis and intervention (Downey et al., 2018).

The implementation and utilisation of systematic monitoring instruments, exemplified by NEWS2, clearly demonstrates their advantageous role in the standardisation of clinical assessments and the facilitation of appropriate interventions (Massey et al., 2017). Students can benefit from a variety of learning opportunities that may improve real-world application of knowledge including, case-based scenarios, practical simulations, peer and collaborative learning opportunities, interaction-based simulations, management-based scenarios and reflective tasks. Studies reveal the need for improvement in training of all healthcare professionals, particularly healthcare students surrounding vital signs monitoring and recognition of patient deterioration. Learning opportunities need to address current challenges in healthcare including the often-limited resources available and workload pressures (Weenk et al., 2017). Learning opportunities outlined in this paper can aid in navigating current challenges surrounding vital signs monitoring and recognition of patient deterioration, but healthcare policy and the integration of advanced technology for continuous monitoring also plays a role in improving vital signs monitoring. Improvements in communication and data sharing among stakeholders will also enhance the efficacy and sensitivity of monitoring practices (Kühl et al., 2020). Future research should focus on investigating how emerging technologies, especially wearable sensors, impact patient health monitoring methods and outcomes and improved analysis and focus is required to explore how cultural and demographic factors influence and potentially alter normal physiological parameters (Bechtsis et al., 2021).

Conclusion

This paper examined the significance of vital sign monitoring in recognising patient deterioration and the learning opportunities that students can engage with to improve vital signs monitoring skills during training. Early detection of health issues and prompt interventions are essential for improving patient outcomes and systematic monitoring and precise vital sign interpretation are key components of this process. For healthcare students, gaining expertise in these areas during their training builds a strong foundation for professional practice. Students can benefit from a variety of learning opportunities that may improve real-world application of knowledge including, case-based scenarios, practical simulations, peer and collaborative learning opportunities, interaction-based simulations, time management-based scenarios and reflective tasks. Engagement with learning opportunities can help healthcare students to overcome current challenges and aid preparation for changing practice influenced by advanced technologies and continuous monitoring.

Key takeaways

- Monitoring vital signs is fundamental to detecting early clinical deterioration and improving patient outcomes.
- Familiarity with systematic tools like NEWS2 enhances decision-making and patient safety.
- Developing confidence in vital sign monitoring prepares students for placements and future professional roles.

Integration of training that includes diverse learning opportunities with and without advanced technologies prepares students for current challenges surrounding vital signs monitoring.

References

Andersen, L.W., Kim, W.Y., Chase, M., Berg, K.M., Mortensen, S.J., Moskowitz, A., Novack, V., Cocchi, M.N. and Donnino, M.W. (2016) 'The prevalence and significance of abnormal vital signs prior to in-hospital cardiac arrest', *Resuscitation*, 98, pp. 112–117. https://doi.org//10.1016/j.resuscitation.2015.08.016

Aslan, A. (2021) 'Problem-based learning in live online classes: Learning achievement, problem-solving skill, communication skill, and interaction', *Computers & Education*, 171, 104237. https://doi.org/10.1016/j.compedu.2021.104237

Babar, A. and Carine, K. (2020) *Monitoring of Vital Signs Parameters with ICTs -A Participatory Design Approach*. Available at: https://lnu.diva-portal.org/smash/get/diva2:1452869/FULLTEXT01.pdf Accessed: 21 August 2024

Ball, J.W., Dains, J.E., Flynn, J.A., Solomon, B.S. and Stewart, R.W. (2022) *Seidel's guide to physical examination: An interprofessional approach*. 10th ed. St Louis: Elsevier - Health Science.

Bechtsis, D., Tsolakis, N., Iakovou, E. and Vlachos, D. (2021) 'Data-driven secure, resilient and sustainable supply chains: gaps, opportunities, and a new generalised data sharing and data monetisation framework', *International Journal of Production Research*, 60(14), pp. 1–21. https://doi.org/10.1080/00207543.2021.1957506

Brekke, I.J., Puntervoll, L.H., Pedersen, P.B., Kellett, J. and Brabrand, M. (2019) 'The value of vital sign trends in predicting and monitoring clinical deterioration: A Systematic Review', *PLoS One*, 14(1). https://doi.org/10.1371/journal.pone.0210875

Cardona-Morrell, M., Nicholson, M. and Hillman, K. (2015) 'Vital signs: From monitoring to prevention of deterioration in general wards', In J.-L. Vincent (ed.) *Annual Update in Intensive Care and Emergency Medicine*, Cham: Springer. pp. 533–545.

Cattani Rentes, V. (2023) *Development of a Maturity Model for Learning Health Systems: A Framework for Self-Assessment and Continuous Improvement*. PhD thesis. University of Michigan. Available at: https://deepblue.lib.umich.edu/bitstream/handle/2027.42/177956/vrentes_1.pdf?sequence=1&isAllowed=y

Churpek, M.M., Adhikari, R. and Edelson, D.P. (2016) 'The value of vital sign trends for detecting clinical deterioration on the wards', *Resuscitation*, 102(1), pp. 1–5.

Considine, J., Casey, P., Omonaiye, O., van Gulik, N., Allen, J., and Currey, J. (2024) 'Importance of specific vital signs in nurses' recognition and response to deteriorating patients: A scoping review', *Journal of Clinical Nursing*, 33(7), pp. 2544-2561. https://doi.org/10.1111/jocn.17099

Da Silva, P. M. A. (2021) *Clinical deterioration detection for continuous vital signs monitoring using wearable sensors*. Available at: https://run.unl.pt/bitstream/10362/115385/1/Silva_2021.pdf Accessed: 25 August 2024

Downey, C.L., Chapman, S., Randell, R., Brown, J. and Jayne, D. (2018) 'The impact of continuous versus intermittent vital signs monitoring in hospitals: A systematic review and narrative synthesis', *International Journal of Nursing Studies*, 84, pp.19–27. https://doi.org/10.1016/j.ijnurstu.2018.04.013

Frei-Landau, R. and O. Levin (2023) 'Simulation-based learning in teacher education: Using Maslow's Hierarchy of needs to conceptualize instructors' needs ', *Frontiers in Psychology*, 14, https://doi.org/10.3389/fpsyg.2023.1149576

Giordano, C., Brennan, M., Mohamed, B., Rashidi, P., Modave, F. and Tighe, P. (2021) 'Accessing artificial intelligence for clinical decision-making', *Frontiers in Digital Health*, 3(2), pp. 645232. https://doi.org/10.3389/fdgth.2021.645232

Griffiths, P., Ball, J., Bloor, K., Böhning, D., Briggs, J., Dall'Ora, C., Iongh, A.D., Jones, J., Kovacs, C., Maruotti, A., Meredith, P., Prytherch, D., Saucedo, A.R., Redfern, O., Schmidt, P., Sinden, N. and Smith, G.

(2018) 'Nurse staffing levels, missed vital signs and mortality in hospitals: retrospective longitudinal observational study', *Health Services and Delivery Research*, 6(38), pp. 1–120. https://doi.org//10.3310/hsdr06380

Haegdorens, F., Lefebvre, J., Wils, C., Franck, E. and Van Bogaert, P. (2024) 'Combining the Nurse Intuition Patient Deterioration Scale with the National Early Warning Score provides more net benefit in predicting serious adverse events: A prospective cohort study in medical, surgical, and geriatric wards', *Intensive and Critical Care Nursing*, 83, p. 103628. https://doi.org/10.1016/j.iccn.2024.103628

Johnson-Agbakwu, C.E., Chen, M., Salad, M., Chaisson, N., Connor, J.J. and Robinson, B.B.E. (2023) 'Female genital cutting (FGC) type: proposing a multifaceted, interactive method for FGC self-assessment', *The Journal of Sexual Medicine*, 20(11), pp. 1292-1300. https://doi.org/10.1093/jsxmed/qdad101

Kayser, S.A., Williamson, R., Siefert, G., Roberts, D. and Murray, A. (2023) 'Respiratory rate monitoring and early detection of deterioration practices', *British Journal of Nursing*, 32(13), pp. 620–627. https://doi.org/10.12968/bjon.2023.32.13.620

Kühl, H.S., Bowler, D.E., Bösch, L., Bruelheide, H., Dauber, J., Eichenberg, D., Eisenhauer, N., Fernandez, N., Guerra, C. A. and Henle, K. (2020) 'Effective biodiversity monitoring needs a culture of integration', *One Earth*, 3(4), pp.462–474. https://doi.org/10.1016/j.oneear.2020.09.010

Kuznetsova, M., Kim, A. Y., Scully, D.A., Wolski, P., Syrowatka, A., Bates, D. W. and Dykes, P. C. (2024) 'Implementation of a continuous patient monitoring system in the hospital setting: A qualitative study', *The Joint Commission Journal on Quality and Patient Safety*, 50(4), pp. 235-246. https://doi.org/10.1016/j.jcjq.2023.10.017

Kwame, A. and Petrucka, P. M. (2020) 'Communication in nurse-patient interaction in healthcare settings in sub-Saharan Africa: A scoping review', *International Journal of Africa Nursing Sciences*, 12, p. 100198. https://doi.org/10.1016/j.ijans.2020.100198

Lee, J., Kim, H., Kim, K.H., Jung, D., Jowsey, T. and Webster, C.S. (2020) 'Effective virtual patient simulators for medical communication training: a systematic review', *Medical Education*, 54(9), pp. 786-795. https://doi.org/10.1111/medu.14152

Leenen, J.P., Leerentveld, C., van Dijk, J.D., van Westreenen, H.L., Schoonhoven, L. and Patijn, G.A., (2020) 'Current evidence for continuous vital signs monitoring by wearable wireless devices in hospitalized adults: systematic review', *Journal of Medical Internet Research*, 22(6), p. e18636. https://doi.org/10.2196/18636

Massey, D., Chaboyer, W. and Anderson, V. (2017) 'What factors influence ward nurses' recognition of and response to patient deterioration? An integrative review of the literature', *Nursing Open*, 4 (1), pp.6–23. https://doi.org/10.1002/nop2.53

Mbuthia, N., Kagwanja, N., Ngari, M. and Boga, M. (2024) 'General ward nurses detection and response to clinical deterioration in three hospitals at the Kenyan coast: A convergent parallel mixed methods study', *BMC Nursing*, 23, 143. https://doi.org/10.1186/s12912-024-01822-2

Mok, W., Wang, W., Cooper, S., Ang, E.N.K. and Liaw, S.Y. (2015a) 'Attitudes towards vital signs monitoring in the detection of clinical deterioration: Scale development and survey of ward nurses', *International Journal for Quality in Health Care*, 27(3), pp. 207–213. https://doi.org/10.1093/intqhc/mzv019

Mok, W.Q., Wang, W. and Liaw, S.Y. (2015b) 'Vital signs monitoring to detect patient deterioration: An integrative literature review', *International Journal of Nursing Practice,* 21(S2), pp. 91–98. https://doi.org/10.1111/ijn.12329

Molina-Mula, J. and Gallo-Estrada, J. (2020) 'Impact of nurse-patient relationship on quality of care and patient autonomy in decision-making', *International Journal of Environmental Research and Public Health*, 17(3), p. 835. https://doi.org/10.3390/ijerph17030835

National Health Service (NHS) England (2021) *National Early Warning Score (NEWS)*. Available at: https://www.england.nhs.uk/ourwork/clinical-policy/sepsis/nationalearlywarningscore/ Accessed: 23 August 2024

NHS Improvement (2016) *Resources to support safer care of the deteriorating patient (adults and children)*. Available at: https://www.england.nhs.uk/wp-content/uploads/2019/12/Patient_Safety_Alert_Stage_2_-_Deterioration_resources_July_2016_v2.pdf Accessed: 23 August 2024

Nino, V., Claudio, D., Schiel, C. and Bellows, B. (2020) 'Coupling wearable devices and decision theory in the United States emergency department triage process: A narrative review', *International Journal of Environmental Research and Public Health*, 17(24), p. 9561. https://doi.org/10.3390/ijerph17249561

Padilla, R.M. and Mayo, A. (2018) 'Clinical deterioration: A concept analysis', *Journal of Clinical Nursing*, 27(7-8), pp.1360–1368. https://doi.org/10.1111/jocn.14238

Poudel, A. B. (2021) *An exploration of how social science students utilise an opportunity to learn*

about simulation-based research methods: A design-based study. PhD thesis. University of Agder. Available at: https://uia.brage.unit.no/uia-xmlui/bitstream/handle/11250/2758716/Dissertation.pdf?sequence=4&isAllowed=y

Prgomet, M., Cardona-Morrell, M., Nicholson, M., et al. (2016) 'Vital signs monitoring on general wards: clinical staff perceptions of current practices and the planned introduction of continuous monitoring technology', *International Journal for Quality in Health Care*, 28(4), pp. 515–521. https://doi.org/10.1093/intqhc/mzw062

Richards, J.B. and Wilcox, S.R. (2014) 'Diagnosis and management of shock in the emergency department', *Emergency Medicine Practice*,16(3), pp.1–23.

Rimbi, M., Dunsmuir, D., Ansermino, J.M., Nakitende, I., Namujwiga, T. and Kellett, J. (2019) 'Respiratory rates observed over 15 and 30 s compared with rates measured over 60 s: practice-based evidence from an observational study of acutely ill adult medical patients during hospital admission', *QJM: An International Journal of Medicine*, 112(7), pp. 513–517. https://doi.org/10.1093/qjmed/hcz065

Rizka, M., Permatasari, S., Sari, F.A. and Isjoni, Y.R. (2024) 'Development of case study based learning strategy textbook to improve critical thinking ability of university students', *AL-ISHLAH: Journal Pendidikan*, 16(3), pp. 3064-3072. http://dx.doi.org/10.35445/alishlah.v16i3.4743

Royal College of Physicians (2017) *National Early Warning Score (NEWS) 2*. Available at: https://www.rcplondon.ac.uk/projects/outputs/national-early-warning-score-news-2 Accessed: 23 August 2024

Sahu, M. L., Atulkar, M., Ahirwal, M. K. and Ahamad, A. (2022) 'Internet-of-things-enabled early warning score system for patient monitoring', *IETE journal of research*, 70(1), pp. 425–436. https://doi.org/10.1080/03772063.2022.2110528

Sanasilapin, N. and Karunasawat, K. (2023) *Effect of social studies learning management using case-based reasoning process on critical thinking abilities and self-awareness of upper secondary students*. Master of Education thesis. Srinakharinwirot University. Available at: http://ir-ithesis.swu.ac.th/dspace/bitstream/123456789/2489/1/gs611130037.pdf

Șipoș, A., Maniu, L. and Florea, A. (2024) 'Simulation-based learning for agri-food industry: A literature review and bibliometric analysis', In L.M. Camariha-Matos, A. Ortiz, X. Boucher and A.M. Barthe-Delanoë (eds) *IFIP advances in information and communication technology*, 727, Cham: Springer. pp. 277–287. https://doi.org/10.1007/978-3-031-71743-7_18

Stellpflug, C., Pierson, L., Roloff, D., Mosman, E., Gross, T., Marsh, S., Willis, V. and Gabrielson, D. (2021) 'Continuous Physiological Monitoring Improves Patient Outcomes', *AJN The American Journal of Nursing*, 121(4), pp. 40–46. https://doi.org/10.1097/01.NAJ.0000742504.44428.c9

Sun, L., Joshi, M., Khan, S.N., Ashrafian, H. and Darzi, A. (2020) 'Clinical impact of multi-parameter continuous non-invasive monitoring in hospital wards: a systematic review and meta-analysis', *Journal of the Royal Society of Medicine*, 113(6), pp. 217–224. https://doi.org/10.1177/0141076820925436

Treacy, M., Wong, G., Odell, M. and Roberts, N. (2022) 'Understanding the use of the National Early Warning Score 2 in acute care settings: A realist review protocol', *BMJ Open*, 12(7). https://doi.org/10.1136/bmjopen-2022-062154

Trocki, K. and Craig-Rodriguez, A. (2020) *An evaluation of the Modified Early Warning Scoring System in an acute care hospital.* Available at: https://diginole.lib.fsu.edu/islandora/object/fsu:743457/datastream/PDF/view Accessed: 22 August 2024

Verrillo, S.C., Cvach, M., Hudson, K.W. and Winters, B.D. (2019) 'Using continuous vital sign monitoring to detect early deterioration in adult postoperative inpatients', *Journal of Nursing Care Quality*, 34(2), pp. 107–113. https://doi.org/10.1097/ncq.0000000000000350

Vincent, J.-L., Einav, S., Pearse, R., Jaber, S., Kranke, P., Overdyk, F.J., Whitaker, D.K., Gordo, F., Dahan, A. and Hoeft, A. (2018) 'Improving detection of patient deterioration in the general hospital ward environment', *European Journal of Anaesthesiology*, 35(5), pp. 325–333. https://doi.org/10.1097/eja.0000000000000798

Weenk, M., van Goor, H., Frietman, B., Engelen, L. J., van Laarhoven, C. J., Smit, J., Bredie, S. J. and van de Belt, T. H. (2017) 'Continuous monitoring of vital signs using wearable devices on the general ward: Pilot study', *JMIR mHealth and uHealth*, 5(7), p. e91. https://doi.org/10.2196/mhealth.7208

Wuytack, F., Meskell, P., Conway, A., McDaid, F., Santesso, N., Hickey, F.G., Gillespie, P., Raymakers, A.J.N., Smith, V. and Devane, D. (2017) 'The effectiveness of physiologically based early warning or track and trigger systems after triage in adult patients presenting to emergency departments: a systematic review', *BMC Emergency Medicine*, 17, 38. https://doi.org/10.1186/s12873-017-0148-z