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Abstracts

Systematic Review of the Literature

Title: Outcomes of System-Level Interventions on Healthcare Response to Intimate Partner Violence: A Systematic Review

Background: Intimate partner violence (IPV) is a global health issue of epidemic proportions. The review reflects the current understanding of IPV as a gendered phenomenon, with women disproportionately experiencing more persistent, repeated, and seriously harmful abuse. These women are high users of healthcare, which put healthcare providers (HCP) in a unique position to respond. One-off training does not significantly change HCP behaviour. Therefore, this review aimed to summarise the outcomes of IPV training embedded within a broader system-level approach on HCP response to IPV.

Methods: A systematic search was conducted for studies that reported on the effect of system-level interventions on HCP response to IPV. Search criteria were restricted to date (Nov 2012 – Nov 2024), English language, and peer-reviewed journals in electronic databases (Medline, CINAHL PsychInfo, and EMBASE) (PROSPERO, CRD42024612201). A narrative synthesis was conducted. Study quality was assessed using the Mixed Methods Appraisal Tool (MMAT).

Findings: Twenty studies were included in the review. There was significant heterogeneity in intervention types, outcome measures, study quality and design. Most studies had moderate-high bias. System-level components included repeated training across multiple organisational levels, community partnerships, supervision, policies and referral pathways, IPV advocates, accessible educational resources, private consultation spaces, and quality improvement. Interventions improved HCP knowledge, attitudes and preparedness toward IPV, HCP

response, referrals to specialist services, IPV identification, and some victim/survivor health indices. Few studies evaluated actual HCP-practice and victim/survivor outcomes. The sustainability of outcomes is uncertain.

Conclusion: There is evidence that multi-component system-level interventions improve HCP response to IPV. Given the limitations of existing studies, robust, longitudinal cost-effectiveness research is needed, along with assessments of HCP-practice and victim/survivor outcomes, to inform and advance sustainable system-level interventions.

Keywords: Intimate partner violence, domestic abuse, systematic review, narrative synthesis, healthcare response, system level interventions.

Service Improvement Project

Title: Improving Enquiry and Response to Disclosures of Domestic Abuse in NHS Talking Therapies Services

Background: Enquiry and response to domestic abuse (DA) in mental health services are poor despite policy and best practice guidelines.

Aims: This service improvement project evaluated the feasibility, acceptability, and efficacy of a single-session staff online training event on enquiry and response to disclosures of DA in two NHS Talking Therapies for anxiety and depression (TTad) services.

Method: Training needs were identified from staff focus groups. Training content was co-developed and co-delivered by stakeholder services, Trust DA lead, local DA organisations and service users. A half-day multimedia training event was delivered online for two NHS TTad services. Staff self-reported their confidence in their knowledge and skills to enquire and respond to DA pre-post training and provided feedback via Qualtrics. An audit of casenotes measured evidence of staff behaviour change three months pre-post training.

Results: Training was acceptable and feasible. Training was effective in significantly improving staff self-reported confidence in their knowledge and skills to enquire and respond to DA (p <.001). Changes in staff behaviour were not signficant.

Conclusions: This study informs service improvement to ensure NHS TTad staff meet best practice standards of enquiry and response to service user disclosures of DA. Consideration of the impact for the service and future directions targeting lack of staff behaviour change are discussed.

Keywords: Domestic violence and abuse, healthcare response, staff training, primary care, mental health.

Theory Driven Research Project

Title: Evaluation of a Brief Online Universal Intervention for University Students' Understanding of Psychotic Experiences: A Randomised Controlled Experimental Study

Background: Psychotic-like experiences (PLE) are common in university-age students. Negative appraisals of PLE, and consequent negative emotions and unhelpful coping, can contribute to the development of psychosis for individuals at high risk. Providing information about what psychosis is, how to cope, and how to seek support is needed.

Objectives: We developed a brief, single-session universal online module about PLE for university students and evaluated its impact on knowledge, appraisals, and help-seeking.

Methods: UK university students aged 18-35 (n = 182) were randomly allocated to receive a single-session online module on either understanding PLE (intervention condition), or general wellbeing (control condition). Pre-post intervention questionnaires assessed knowledge of PLE, positive and negative appraisals of PLE, and help-seeking intentions. Feedback on the module was also collected.

Results: From April-November 2024, 104 students (50% aged 18-21, 71% female, 56% white British) completed the module, pre and post questionnaires, and are included in the analysis. The intervention was acceptable for participants who completed the module, but there was high attrition, with 209 (53%) dropping out after expressing initial interest and 69 (18%) after module allocation, out of 391 students initially interested. Both groups showed significant pre-post improvements in knowledge, appraisals and help-seeking intentions ($p < 0.01$) with large effects ($\eta^2 = .14$ to $.56$). However, the intervention condition was more effective ($p < 0.05$) in increasing knowledge and positive appraisals of PLE ($\eta^2 = .09$ to $.10$) and reducing negative appraisals of control and social marginalisation ($\eta^2 = .05$ to $.11$). There were no significant group differences post-condition in negative appraisals of loss, entrapment, and shame, or help-seeking intentions.

Conclusions: A brief, single-session online universal intervention can improve university students' knowledge and positive appraisals of PLE and reduce some negative appraisals. The lack of change in students' help-seeking intentions may highlight the complexity of designing universal interventions that simultaneously normalise PLE - hence reduce the need to seek help in non-clinical populations - and encourage help-seeking for distressing psychotic experiences among at-risk populations. Future research should explore tailored modular interventions for universal and at-risk groups, as well as embedding the module into existing university structures and enhancing its interactivity to address uptake and attrition.

Keywords: Psychosis, online intervention, student wellbeing, prevention, ultra-high risk, experimental.

Systematic Review of the Literature

Outcomes of System-Level Interventions on Healthcare Response to Intimate Partner Violence: A Systematic Review

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Proposed Journal: Journal of Trauma, Violence, and Abuse
Rationale: This journal prioritises review papers on intimate partner violence to compile knowledge that affects practice, policy and research, which aligns with the focus of this review.

I hereby confirm that my work has been deemed suitable for submission by my supervisors.

Abstract

Background: Intimate partner violence (IPV) is a global health issue of epidemic proportions. The review reflects the current understanding of IPV as a gendered phenomenon, with women disproportionately experiencing more persistent, repeated, and seriously harmful abuse. These women are high users of healthcare, which put healthcare providers (HCP) in a unique position to respond. One-off training does not significantly change HCP behaviour. Therefore, this review aimed to summarise the outcomes of IPV training embedded within a broader system-level approach on HCP response to IPV.

Methods: A systematic search was conducted for studies that reported on the effect of system-level interventions on HCP response to IPV. Search criteria were restricted to date (Nov 2012 – Nov 2024), English language, and peer-reviewed journals in electronic databases (Medline, CINAHL PsychInfo, and EMBASE) (PROSPERO, CRD42024612201). A narrative synthesis was conducted. Study quality was assessed using the Mixed Methods Appraisal Tool (MMAT).

Findings: Twenty studies were included in the review. There was significant heterogeneity in intervention types, outcome measures, study quality and design. Most studies had moderate-high bias. System-level components included repeated training across multiple organisational levels, community partnerships, supervision, policies and referral pathways, IPV advocates, accessible educational resources, private consultation spaces, and quality improvement. Interventions improved HCP knowledge, attitudes and preparedness toward IPV, HCP response, referrals to specialist services, IPV identification, and some victim/survivor health indices. Few studies evaluated actual HCP-practice and victim/survivor outcomes. The sustainability of outcomes is uncertain.

Conclusion: There is evidence that multi-component system-level interventions improve HCP response to IPV. Given the limitations of existing studies, robust, longitudinal cost-

effectiveness research is needed, along with assessments of HCP-practice and victim/survivor outcomes, to inform and advance sustainable system-level interventions.

Keywords: Intimate partner violence, domestic abuse, systematic review, narrative synthesis, healthcare response, system level interventions

Introduction

Intimate Partner Violence (IPV) encompasses violence or threats of violence (physical, sexual, emotional/psychological) by a current/former partner (Kalra et al., 2021). Global prevalence estimates suggest 1 in 3 women have experienced IPV, resulting in it being described as a health issue of epidemic proportions (World Health Organization, 2021). While IPV affects people of all genders, globally, women are disproportionately subjected to persistent, repeated abuse, and are more likely to be seriously harmed or killed (Garcia-Moreno et al., 2006). Wider contextual factors influence rates of IPV, highlighted in COVID-19, where the United Nations described it as a 'shadow pandemic' (Piquero et al., 2021; United Nations (UN), 2020) . This review reflects the current understanding of IPV as a gendered phenomenon, compounded by other complex intersecting factors and minority identities such as race, socioeconomic status and sexual orientation (Kelly, 2011).

Survivors of IPV can experience a wide range of chronic physical and mental health problems, and are frequent users of healthcare systems (Bonomi et al., 2009). Therefore, healthcare providers (HCP) are in a unique position to identify and respond to IPV. However, research consistently highlights sub-optimal rates of detection and response from staff (Howard et al., 2010). Staff discomfort with the topic, competing demands, and inadequate training are suggested to be some key barriers (Rose et al., 2011). Following National Institute for Health and Care Excellence (NICE) issuing IPV training as a high priority area and recent policy changes, there has been some progress in healthcare staff training in the last decade (Burman & Brooks-Hay, 2018).

Single-event training is insufficient to create sustained HCP behaviour change. A recent Cochrane review indicates that although IPV training improves HCP attitudes and knowledge, it often fails to translate into sustained behaviour change (Kalra et al., 2021). A systematic review of quality improvement in healthcare suggests that the most significant and

sustained changes in staff behaviour and patient outcomes occur when single-event training is accompanied with system-level interventions, which include ongoing learning opportunities and robust organisational infrastructure and support (Grol & Grimshaw, 2003). Definitions of system-level interventions are summarised in Table 1. A systematic review of randomised controlled trials (RCTs) investigating the effects of IPV training on physicians, and a scoping review on student nurses and midwives, indicates training integrated with system-level support is likely more effective (Crombie et al., 2017; Zaher et al., 2014). The Cochrane review emphasised the need for a review of IPV training embedded within a broader systems approach, to understand its impact on HCP beyond one-off training (Kalra et al., 2021).

To our knowledge, no systematic review has examined the impact of system-level interventions on HCP responses to IPV. Given recent policy advancements and growing recognition of the importance of IPV response in healthcare settings, a comprehensive review of system-level interventions is both timely and necessary. The findings of this review could provide valuable insights to guide the development and assessment of system-level changes aimed at equipping HCPs to support IPV victim/survivors effectively. The review sought to address the following questions:

1. What IPV system-level interventions for healthcare providers have been evaluated?
2. What are the outcomes of system-level interventions?
3. How effective are system-level interventions at influencing professional practice?

Method

Synthesis Approach

A narrative synthesis approach was chosen a priori as meta-analysis was deemed inappropriate due to anticipated heterogeneity in study methods, interventions and outcomes found in previous reviews (Crombie et al., 2017; Kalra et al., 2021; Zaher et al., 2014). The

narrative synthesis was conducted in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009; Page et al., 2021a). The protocol was registered in PROSPERO (CRD42024612201) on Nov 20th, 2024. The review follows the narrative synthesis guidelines and framework from Popay et al. (2006).

Search Strategy and Information Sources

A systematic search of the literature was conducted in November 2024 across electronic databases, including Medline, CINaHL, PsychInfo and Embase. Databases were chosen to capture evaluations of healthcare interventions across allied health and social care contexts. The search terms included the following concepts: (1) "intimate partner violence" and (2) "service-level interventions" for (3) "healthcare providers". Adjacency searching, Medical Subject Headings (MeSH), and thesaurus search were used for precision and comprehensiveness. Search criteria were limited by date (Nov 2012 – Nov 2024), English language and peer-reviewed journals. See Appendix A for full database search strategy.

Inclusion and Exclusion Criteria

Inclusion criteria were original empirical studies published in peer-reviewed journals; using quantitative analysis; and published in English since Nov 2012 (to update a previous review (Zaher et al., 2014)).

Population

Healthcare providers (HCP) regardless of profession or setting, including direct and indirect providers of care (e.g. physicians, psychologists, social workers, managers, administrators).

Intervention

System-level interventions directed at HCP to improve response to IPV against women aged 16 and above. The age threshold aligns with early intervention relevance in adolescent populations (World Health Organization, 2021) and prior research criteria (Kalra et al., 2021). The intervention must include staff training embedded in a broader systems approach. System-level interventions involve structural, organisational changes beyond one-off training (e.g. protocol implementation, referral pathways). Table 1 presents the criteria and rationale for our definition of system-level interventions, with examples.

Studies were excluded if they:

- Were not HCP-directed interventions.
- Addressed multiple types of violence (e.g. domestic violence, child abuse) but did not explicitly include IPV.
- Focused primarily on IPV towards men**.**
- Discussed system-level interventions without evidence of implementation or sustained impact (e.g., awareness or consideration of protocols mentioned in training but no indication of subsequent use in practice).
- Examined only IPV screening/identification.

Comparator

Intervention studies with a comparison (e.g. no intervention, placebo, another intervention, usual practice/treatment-as-usual, pre-post designs).

Outcomes **(**replicating Kalra et al. (2021) review outcomes)

Primary outcomes

- HCP knowledge of IPV

- HCP attitudes/beliefs towards IPV
- HCP readiness to manage IPV
- HCP response (e.g. providing safety planning or counselling, implementing policies, system changes)
- HCP referrals to specialist IPV services

Secondary outcomes

- Documentation/identification of IPV
- Health outcomes of IPV survivors
- Cost-effectiveness of interventions

Table 1.

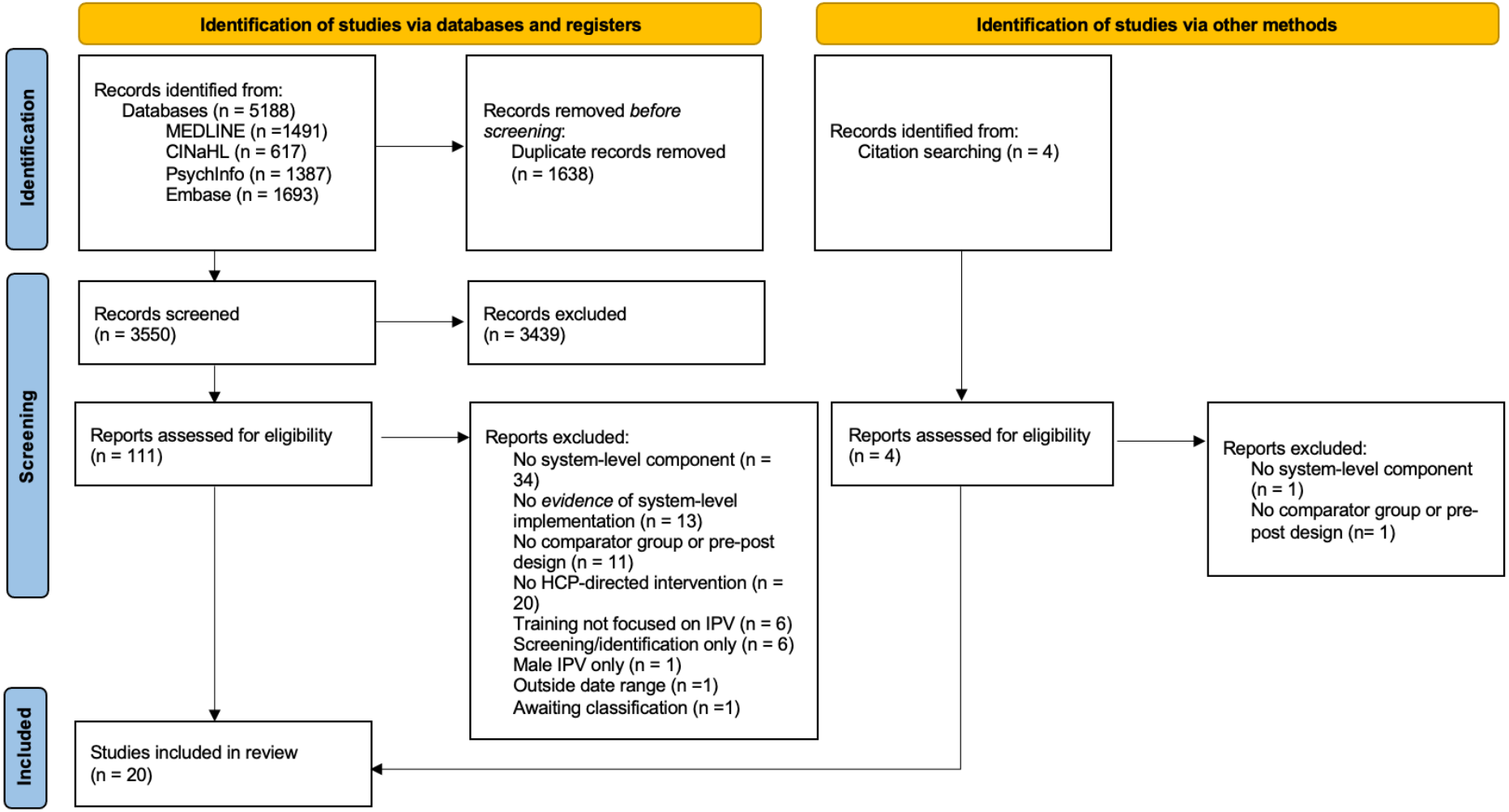
Definitions of System-Level Interventions

Category	Description and Examples	Theory and Research
Continuous learning	Regular educational updates e.g. booster/repeated training. Train-the-trainer programmes resulting in the participant regularly disseminating knowledge to the wider team.	Regular educational updates, booster training, and clinical champions enhance HCP preparedness and response to IPV by reinforcing knowledge, accountability, and sustaining practice improvements (Hegarty et al., 2020).
Inclusion of staff at multiple organisational levels	Leadership support and encouragement of organisational commitment e.g. attendance of non-clinical staff such as admin or managers at training.	When leadership attends training and is actively involved in system-change, it can increase the acceptance of training and improve uptake (Gaddappa et al., 2021). Large-scale organisational interventions are more likely to result in improved patient outcomes if a wide range of staff are involved in the design, implementation and monitoring (Clay-Williams et al., 2014).
Collaboration and community linkages	Access to specialists to support best practice and connect women with DVA services e.g. networking with local IPV services, on-site access to champions, legal services, or social care.	Having colleagues who are champions has been shown to increase acceptance of interventions and change healthcare response to IPV (Gaddappa et al., 2021).
Supervision or mentoring	Supervision, mentoring, reflective practice or case discussion addressing barriers and integrating knowledge into practice.	Case discussion is important in managing IPV cases to discuss challenges, develop strategies and support staff to adhere to policies (GBVIMS Steering Committee, 2017).
Policies and procedures	Standard operating procedures (SOP) and policies made available on an ongoing basis e.g. on staff intranet, staff prompts in electronic health records. Development of referral pathways.	Enhancement of electronic health records can support HCP IPV response and data can inform quality improvement (Miller et al., 2015). IPV screening rates significantly improve when HCP are prompted in service-user medical records e.g. one study showed screening increased from 2 to 92% (Hamberger et al., 2010). Organisational policies can change service culture and are often present in successful large-scale system interventions (Clay-Williams et al., 2014).
Resourcing	Resources for HCP/service-users e.g. safety cards, scripts, posters. Resources provided in training need *evidence* of implementation e.g. ongoing access on HCP intranet, accessible resources in waiting rooms or provided at assessment.	Educational resources are necessary for system-level interventions to improve patient outcomes (Clay-Williams et al., 2014).
Physical environment	Provision for equipping facilities with a private space for confidential enquiry and assessment.	Ensuring healthcare facilities have a designated confidential private space is necessary for improving IPV disclosure rates and provider response (World Health Organization, 2013).
Quality improvement	Feedback mechanisms to inform continuous evaluations of system initiatives to guide improvements e.g. audits, staff/patient satisfaction surveys, stakeholder consultations.	Quality improvement is important for HCP response, ensuring protocols are effective, staff are adequately trained and providing effective care (Endalamaw et al., 2024).
Stakeholder investment	Stakeholder investment such as funding.	Stakeholder contributions are a key part of investing in IPV interventions to develop cost-effective care and recognition in a competitive market (Miller et al., 2015).

Note. Definitions were operationalised based on a literature review of relevant studies and best practice guidelines on healthcare system-level requirements for responding to violence against women (World Health Organization, 2013, 2019). It remains uncertain whether all categories are necessary for an effective and sustained HCP response. However, the literature suggests multi-faceted, inter-disciplinary models that acknowledge the complexity of IPV, emphasise the importance of a coordinated response, and ensure victim/survivors receive support regardless of the system-level they access are likely more successful (Ambuel et al., 2013; Decker et al., 2012; Hamberger et al., 2015; McCaw et al., 2001).

Figure 1

PRISMA Diagram of the Search Process.



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: https://doi.org/10.1136/bmj.n71. For more information, visit: http://www.prisma-statement.org/

Study Selection and Double Rating

The selection process is summarised in Figure 1. The search identified 5188 papers (Nov 2024). Titles and abstracts were screened, then full texts. An advanced search on Google Scholar and the snowballing technique was used to scan reference lists of included studies and relevant systematic reviews. Efforts to enhance comprehensiveness included contacting two experts in the field**,** though no responses were received regarding additional studies. Endnote and Covidence software were used for reference management. Two authors (NS and PB) completed study selection, with the second author double rating 20% of title abstract (achieving a kappa of 1.00), 25% of full text (achieving a kappa of 0.9), and 50% of data extraction (achieving a kappa of 1.00).

Quality Appraisal and Double Rating

Quality of studies was assessed using the Mixed Methods Appraisal Tool (MMAT), recommended to assess a range of quantitative designs (Hong et al., 2018) and used in other systematic reviews on IPV (Forsdike et al., 2022). Two of the five categories of study designs were omitted due to their qualitative focus. Each study was screened based on criteria, and then subsequently rated on the five items in its category, resulting in a total score /5. The second rater double rated 30% of studies (achieving a kappa of 0.83). Any discrepancies were discussed, and a final decision was agreed.

Data Synthesis

The following data were extracted: citation, location, design, participants and setting, intervention description, outcomes and tools, attrition, and key findings. The content of training was not reported in detail as this topic has been previously explored (Kalra et al., 2021) and the purpose of this review is to explore the additional impact of system-level

interventions. The narrative synthesis was conducted to understand the range of healthcare system-level interventions that have been evaluated and how certain intervention types impact the primary and secondary outcomes listed above. Formal quantitative analysis and reporting of effect sizes for interventions were not possible due to the limited availability of effect size measures, confidence intervals or parameter estimates.

Results

In total, 20 studies published between 2013-2024 met the inclusion criteria (Figure 1). Authors were contacted where their study met all other inclusion criteria, but it was unclear whether IPV was included in their intervention. All but one responded, confirming IPV was included, leaving one study awaiting classification (Trevillion et al., 2014). An overview of study characteristics and findings is summarised in Table 2. Table 3 summarises study system-level components in more detail, along with the key successful outcomes.

Table 2

Study Characteristics and Key Findings

Author (Date)	Location	Design	Participants (N), Setting	Description Of Intervention	Outcomes (Primary/Secondary) and Tools	Attrition
HCP Knowledge, Attitudes, Preparedness to Manage IPV						
1. Ambuel et al. (2013)	USA	Experimental, pre-post, and group comparison (for selected variables)	Physicians, nurses, physician assistants, medical assistants, a paramedic, administrative staff and lab technicians (N=147) in 3 primary care clinics and 1 emergency department (intervention) vs 2 primary care clinics (usual care). Urban setting.	Implementation of the Healthcare Can Change from Within model (HCCW) involved saturation training (3 hours) and clinical toolkits for all staff and 20-hour advanced training for advocates. The intervention focused on implementing system-level changes via routine screening, documentation, policies, continuous quality improvement, consultation with IPV advocates, and patient education materials.	HCP IPV-related knowledge (of IPV incidence, prevalence, and relationship dynamics), comfort (asking about IPV, responding to a positive history of IPV, and referring to community resources), and practice (self-reported IPV identification) were assessed with a survey authors developed (primary). HCP IPV-related attitudes, understanding, self-efficacy, identification, and judgment about clinic capacity were measured with the HCP survey. System changes (implementation of clinic policies, procedures, patient education materials, availability of trained interpreters, and availability of private space) were assessed via an audit adapted from the DIHBV. IPV documentation/enquiry was assessed via chart audits from patient records.	96/147 (65%) HCP provided outcome data.
Key Findings	Self-efficacy (p = .001), knowledge of referral resources (p = .001), and of legal issues (p = .01) significantly increased post-intervention. Knowledge of IPV dynamics and health did not change post-intervention. HCP comfort did not change. HCP reported more recent IPV identification post-intervention (p = .0002). All intervention sites increased patient education. Three out of four intervention clinics implemented new policies and procedures and significantly increased documentation of IPV screening post-intervention (p = .001) - an improvement which was sustained at 2-year follow-up (p = .02). Usual care clinics were not displaying educational materials, screening for IPV, or collaborating with local IPV agencies, and had no IPV policies/procedures.					
2. Forsdike et al. (2018)	Australia	Experimental pre-post	Allied health professionals, doctors, midwives, nurses, social workers, non-	Training covered IPV and referral pathways with ongoing evaluation and stakeholder consultation. The hospital	Survey comprising Likert scales measured HCP self-reported confidence in having the	67/123 (54%) HCP provided outcome data.

				clinical staff (N=123) at a women's hospital. Urban setting.	integrated on-site legal support services and champions for ongoing advocacy.	knowledge and skills to carry out a response, and attitudes towards IPV (primary). Referral data extracted from hospital referral sheets (secondary).	
Key Findings		Significant improvement in HCP self-reported knowledge of, and confidence in, responding to IPV (p = .039)*****. Belief that patients should be referred to on-site legal services increased (p < .001). There was no significant difference in actual increased referrals to legal assistance.					
3.	**Gaddappa et al. (2021)**	India	Experimental, pre-post	Doctors and nurses (N=201) in Obstetrics and Gynaecology, General Medicine, and Emergency departments in 3 tertiary medical teaching hospitals. Rural setting.	A 5-day train-the-trainer programme for 26 key HCP from 3 departments. The trainers conducted 2-day training sessions in their respective departments over 4 months. System level interventions included the development of SOPs, educational material for patients, documentation process, and identifying places for a private consultation.	HCP self-reported knowledge, attitudes and perceived preparedness (primary), measured by a 'KAP' survey which incorporated relevant items from the PREMIS and DVHPSS tool. Identification and referral rates (secondary), measured from documentation register data.	Attrition rate NR.
Key Findings		Self-reported knowledge, attitudes and preparedness of providers, and IPV identification significantly increased by 28% immediately post-training (significance level/p-value NR). Six months post-training, a decline in a change in attitude score was found. Referral rates increased post-intervention, however baseline data or pre-post change in scores were NR, therefore there was no indication by how much.					
4.	**EDUCATE Investigators (2018)**	Canada	Experimental, pre-post	Orthopaedic surgeons and trainees, non-physician HCP, researchers, administrative staff (N=140) from 7 fracture clinics Urban/rural population NR.	Train-the-trainer programme for IPV champions to deliver a 2-hour education program on IPV in their clinic. Champions provided an in person talk and ongoing bimonthly training updates.	HCP self-reported actual knowledge (primary), attitudes, beliefs and self-reported behaviours (secondary). Measured with PREMIS.	19 (14%) lost at 3-month follow-up.
Key Findings		Significant improvement (p < .05) in HCP knowledge (actual) and in all other subscales (attitudes, beliefs and readiness to manage IPV) 3-months post-intervention.					
5.	**EDUCATE Investigators (2020)**	Canada	Experimental, pre-post	Orthopaedic surgeons and trainees, nonphysician HCP, researchers, administrative staff (N=140) from 7 fracture clinics Urban/rural population NR.	12-month follow-up report from Sprague (2018). Train-the-trainer programme for IPV champions to deliver a 2-hour education program on IPV in their clinic. Champions provided an in person talk and ongoing bimonthly training updates.	HCP self-reported actual knowledge (primary), attitudes, beliefs and self-reported behaviours (secondary). Measured with PREMIS.	Data available for 109 (78%) HCP at 12- month follow-up.

Key Findings		Significant improvement ($p < .05$) in actual knowledge and 8 of the 9 other PREMIS subscales (attitudes, beliefs and readiness to manage IPV). The victim understanding subscale was non-significant.					
6.	**Withiel et al. (2023)**	Australia	Experimental, pre-post	Nursing clinicians (N=110) in a tertiary adult hospital providing acute tertiary medical services across emergency medicine, trauma, and rehabilitation. Urban setting.	Multifaceted training of nurse advocates with follow-ups at 6–9 and 12–15 months. Monthly clinical supervision. Advocates became part of an ongoing community of practise with educational updates via email and workplace groups, and attending seminars from IPV experts	HCP self-reported knowledge, confidence and clinical skills (specifically, knowledge of indicators of family violence, ability to ask about family violence and management of disclosures), measured with the RMH FV.	99 (90%) HCP completed baseline data, 55 (51%) completed one time point, 48 (44%) completed two, 6 (5%) completed all three time points.
Key Findings		Knowledge, confidence (both $p < .001$), and frequency of screening ($p = .049$) significantly improved at 6-9 months and 12–15-month follow-up. There was no significant change between post-intervention and follow-up, with data descriptively showing a reversion of initial improvement.					
7.	**Young et al. (2024)**	Australia	Cluster RCT	GPs (N=52; 25 intervention, 27 comparison) from primary care services in urban and rural areas	HCP were trained to respond to IPV survivors, deliver a brief counselling intervention, and encourage safety planning and referral. Training included distance learning modules, teleconferences and simulated patient interactions.	GPs self-reported IPV knowledge, confidence, attitudes, and skills in identifying and responding to IPV. Measured with PREMIS.	37 GPs (65%) (19 intervention, 18 comparison) provided outcome data.
Key Findings		Post-training, the intervention group reported significantly higher perceived preparedness to address abuse ($p = .000$), perceived knowledge ($p = .000$), actual knowledge ($p = .03$), and greater awareness of practice-related issues ($p = .000$). There were no between-group differences in workplace issues, self-efficacy and understanding of victims.					
				HCP Response			
8.	**Miller-Walfish et al. (2021)**	USA	Experimental, pre-post	Practice managers or medical directors (N=19) provided data from community-based primary care Urban/rural population NR.	The CUES (Confidentiality, Universal Education and Empowerment, and Support) program included cross-sector training sessions, bimonthly webinars and biannual meetings, annual follow-ups, and integration of IPV education into routine care. Practice managers or clinic leads completed a quality assessment/quality Improvement tool every six months to guide system-level improvements. The tool included staff training (including the leadership	HCP response (policies, protocols, patient privacy, universal education, documentation, partnerships with local agencies, staff support, environment and resources). A modified QA/QI tool developed using the Delphi Process, was used to guide and assess system-level improvements.	15/19 (79%) managers/directors provided outcome data.

					team), support for staff secondary trauma (supervision, employee assistance programme), annual review of protocols (e.g. private space for survivors), referral to on-site advocates or local specialist services, and resources (posters, handouts, educational safety cards).		
Key Findings	Descriptive data indicated improvements in clinic protocols for IPV assessment, staff training and supervision, patient privacy, education and cultural adapted resources. Enhancements were also observed in documentation, staff safety plans, resources for guiding disclosure response, IPV identification, and annual protocol reviews. Overall, 84% of HCP response indicators improved by at least 5%. The largest gains were in the development of assessment protocols (+20%), and the distribution of educational safety cards and training (+ 27% each).						
9.	**Zachor et al. (2018)**	USA	RCT	Nurse practitioners and nurse-midwives, health care assistants, front desk staff, and clinic managers (N=92) from 4 family planning clinics randomised to IPV communication-skills building workshop or standard knowledge based IPV training. Outcomes were compared to historical controls who received no training. Urban/rural population NR.	HCP in the standard knowledge-based training group received the Addressing Reproductive Coercion in Health Settings (ARCHES) intervention. HCP were trained to implement IPV universal education, brief harm-reduction counselling, and connect patients to victim advocacy resources. The other providers received an IPV communication skills training intervention, focused on how to discuss sensitive topics with patients.	HCP response (primary) assessed through patient exit surveys, included presence of IPV discussion, receipt of safety card with IPV resources and disclosure of IPV. HCP self-reported knowledge (secondary), on conducting assessments, implementing harm-reduction strategies, making referrals and their likelihood of offering support and assessment (survey details NR).	103/120 (86%) patient-participants provided outcome data. One clinic site withdrew from the study after training and was later replaced. 26/92 (28%) provider-participants provided outcome data.
Key Findings	A higher percentage of patients in both training groups (78–90%) reported discussions about healthy relationships compared to historical controls (49–52%, $p <$ .001 for both). More patients in clinics that received training reported receiving a safety card (72–84%) compared to historical controls (9%, $p <$ .001 for both). IPV disclosure rates did not differ by training type (this item was not included in the historical control survey). No statistically significant differences were found in post-intervention knowledge between the two training groups.						
	HCP Referrals						
10.	**Sohal et al. (2020)**	UK	Experimental, pre-post and group comparison	GPs and administrative staff and clinical leads in 205 general practices in five London boroughs	GP practices in four London boroughs implemented the Identification and Referral to Improve Safety (IRIS) over four years (2012 to 2017) to evaluate	Referral rates (primary): measured as the daily referrals received by DVA providers per 100 women registered in a GP. IPV	116/144 (81%) of GPs were included in the analysis.

			(n=144 in 4 intervention boroughs, n=61 in a control). Urban setting.	the effectiveness outside of a trial setting. The programme involved face-to-face, practice-based DVA training, a prompt in the electronic medical record reminding clinicians to consider DVA, and a referral pathway to a named advocate for women to directly access specialist services. The fifth comparator borough had one DVA education session (more akin to usual care).	identification (secondary): measured as the number of women with a DVA identification code in their electronic medical record, per 1000 women registered in a GP corresponding to the incidences of DVA recorded by GP.	
Key Findings	The four implementation boroughs showed a significant increase in referral rates ($p < .001$) and new DVA cases recorded ($p < .002$). There was no significant change in referral or identification rates in the comparator borough.					
IPV Victim/Survivor Identification						
11. Bacchus et al. (2023)	Brazil	Experimental, pre-post	Physicians, nurses, social workers, community health agents, clinical directors, and psychologists (N=114) from 2 primary health care clinics in an urban area.	The HERA (Healthcare Responding to Violence and Abuse) intervention was based on the Brazilian model CONFAD (Difficult Family Conflicts) and British model IRIS, which align with best practise guidelines of the WHO (World Health Organisation). The intervention included training and reinforcement training for all workers and specific training for Violence Prevention Nucleus (NPV) members (similar to advocates), educational material, monthly case discussions, supervision, and care pathways.	IPV identification rates HCP reported to the mandatory epidemiological surveillance system. Rates of referrals received from DVAW centres.	82% attended training in clinic 1, 37% in clinic 2.
Key Findings	The number of identified cases increased from 12 (pre-intervention) to 30 (post-intervention), while referrals increased from 23 to 56, suggesting the intervention improved both case identification and referral rates.					
12. Hamberger et al. (2014)	USA	Experimental, group comparison, with pre-post comparison for selected variables	4 family medicine residency clinics were assigned to intervention (n=2) or usual care (n=2) and provided data on 34 victim/survivors.	Intensive 21-hour IPV advocate training for select staff to consult clinicians/patients, followed by 4-hour IPV workshops for all clinical and non-clinical staff. Development and implementation of policies and procedures and quality improvement strategies.	Identification of IPV reported by patients (primary): enquiry rates were assessed using the Doctors and Nurses Asking About Violence interview schedule. No additional details about the interview schedule were provided. Disclosure rates were measured	Participation rate (34/110, 32%), attrition (22/34, 35 %).

			Staff included physicians, nurses, physician assistants, medical assistants. Staff demographic characteristics NR. Urban/rural population NR.		using the Help-Seeking subscale of the Connection to the Community Scale, which was adapted from the PSS. Health outcomes of women (secondary) reported by patients: Experience of violence was measured by the CTS-2 and the Consequences and Symptoms of Injury checklist, developed by authors. Health and wellbeing were measured by CDC Healthy Days Core Module, and an audit of medical charts for clinic visits and prescriptions.	
Key Findings	IPV enquiry (72% vs 17%, $p = .008$) and disclosure (62% vs 18%, $p = .04$) rates increased compared to usual care. Post-measures indicated both intervention and usual care groups reported an increase in safety behaviours ($p < .0001$), and a reduction in physical violence (OR=.21, $p = .006$), and psychological abuse (OR=.22, $p = .006$). Groups did not differ in change of physical violence, use of safety plans, connection to the community, patient satisfaction, or quality of health. Women in intervention clinics had fewer doctor visits ($M = -6.3$, $p = 0.01$). Prescription use did not significantly differ across groups.						
13. Jayatilleke et al. (2015)	Sri Lanka	Experimental, pre-post	408 public health midwives from 22 primary community health settings in urban and rural areas.	Train-the-trainer programme for 5 physicians who subsequently delivered 4-day IPV training for midwives. Clinicians received IPV handbooks and were required to network with community IPV services to support referral process.	IPV identification (primary) – the number of HCP self-reporting identification of at least one IPV sufferer in the last 3-months. HCP self-reported IPV knowledge (secondary), assessed via adapted validated scales (Aksan & Aksu, 2007; Gutmanis et al., 2007; Nicolaidis et al., 2005; Papadakaki et al., 2013; Short, Surprenant, et al., 2006; Sugg et al., 1999) to the Sri Lankan context, measuring perceived barriers, confidence, and responsibility in identifying and assisting IPV victim/survivor.	408/495 (82%) HCP were included in the analysis.
Key Findings	IPV identification significantly ($p < .001$) increased at 6-month follow-up (98.5%, n = 402 vs 73.3% n = 299). At post-intervention, 96.5% (n = 387) HCP discussed IPV with identified sufferers and suggested solutions, compared to 67.3% (n = 201) pre-intervention ($p < .001$). At post-intervention, the median total scores of IPV knowledge (0.62 vs 0.88), perceived responsibility (3.20 vs 4.60), and self-confidence (1.81 vs 2.75) significantly increased (all $p < .001$), and perceived barriers decreased (2.43 vs 1.14) ($p < .001$).						

14.	**Rhodes et al. (2014)**	USA	Experimental, pre-post and group comparison	N = 240 medical providers (doctors, registered nurses), medical support (working under supervision), administrative support, and social workers provided data from community health centres (CHCs) (n=2 intervention; n=2 usual care) providing medical and dental care. Urban setting, serving low-income, urban, and largely minority patients.	Two CHCs received the full intervention: (1) a screening tool, (2) a social marketing campaign targeting all staff, and (3) an on-site IPV advocate, and a family health advocate trained in motivational interviewing to support screening and referrals. A sustainability period followed, during which family health advocates were withdrawn. Instead, medical providers and social workers in each team received additional IPV training to assess whether results persisted without dedicated IPV staff. The waitlist comparison groups received usual care. Usual care across all 4 CHCs consisted of: (1) annual provider training, (2) IPV screening prompted by a box on the written medical record, (3) and referral of IPV victims to social work.	IPV identification and referrals (primary), assessed by formal study-related tracking forms from family health advocate/social worker documentation. HCP knowledge, attitudes, behaviours and beliefs (secondary), measured using a modified version of the ATSI.	Attrition data NR.
Key Findings		IPV identification and referral rates increased sevenfold between baseline and intervention time periods, but significantly decreased between intervention and sustainability periods, in all health centres (all $p = .0001$). No significant differences observed between baseline and sustainability periods. Over 50% of IPV cases were identified by family health advocates, rather than HCP, suggesting sustained IPV identification relies on the presence of a dedicated on-site advocate. HCP knowledge, attitudes, beliefs, or behaviour did not significantly change between baseline and the intervention or sustainability time periods.					
15.	**Ruijne et al. (2022)**	Netherlands	Cluster RCT	24 community mental health teams randomised to intervention (n = 12) or control (n = 12). Professions included psychiatrists, psychologists, general nurses, social psychiatric nurses, and social workers in two urban areas (N = 214).	HCP received knowledge and skills training about DVA, mental illness. Provision and implementation of a referral pathway between community mental health and DVA services.	IPV identification (primary) and referral rates extracted from electronic patient files. HCP self-reported (perceived and actual) knowledge, attitudes, and skills to manage DVA (secondary). Measured with the BRAVE survey.	No teams dropped out. The overall response rate at all three time points was above 75%.

Key Findings	No significant change in IPV identification or referral rates at 12-month follow-up. Improvements in knowledge, skills and attitudes at 12-month follow-up were significantly greater in intervention teams compared to control (p <.001).					
16. Sohal et al. (2018)	UK	Experimental, pre-post (adaptive pilot design where the experience and data at site 1 led to modifications at site 2)	Sexual health staff clinicians from 2 sexual health clinics provided data on 267 victim/survivors. Staff profession and N NR. Urban setting.	Two sexual health clinics implemented the IRIS Assessing for Domestic Violence and Abuse in Sexual Health Environments (ADViSE) programme. The programme involved face-to-face, practice-based DVA training, a prompt in the electronic medical record reminding clinicians to consider DVA, a referral pathway to a named advocate for women to directly access specialist services, and resources for patients and staff. An adaptive pilot design was used, where findings from site 1 informed implementation at site 2. For example, low enquiry rates at site 1 led to mandatory staff reporting on whether they asked about DVA at site 2. Low training evaluation completion at site 1 resulted in the introduction of CPD and attendance certificates at site 2 to encourage participation.	HCP enquiry, identification and referral rates (primary) extracted from electronic medical records. HCP self-reported knowledge of DVA health consequences, enquiry, response, and how to make advocacy referrals (secondary) assessed via questionnaires (the source, development, or validation of the questionnaires were NR).	HCP self-reported knowledge NR at site 1 due to low response rates – rate of response NR.
Key Findings	Baseline: no recorded cases of DVA identified and no referrals to DVA specialist services. At site 2 it is unknown how many women disclosed abuse on the paper self-triage form, but none were referred to specialist services. Post-intervention: at site 1, enquiry rate increased by 10%, identification rate 4%, referral rate 50%. Site 2: enquiry rate increased by 61%, identification rate 7%, referral rate 10%. Note, the absolute numbers of women referred at the two sites was the same (eight women at each site). At Site two, average self-rated knowledge increased by 40%.					
IPV Victim/Survivor Health Outcomes						
17. Jack et al. (2019)	USA (8 states)	Cluster RCT	Nurses from 15 sites randomised to nurse home visitation intervention (n=7), or standard care (n=8), provided data on 492 victim/survivors. Median number of nurses	Standard sites: provided a program with limited questions about violence exposure and general information for abused women but no standardised IPV training for nurses. Augmented sites: nurses received intensive IPV education and	Survivors' self-reported quality of life (primary), assessed with the WHOQOL-BREF. Rates of IPV, mental and physical health (secondary): IPV recurrence, measured with the CAS, PTSD, measured with the SPAN,	Two sites (11%) dropped out following randomisation.14% of enrolled service users did not

			per site (intervention = 77; standard care = 101). Urban/rural population NR.	implemented an IPV intervention that included a clinical pathway to guide assessment and tailor care. This intervention focused on safety planning, violence awareness, self-efficacy, and referrals to social support services.	depressive symptoms measured via a subscale from the PRIME-MD PHQ, global mental and physical health and well-being, measured with the SF-12.	provide completed data.
Key Findings	Quality of life improved in both groups at 24-month follow-up, increasing from 299.5 to 308.2 in the augmented program group, and 293.6 to 316.4 in the standard program group ($p < .05$). There were no significant differences between groups in primary and secondary outcomes.					
18. Miller et al. (2016)	USA	Cluster RCT	25 family planning clinics (17 clusters) randomised to intervention (11 sites in 9 clusters) or usual care (14 sites in 8 clusters) provided data on N=3687 victim/survivors. Healthcare practitioners and administrative staff - demographics NR. Rural and urban settings.	HCP received a half-day ARCHES intervention, involving training from IPV service advocates to deliver an education/counselling intervention for patients.	IPV incidences self-reported by patients (primary) assessed using three survey items from Miller et al. (2011, 2014). Secondary outcomes included patient knowledge of IPV resources - measured by whether they received information from HCP (capturing HCP response); use of IPV resources/services - assessed via patient report; and self-efficacy in harm reduction behaviours - evaluated using a Likert-based survey.	82% completed T2 (3 months) and 79% completed T3 (12 months) follow-up measures.
Key Findings	The intervention did not significantly reduce IPV incidences, however it did increase patient knowledge of IPV resources at T2 and self-efficacy to use harm reduction behaviours at T3 (both $p < .05$).					
19. Sharps et al. (2016)	USA	Individual and cluster-RCT (urban participants randomised individually; rural participants randomised by cluster- according to health care agency)	13 victim/survivors from rural areas randomised according to health care agency to intervention (n = 7) or control (n = 6). One urban health department randomised victim/survivors individually. Home visitors (n = 73) included community health nurses, and community health workers super-	Home visitors first received a foundational IPV training session, followed by enhanced training on the Domestic Violence Enhanced Home Visitation Program (DOVE) intervention, the study protocol and annual booster training. Patients in the DOVE intervention arm participated in empowerment sessions, and received educational brochures, safety plans, assessments, and community resources/referrals.	IPV frequency and chronicity (primary) self-reported by women using the CTS-2. Women's mental health outcomes (secondary), self-reported with the EPDS.	Attrition data NR for cluster or HCP participants. Attrition of women was 22.6% at follow-up.

			vised by nurses.	The control arm received only the foundational IPV training. Patients in this group received standard home visiting care and IPV support only if indicated.		
Key Findings	Women in the DOVE treatment group reported a significantly larger decrease in IPV scores from baseline compared to women in the usual care group (M = -40.82 vs -35.87, $p < .01$). No significant difference in depression symptoms between groups at any time point.					
20. Zafar et al. (2022)	UK	Experimental, pre-post / Retrospective cohort design (looking at outcome based on a retrospective independent variable)	47 GP practices (including all GP staff and admin) provided data on 294 patients. HCP demographic data NR. Urban setting.	The IRIS intervention programme includes practice-based training, prompts in medical records, and a clear referral pathway to a named DV advocate educator (AE). The AE has ongoing communication/consultancy with HCP.	Health outcomes of survivors, extracted from patient health and support records.	47/156 (30%) GP practices took part.
Key Findings	The mean number of recorded health conditions decreased from 2.78 to 1.28 post-intervention. The presence of depression, anxiety, mental illness, postnatal depression, suicidal ideation, self-harm, pain, and genitourinary conditions declined post-intervention e.g. depression cases dropped from 153 to 86.					

Note. Key: * = indicates the lowest power value selected from item subscales. NR = not reported. PREMIS = Physician Readiness to Manage Intimate Partner Violence Survey (Short, Alpert, et al., 2006), DVHPSS = Domestic Violence Healthcare Provider Survey Scales (John & Lawoko, 2010), RMH FV = Royal Melbourne Hospital Clinician Survey (Fisher et al., 2020), HCP = Healthcare Provider Survey on Intimate Partner Violence (Short et al., 1997), DIHBV = The Delphi Instrument for Hospital-Based Domestic Violence Programs (Coben, 2002), QA/QI = Community Health Center Quality Assessment/Quality Improvement Tool (Miller-Walfish et al., 2021), BRAVE = Better Reduction and Assessment of Violence Survey (Ruijne et al., 2019), PSSS = Patient Safety and Satisfaction Survey (McFarlane et al., 2006), CTS-2 = Conflict Tactics Scale-2 (Straus et al., 1996), CDC = Centers for Disease Control and Prevention (Centers for Disease Control and Prevention, 2000), EPDS = Edinburgh Postnatal Depression Scale (Cox et al., 1996), ATSI = Attitudes Toward Survivors of Intimate Partner Violence (Nicolaidis et al., 2005), WHOQOL-BREF = World Health Organization Quality of Life–BREF (Bonomi et al., 2000; WHOQOL Group, 1998), CAS = Composite Abuse Scale (Hegarty et al., 2005), SPAN = Startle, Physiological Arousal, Anger, and Numbness (Davidson et al., 1997), PRIME-MD PHQ = Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (Spitzer et al., 1999), SF-12 = Short-Form-12 Health Survey (Ware et al., 1996).

Table 3

Study System-Level Intervention Components and Associated Successful Outcomes

Author (date)	Continuous Learning	Multiple Organisational levels	Community Linkages	Supervision/ Mentoring	Policies/Procedures	Resourcing	Physical Environment	Quality Improvement	Key Positive Findings*
HCP Knowledge, Attitudes, Preparedness to Manage IPV									
1. Ambuel (2013)	Ongoing training for advocates	Admin staff included in training	On-site advocates, partnerships and collaboration with IPV organisations	Quarterly follow-ups, ongoing consultation with advocates and experts to address challenges	Developed IPV policies, screening tools, and educational materials for clinics	Integrated IPV education materials (posters and brochures for patients) and prompts in diverse clinic environments	Private space	Advocate-led quality improvement, audits, revised policies, clinic-specific IPV care improvements	HCP self-efficacy, understanding of referral resources and legal issues*. IPV identification*. Implementation of policies patient education, documentation
2. Forsdike (2018)	-	Training included non-clinical staff/admin	On-site social work department and legal services	Champions provided ongoing advocacy	Referral pathway to on-site legal service or social work department	-	-	-	HCP knowledge, confidence, beliefs*
3. Gaddappa (2021)	Train-the-trainer programme	Master trainers selected based on their leadership roles	On-site champions	Champions created a supportive ecosystem for integrating enquiry into routine practice	Development of standard operating protocols (SOPS)	Service-user resources available in the local language	Private consultation spaces	Stakeholder meetings to develop SOPS, training and intervention strategies	HCP knowledge, attitudes and practice*
4. Sprague (2018)	Bi-monthly training updates for	Training included non-clinical	Local IPV champions	Via the train-the-trainer model.	Champions distributed bi-monthly updates on policy, protocols,	-	-	-	HCP knowledge, attitudes,

		IPV champions	staff/admin			procedures and community resources				beliefs, readiness*
5.	**Sprague (2020)**	Bi-monthly training updates for IPV champions	Training included non-clinical staff/admin	Local IPV champions	Via the train-the-trainer model.	Champions distributed bi-monthly updates on policy, protocols, procedures and community resources	-	-	-	HCP knowledge, attitudes, beliefs, readiness*
6.	**Withiel (2023)**	Repeated training and educational updates	-	On-site advocates	Integrated ongoing supervision and peer support, drop-in debriefing sessions, one-on-one mentoring	Training aligned with hospital protocols and legislation	-	-	-	HCP knowledge, confidence, screening*
7.	**Young (2024)**	Follow-up teleconference to discuss barriers/enablers for GPs	-	-	-	Practice guidelines on IPA identification, safety planning, and brief interventions.	Access to community resources and referral services	-	Audit of 20 consecutive patients followed by a teleconference to reflect on findings	HCP knowledge, awareness, preparedness*
						HCP Response				
8.	**Miller-Walfish (2021)**	Biannual meetings and bimonthly webinars for leadership team, annual booster training.	Training of leadership teams	Collaborated with local IPV agencies	Clinical supervision, case presentations, provision of employee assistance program for support	QA/QI tool to improve protocols, IPV assessment scripts and response practices	Brochures and educational cards for patients	Private spaces	QI tool to measure and guide improvements	System-changes, particularly implementing protocols, patient safety cards & training

9. Zachor (2018)	-	Included non-clinical staff (front-desk staff)	Collaborated with IPV advocacy groups for resource cards and referrals	-	Developed protocols	Available standardised staff scripts, safety cards for patients	-	-	Discussion of healthy relationships and providing safety cards to patients*
HCP Referrals									
10. Sohal (2020)	Two-hour refresher training, advocate-led on-going staff education	Training of admin	On-site advocate linking primary care to multi-sectoral services	On-site advocate available for support, feedback on cases, staff debriefing	Staff prompts in electronic health records, referral pathway implementation	Staff materials stored on hard drives, clinic rooms, safety planning sheets. Patient materials (DVA-aware posters, discrete cards in toilets for confidentiality)	-	-	Identification and referral rates*
IPV Victim/Survivor Identification and Referrals									
11. Bacchus (2023)	Reinforcement sessions, additional specific training of Violence Prevention Nucleus (similar to champions)	Clinical directors included in training	On-site champions consisted of multi-professionals which coordinated cases across multi-agency networks	Monthly case discussions, ongoing supervision (reflective practise)	Established referral pathways	Staff clinical guide	-	-	Identification and referral rates
12. Hamberger (2014)	-	Training of non-clinical staff	Onsite IPV advocates	IPV advocates consultation with clinicians as needed	Development and implementation of policies and procedures	Provision of patient education materials (brochures, posters)	-	Quality improvement strategies to assess long-term success	Enquiry and disclosure rates* Fewer doctor visits*
13. Jayatillekе (2015)	Train-the-trainer programme	-	Networked with local IPV services to create sustainable referral links	Staff supervised by medical officers	Handbook provided guidelines on how to identify and assist IPV survivors	Staff handbook available	-	-	HCP knowledge, confidence, responsibility, perceived

									barriers & identification*
14. Rhodes (2014)	Annual training, additional training for medical providers/social workers in IPV advocacy	Nursing and physician leadership in startup phase	On-site advocates	-	IPV screening prompts in medical records. A patient-completed screening tool to facilitate self-disclosure	Community social service resources available for patients	-	-	Identification and referral rates*
15. Ruijne (2022)	Staff reminded of referral-pathway in bi-monthly newsletters	-	DVA advocate on-site	-	Mandatory referral pathway protocol implemented	Referral resources available via team poster and smartphone app	-	Intervention fidelity assessed using a scale	HCP knowledge, skills, attitudes*
16. Sohal (2018)	Two-hour refresher training. Advocate delivered on-going staff education	Training of admin	On-site advocate linked primary care to multi-sectoral services	On-site advocate was available to support, feedback on cases, and debrief clinical staff	Staff prompts in electronic health records. Implementation of a referral pathway.	Materials for staff - shared on hard drives, in clinic rooms, and on safety planning sheets. Materials for patients - visible DVA aware posters, discrete cards with numbers, in toilets for confidentiality	-	-	Identification and referral rates
IPV Victim/Survivor Health Outcomes									
17. Jack (2019)	-	-	Clinicians actively facilitated access to community services	Regular nurse supervision, engagement with IPV expert	Established protocols, procedures and referral pathways	Resources available for both clinicians and service users	-	-	Quality of life*
18. Miller (2016)	Train-the-trainer sessions for advocates	Training of non-clinical staff/admin	Networking with IPV services, supported referrals	Ongoing support from IPV advocates for disclosures	Protocols, integration of IPV assessment into clinical encounters	Brochures, posters in bathrooms, resource cards	Private spaces	Weekly feedback loops and QI tools to monitor	Patient knowledge of IPV resources & self-efficacy to use harm

			from advocates					implementation fidelity	reduction behaviours*
19. Sharps (2016)	Annual booster training	-	-	-	Implemented protocols	Assessment tool, safety plans, brochures for patients	-	PIs met with the site supervisors regularly to address implementation issues	Decreased IPV scores*
20. Zafar (2022)	-	-	Collaborated with local IPV agencies	Advocate-led training, ongoing communication/consultancy	Prompt in medical records, referral pathway to advocate	Prompt in medical records, referral pathway to advocate	-	-	Health conditions decreased

Note. Key: * = Statistically significant positive findings ($p < .05$). Findings without an asterisk are based on descriptive, non-powered data only and should be interpreted with caution. QA/QI = Community Health Center Quality Assessment/Quality Improvement Tool (Miller, 2020).

Study Characteristics

Most studies used uncontrolled pre-post designs (n = 12, 60%) (studies 2-6, 8, 10, 11, 13, 16, 20 in Tables 2 and 3), followed by RCTs (n = 6, 30%) (studies 7,9,15,17-19) and non-RCTs (n = 2, 10%) (1, 12). Sixteen studies (1-11, 13-15, 17, 19) used an HCP-participant sample, totalling 3,482 HCP participants (range 19-1347, and total 2,135 when removing one particularly large sample from study 17, estimated from median participants per site). Four studies (12, 16, 18, 20) reported patient-participant sample data, where HCP provided data on a total of 4,282 patients (range 34-3687, and total 595 when removing one particularly large sample in study 18).

Studies were mostly based in high-income western countries, including the USA (1, 8, 9, 12, 14, 17, 18, 19), the UK (10, 16, 20), Australia (2, 6, 7), Canada (4, 5), and Netherlands (15). A smaller proportion were conducted in low-middle-income countries, including India (3), Sri Lanka (13), and Brazil (11). Of the 14 studies that reported the geographic populations they served: nine (1, 2, 6, 10, 11, 14-16, 20) focused exclusively on urban populations, four (7, 13, 18, 19) serviced both rural and urban populations, and one (3) only rural populations.

HCP-participants encompassed a diverse range of clinical healthcare roles, including physicians, nurses, midwives, psychologists, social workers, paramedics, healthcare assistants/trainees, and community health practitioners. Non-clinical HCP roles included front-desk staff, researchers, laboratory technicians, administrative staff, practice managers and medical directors. Interventions occurred in various teaching and clinical settings. Most interventions were delivered within primary care settings (n=13), covering disciplines of general practice, dentistry, family medicine, sexual and reproductive health, and home visitation. Other interventions were delivered in secondary/tertiary care settings (n=7),

including orthopaedics, women's health (maternity and gynaecology), mental health, and general and emergency medicine.

Types of System-Level Interventions

There was significant variation in how system-level interventions were described, with most studies providing limited detail (Table 3). This likely reflects differences in study aim, as some interventions were not explicitly intended as system-level interventions, but met our criteria nonetheless. For example, studies primarily focused on training sometimes included administrative staff/leadership, thereby incorporating system-level elements without directly aiming to. Interventions comprised training and system-level components. Training was often integrated with train-the-trainer models, e-learning modules, simulated patient interactions and in-person workshops. System-level interventions were varied in scope, implementation and outcomes, outlined below.

Continuous learning initiatives were a common approach (16/20, 80%) used to reinforce training, incorporating bi-monthly training updates (4, 5, 15), recurring booster sessions (1, 6-8, 10, 11, 14, 16, 19) and train-the-trainer models (3-5, 13, 18). These strategies were frequently employed to target HCP knowledge, attitudes, and readiness to respond to IPV. More than half the interventions (1-5, 8-12, 14, 16, 18, 19) (13/20, 65%) extended training across multiple organisational levels by including administrative and leadership staff. Interventions aimed to strengthen community linkages, via enhancing referral pathways and multi-sectoral collaboration between healthcare and IPV organisations. The most common approach involved local or on-site IPV champions (13/20, 65%), while other initiatives included embedding on-site social work or legal services (2, 14), creating networking opportunities (11, 13, 18), and partnering with IPV advocacy groups to develop patient resources (9).

Many interventions incorporated supervision and mentoring structures. Forms of supervision included ongoing consultation from IPV advocates, monthly case discussions, reflective practice, and peer-support. One study provided an employee assistance program for staff support (8). Policies and procedural integration universally featured - standardised screening tools, electronic health record prompts, and referral pathways were commonly adopted to guide clinician response and facilitate data collection for quality improvement. Some interventions provided accessible IPV resources for HCP, either through digital platforms such as staff hard drives (10, 16) or physical handbooks (13). Patient-facing educational materials, including IPV-awareness posters in waiting areas or discrete cards distributed at assessments, were widely utilised.

Private spaces for confidential IPV enquiry and assessment were notably lacking, with evidence from only 4/20 (20%) studies showing healthcare provision for these facilities. Quality improvements were in fewer than half of studies (8/20, 40%), typically implemented via audit tools (1, 7), fidelity assessments (15), and feedback loops (18) with the aim to refine protocols and optimise service delivery.

Measurement of Outcomes

HCP knowledge, attitudes, and/or preparedness to manage IPV were the most frequently assessed outcomes (12/20, 60%). Five self-report validated scales were used across eight studies, with the most frequent being the Physician Readiness to Manage IPV Survey (PREMIS) (3-5, 7) (Short, Alpert, et al., 2006), followed by the Royal Melbourne Hospital Clinician Survey (RMH FV) (6) (Fisher et al., 2020), Healthcare Provider Survey on IPV (HCP) (1) (Short et al., 1997), Better Reduction and Assessment of Violence Survey (BRAVE) (15) (Ruijne et al., 2019), and Attitudes Toward Survivors of IPV (ATSI) (14) (Nicolaidis et al., 2005). Four studies developed their own assessment tools (2, 9, 13, 16).

Identification of IPV was reported in 9 studies (45%) (1, 3, 10-16). Seven assessed IPV identification through HCP documentation retrieved from electronic patient files, while only one relied on patient self-report (13) and one on HCP self-report (1). One (12) extracted subscales from the Patient Safety and Satisfaction Survey (PSSS) (McFarlane et al., 2006), however, the independent psychometric properties were not assessed, limiting the validity as a standalone measure.

IPV referrals were assessed in 7 studies (35%) (2,3, 10, 11, 14-16). Frequency of referrals were identified via health system records from hospital sheets, chart audits and medical records.

HCP response and system changes were measured in three studies, using a modified Quality assessment/Quality improvement tool[8] (Miller-Walfish et al., 2021), patient exit surveys (9) and an audit adapted from The Delphi Instrument for Hospital-Based Domestic Violence Programs (DIHBV) (1) (Coben, 2002).

IPV victim/survivor health outcomes were assessed in five studies, assessing experience of IPV, self-efficacy in harm reduction, mental and physical health, and healthcare utilisation. Indices of health outcomes and their measures varied significantly. Four assessed victim/survivor self-reported IPV experiences using validated scales: two used the Conflict Tactics Scale-2 (CTS-2) (12, 19) (Straus et al., 1996), one used the Composite Abuse Scale (CAS) (17) (Hegarty et al., 2005), and one used a self-developed measure (18). Patient self-efficacy in harm reduction behaviours were evaluated in one study using a self-developed measure (18). Mental health outcomes included depression symptoms, assessed using the Edinburgh Postnatal Depression Scale (EPDS) (19) (Cox et al., 1996) and the Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD PHQ) (17) (Spitzer et al., 1999); while PTSD symptoms were measured with the Startle, Physiological Arousal, Anger, and Numbness (SPAN) (17) (Davidson et al., 1997). Broader

health indicators included quality of life, measured using the WHO Quality of Life (WHOQOL) survey (17) (Bonomi et al., 2000; WHOQOL Group, 1998) and the Short-Form 12 Health Survey (17) (Ware et al., 1996). One study (20) assessed overall health conditions via health records.

No studies investigated cost-effectiveness outcomes. Overall, validated measures were not consistently used across studies, with the majority relying on bespoke, self-developed assessment tools which reduces the validity and reliability of findings. The inconsistency in measurement limits cross-study comparisons, and the ability to draw firm conclusions about intervention effectiveness.

Quality Appraisal of Studies

Table 4 summarises study quality appraisal, showing considerable variability in methodological rigour. All studies scored at least 1/5, and none achieved a 5/5 rating. Study strengths were clear aims and appropriate methods. Intervention adherence was poor or not reported across RCTs and non-RCTs. While non-RCTs identified potential confounders, they did not account for them in their study. Sample representativeness was poorly reported**.** Assessor blinding was largely absent in RCTs**.** Incomplete outcome data posed a high risk of bias in half of the RCTs and all non-RCTs, and non-response bias was only addressed in one quantitative descriptive study. The most significant source of bias in outcome data was the high level of attrition. Attrition rates were often poorly reported and, even when provided, few examined their potential impact on study findings**.** Among 16 studies reporting attrition, rates ranged from 14% (4, 17) to 64% (11), with 63% of studies (10/16) retaining fewer than 80% of participants. Few studies included long-term follow-up and victim/survivor outcomes resulting from HCP-response.

Table 4
Quality Appraisal of Included Studies

Authors (year)	S1. Question clear	S2. Data answer question	Randomised Controlled Studies					Quality Appraisal (/5)
			2.1. Appropriate randomisation	2.2. Comparable groups	2.3. Complete outcome data	2.4. Assessor blinding	2.5. Intervention adherence	
Jack (2019)	Yes	Yes	Yes	Yes	Yes	Yes	No	4
Miller (2016)	Yes	Yes	Yes	Yes	Yes	No	Unclear	3
Ruijne (2022)	Yes	Yes	Yes	Yes	Yes	Unclear	No	3
Sharps (2016)	Yes	Yes	Unclear	Yes	No	Yes	Yes	3
Young (2024)	Yes	Yes	Yes	Yes	No	No	No	2
Zachor (2018)	Yes	Yes	Yes	Yes	No	No	Unclear	2
			Non-Randomised Studies					
			3.1. Representative sample	3.2. Appropriate measures	3.3. Complete outcome data	3.4. Confounders accounted for	3.5. Intervention delivered as intended	
Ambuel (2013)	Yes	Yes	Unclear	Yes	No	No	Unclear	1
Hamberger (2014)	Yes	Yes	Unclear	Yes	No	Unclear	No	1
			Quantitative Descriptive Studies					
			4.1. Relevant sampling strategy	4.2. Representative sample	4.3. Appropriate measures	4.4. Low non-response bias	4.5. Appropriate analysis	
Bacchus (2023)	Yes	Yes	Yes	Unclear	Yes	No	Yes	3
Forsdike (2018)	Yes	Yes	Yes	Yes	Unclear	Yes	Yes	4
Gaddappa (2021)	Yes	Yes	Yes	Unclear	Unclear	Unclear	Unclear	1
Jayatilleke (2015)	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	4
Miller-Walfish (2021)	Yes	Yes	Unclear	Unclear	Yes	Unclear	Yes	2
Rhodes (2014)	Yes	Yes	Unclear	Unclear	Yes	Unclear	Yes	2
Sohal (2018)	Yes	Yes	Yes	Unclear	Unclear	Unclear	Yes	2
Sohal (2020)	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	4
Sprague (2018)	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	4
Sprague (2020)	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	4
Withiel (2023)	Yes	Yes	Yes	Unclear	Yes	No	Yes	3
Zafar (2022)	Yes	Yes	Yes	Unclear	Yes	Unclear	Yes	3

Summary of Outcomes

Structure of Findings

System-level interventions were heterogeneous and multifaceted, which made synthesis challenging. It was therefore more useful to synthesise intervention components around outcomes. Table 2 summarises studies organised by their primary outcomes. Key successful system-level components for each outcome were identified from visually analysing patterns in Table 3 such as the presence or absence of system-level components across studies' successful outcomes.

HCP Knowledge, Attitudes, and Preparedness to Manage IPV

Primary Outcomes. Overall, system-level interventions improve HCP knowledge, attitudes and preparedness for managing IPV. Seven studies (1-7) assessed these as primary outcomes. The overall quality of studies measuring this outcome is higher than others, specifically for the set of quantitative descriptive studies (4/5) (2, 4, 5), which reported more successful outcomes than lower rated RCTs (7) and non-RCTs (1) with mixed findings.

Three studies (1,2, 7) assessed short-term impacts of system-level interventions on HCP knowledge, attitudes and preparedness. An experimental pre-post study (2) in a women's hospital trained HCP across multiple levels, and utilised IPV champions to facilitate referrals to on-site legal/social services. Significant improvements in knowledge, confidence ($p = .039$) and attitudes ($p < .001$) were observed. A RCT(7) training general practitioners in brief counselling, safety planning and referrals found increased preparedness and knowledge ($p = .000$), but between-group differences in workplace issues, self-efficacy or understanding of victims did not reach statistical significance. However, this study had high bias (2/5) due to incomplete data, lack of assessor blinding and lack of intervention adherence. A comprehensive system-level intervention (1) incorporating training, screening, policies, IPV

advocates, patient education materials and quality improvement found similar mixed findings. While knowledge of resources ($p = .001$) and legal issues ($p = .01$) improved, global knowledge of IPV dynamics and health impacts remained unchanged, possibly due to ceiling effects. Unfortunately, authors did not report baseline scores or control for confounding factors such as prior IPV education/experience. The study had high risk of bias (1/5), due to incomplete data, unclear sample representativeness, and challenges in intervention delivery across some sites, which may have contributed to mixed findings.

Four studies (three trials) (3-6) assessed long-term impacts with follow-up data. A train-the-trainer programme for IPV champions in orthopaedic clinics found significantly improved knowledge, attitudes, beliefs, and readiness to manage IPV ($p < .05$) at three (4) and 12-months (5) post-intervention. Two studies found significant post-intervention improvements but showed declining trends at 6-months (3) and 12-15 months (6).

Overall, system-level interventions improve HCP knowledge, attitudes, and preparedness. The long-term sustainability of these outcomes is uncertain, with some studies indicating a decline at follow-up without structures in place for continuous reinforcement of learning.

Key Successful System-Level Components. Three components were consistently present in 6/7 studies: ongoing education opportunities (advocate training, booster sessions, bi-monthly updates), community partnerships with IPV services, and supervision/mentoring. Policies and procedures were universally present, suggesting they may be a baseline requirement. Training staff at multiple organisational levels was observed in most studies, but its absence in two studies (6, 7) that still achieved positive outcomes suggests its beneficial but not essential if continuous learning opportunities and supervision structures exist. Less critical components (present in less than half of studies), such as IPV resources, private

consultation spaces, and quality improvement processes, appear more relevant for HCP behavioural rather than knowledge-based outcomes.

Secondary Outcomes. Five studies (9, 13-16) examined knowledge, attitudes and preparedness as secondary outcomes. One RCT (9) found no significant group differences between the communication skills training and standard knowledge-based training groups. Study quality appraisal was low (2/5) due to low participation (28%), lack of assessor blinding and unclear intervention adherence. Another RCT (15) found improvements in knowledge, skills and attitudes at 12-month follow-up were significantly greater in intervention teams compared to control (p <.001), however the study had moderate quality (3/5) due to poor intervention adherence and unclear bias in assessor blinding.

Higher quality quantitative descriptive studies reported significant improvements in IPV knowledge, responsibility, confidence, and perceived barriers (p< .001) (13), while lower quality studies (14) (2/5) found no significant changes. One low-quality study (2/5) (16) reported a 40% descriptive knowledge improvement at one site, with insufficient participant rates in the other to report results.

HCP IPV Response

System-level interventions appear to improve HCP response. Only two studies evaluated these outcomes as their primary outcomes (8, 9) with low certainty of evidence (2/5).

One primary care intervention (8) included bi-monthly leadership training, cross-sector collaboration, supervision, and patient resources guided by a quality improvement tool. The intervention led to improved IPV protocols, assessments, training, documentation, supervision, patient and staff resources, and safety plans, with 84% of response indicators improving. However, limitations include unclear sampling strategy and representativeness,

and potential non-response bias. Similarly, a RCT conducted in family planning clinics found increased discussions about healthy relationships (78–90% vs 49–52%, $p < .001$) and safety card distribution (72–84% vs 9%, $p < .001$) with victim/survivors compared to historical controls, but had low quality rating (2/5).

A non-RCT with high risk of bias (1/5) examined HCP response as a secondary outcome (1) and found the comprehensive system-intervention (detailed previously) improved patient education, policies and procedures, and IPV screening documentation ($p = .001$), which was sustained at 2-year follow-up ($p = .02$).

Key Successful System-Level Components. Leadership engagement and supervision were more prevalent in successful HCP response interventions (1, 8) than those targeting knowledge, attitudes and preparedness. One study (9) with a frontline clinician-focused approach, had fewer successful outcomes (e.g. safety card distribution) compared to comprehensive interventions (1, 8) that used leadership-driven quality improvement tools, resulting in broader impacts on policies, documentation, safety plans, and private consultation spaces.

HCP Referrals to Specialist IPV Services

System-level interventions can improve referrals, but outcomes and quality of evidence vary significantly. The strongest evidence (4/5) comes from one study on general practices that assessed HCP referrals as a primary outcome (10). The general practice-based intervention included refresher training for multi-organisational levels, electronic medical record prompts, resources, and a direct referral pathway to advocates. Compared to the control group which had only one education session, intervention sites showed a significant increase in IPV referrals ($p < .001$).

Six studies (2, 3, 11, 14-16) that assessed HCP referrals as secondary outcomes had inconsistent results and quality (1-4/5). Three studies (3, 11, 16) reported descriptive increases in referral rates post-intervention: one study (16) found a 50% increase, another (11) reported referrals more than doubled, while the third (3) did not provide change scores. In contrast, when studies conducted statistical analysis (2, 14, 15) results were less successful. A pre-post study (2) and a cluster RCT (15) found no significant difference in referral rates. One study (14) in medical and dental settings found a sevenfold increase ($p = .0001$), but rates were non-significant at follow-up once on-site advocates were removed.

Key Successful System-Level Components. System-level interventions can successfully improve HCP referral rates, but only when referral processes are integrated into daily clinical practice. All studies included on-site advocates and referral pathways, and more likely to embed electronic medical prompts compared to studies assessing other outcomes. However, studies without explicit supervision structures were less successful (2, 14, 15), and when on-site advocates were removed, referrals reverted to baseline (14), highlighting without active reinforcement, initial improvements may not be sustained.

IPV Identification

System-level interventions appear to improve IPV identification, though long-term effects remain unclear due to limited follow-up. Six studies assessed IPV identification as a primary outcome (11-16). Two studies (11, 16) reported descriptive increases post-intervention. A high quality rated (4/5) pre-post study (13) with midwives found IPV identification significantly increased at 6-month follow-up (98.5% vs 73.3%, $p < .001$). Similarly, a study (12) in family medicine clinics found larger IPV enquiry rates in intervention sites compared to usual care (72% vs 17%, $p = .008$), but had high bias (1/5) due to low participation (32%), high attrition (35%), and unclear confounder control. Two higher

quality studies (14, 15) (3/5) with more rigorous designs found less successful effects. One (14) found a sevenfold increase in IPV identification ($p = .0001$), but rates were non-significant at follow-up once dedicated on-site advocates were removed. Over 50% of IPV cases were identified by family health advocates, not HCP, suggesting sustained identification relies on their presence. A RCT (15) in community mental health teams found no significant change in IPV identification at 12-month follow-up.

Three studies (1, 3, 10) assessed IPV identification as secondary outcomes, reporting successful effects but with high bias (1-2/5). Two group comparison studies (1, 10) found significant increases in identification ($p < .001$) compared to usual care, while a pre-post study (3) reported a 28% rise (p-value not provided).

Key Successful System-Level Components. Like HCP referral findings, interventions embedding on-site advocates, standardised screening pathways, and electronic medical prompts had higher success. The significant role on-site advocates have in sustaining high IPV identification long-term is emphasised in these studies, though more follow-up studies are needed.

IPV Victim/Survivor Health Outcomes

The effects of system-level interventions on IPV victim/survivor health outcomes appears to be inconclusive as outcomes are inconsistent. Four studies (17-20) assessed these as primary outcomes, with moderate-high quality evidence (3-4/5), including three RCTs. Improvements were observed across various health indices, including quality of life (17) ($p < .05$), IPV resource knowledge and self-efficacy in using harm reduction behaviours (18) ($p < .05$), and reduction in IPV incidence (19) ($p < .01$). However, one study (19) reported no difference in depression symptoms between groups. A cluster RCT (17) implementing a nurse home visitation intervention found no significant differences between groups in

victim/survivor quality of life, IPV recurrence, PTSD and depressive symptoms, and global mental and physical health compared to standard care. Although a caveat is some nurses in the standard care group had IPV training at supervisors' discretion, which may have diluted between-group comparisons. A pre-post study (20) revealed declines in depression, anxiety, mental illness, postnatal depression, suicidal ideation, self-harm, pain, and genitourinary conditions (mean 2.78 to 1.28) however the study was not powered.

A secondary outcome analysis in one study (12) found no significant differences in IPV incidences and health outcomes compared to usual care, with authors suggesting participation in research interviews may have itself acted as an intervention. Women in intervention clinics had fewer doctor visits ($M = -6.3$, $p = 0.01$) but received more prescriptions over time. The study had high risk of bias (1/5), limiting conclusions.

Key Successful System-Level Components. While system-level interventions improve certain health indicators, no distinct pattern emerges in the components driving these outcomes, which may explain variability in findings. All studies consistently included core system-level components, such as policies and accessible patient resources, which are expected to be more relevant for this outcome. Notably, few studies explored victim/survivor health outcomes, despite it being a key indicator of successful HCP response.

Discussion

This systematic review aimed to synthesise the outcomes of system-level interventions on HCP responses to IPV. It is particularly timely, shifting beyond traditional one-off training known to improve HCP knowledge, attitudes and preparedness (Kalra et al., 2021), to system-level interventions that aim to drive HCP behaviour change. Overall, system-level interventions were generally associated with improvements in HCP knowledge, attitudes and preparedness toward IPV, HCP response, referrals to specialist services, IPV

identification, and some victim/survivor health indices. Findings are consistent with previous reviews that suggest training integrated with system-level support is likely more effective (Crombie et al., 2017; Zaher et al., 2014). However, given the limitations of existing studies, stronger evidence, such as large-scale longitudinal studies assessing sustained HCP behaviour change and patient outcomes are needed for policymakers to invest in this level of support.

Findings varied significantly, likely reflecting heterogeneity in intervention types, outcome measures, study quality and design. The quality of reporting was generally poor, with a lack of effect size indicators limiting formal quantitative analysis. Many studies measured a wide variety of outcomes using non-validated tools, making cross-study comparisons challenging. This made it difficult to draw firm conclusions on why some system-level components were more successful and the extent of their effect.

Types of System-Level Interventions

Interventions reflected a multi-faceted, system-wide approach. Most system-level interventions included continuous learning initiatives to reinforce training via bi-monthly updates, booster sessions and train-the trainer models. More than half the interventions extended training across multiple organisational levels to include administrative and leadership staff. Other essential elements were strengthening community linkages via on-site champions, social or legal services; networking events, and partnering with IPV advocacy groups to develop victim/survivor resources.

Supervision and mentoring structures included consultation from IPV advocates, monthly case discussions, reflective practice and peer-support. Policies and procedural integration universally featured, frequently reinforced with screening tools, electronic health record prompts or referral pathways. Some interventions provided accessible IPV resources for HCP and educational materials for victim/survivors. Despite their potential to sustain

long-term improvements, quality improvement strategies were less common, appearing in fewer than half of studies.

Notably, private consultation spaces were mostly absent, appearing in only four studies. This finding is consistent with previous research (Shaheen et al., 2020) and is concerning, as confidential IPV assessments facilitate disclosure and are considered best practice (WHO, 2013). Indeed, disclosure rates are higher in maternity settings, where private consultation is part of routine practice, compared to settings where privacy is limited, such as emergency departments (Miller et al., 2021).

Clinical Implications: Key Components of Effective System-Level Interventions

System-level interventions led to short-term improvements in HCP knowledge, attitudes and preparedness. However, the sustainability of these outcomes remains unclear, as some studies indicate a descriptive decline over time. Leadership-led quality improvement and supervision demonstrated broader impacts compared to interventions solely targeting frontline clinicians, improving: policies, documentation, safety planning, and availability of private consultation spaces. These findings align with similar reviews (Colombini et al., 2012; O'Campo et al., 2011). The role of leadership engagement in shaping organisational culture and successful healthcare interventions is well documented (Restivo et al., 2022).

Referral rates to specialist IPV services were evaluated as a primary outcome in only one high-quality study, suggesting comprehensive system-level interventions improve referral outcomes, particularly when on-site advocates are present. Similarly, IPV identification improved following these interventions, but long-term outcomes remain uncertain due to limited follow-up. Evidence suggests on-site advocates are critical in sustaining improvements in both IPV identification and referral.

Few studies evaluated victim-survivor health outcomes - a consistent limitation of the literature (Kalra et al., 2021). The impact of system-level interventions on IPV victim/survivor health remains inconclusive as outcomes are inconsistent. However, policies and accessible patient resources appear important for this outcome.

Interventions that influenced HCP practice incorporated active, ongoing learning - through on-site champions, supervision, leadership-led quality improvement, accessible resources, and community IPV partnerships. Policies and procedures were universally present, suggesting they may be a baseline requirement. Clear procedures can reduce HCP fears of asking women about IPV (O'Campo et al., 2011). Collaborative partnerships between healthcare and specialist services resulted in higher-quality interventions and support early intervention.

While certain intervention components appear more useful for specific outcomes, there was significant cross-over. Other reviews (Colombini et al., 2012; O'Campo et al., 2011) and policy guidelines (WHO, 2013), suggest multi-component, comprehensive interventions are needed.

Understanding the system-components necessary to sustain outcomes remains a challenge, as most studies lacked long-term follow-up. Interestingly, one study highlighted over 50% of cases were identified by advocates, and when these advocates were removed, identification and referral rates reverted to baseline (Rhodes et al., 2014). The reliance on passive interventions (e.g. policies) appears less effective in sustaining change compared to active reinforcement strategies, including electronic prompts, supervision, and on-site advocates.

HCP frequently report low confidence, time constraints and uncertainty about their role in IPV response as key barriers (Rose et al., 2011). On-site advocates can target these barriers by increasing awareness of HCP responsibilities, scaffolding practice with case

discussions, providing accessible resources, and strengthening healthcare-community linkages (Saberi et al., 2022). They may also be cost-effective, streamlining HCP workflows and reducing clinician burden. The IRIS trial (Devine et al., 2012) provides initial evidence of this, however further robust research is needed.

Strengths and Limitations of Studies

Studies reflected the diverse range of healthcare settings and professionals IPV victim/survivors encounter - spanning dentistry, fracture clinics, maternity, sexual and mental health services, as well as roles from administrative staff to clinical directors. This is particularly important given high rates of healthcare service use in this vulnerable population (Prosman et al., 2012), emphasising the unique role of HCP in multi-sectoral IPV response. However, HCP characteristics were not adequately described, including whether previous IPV training/experience was measured or controlled for.

The evidence fails to address diversity. Most studies were conducted in urban settings in high-income Western countries, primarily the USA, which has distinct healthcare models compared to the UK, Australia, Canada, and the Netherlands, let alone low-income countries. IPV rates appear higher in lower-income countries, marginalised communities, and rural areas (Coll et al., 2020). Economic disparities, gender norms and limited legal protections exacerbate risk (Abramsky et al., 2011). Adapting evidence-based interventions across diverse healthcare, legal, and cultural contexts is challenging. Efforts to adapt interventions to local contexts have been promising. A good example is the HERA intervention in Brazil, which successfully integrated Brazilian and British models with WHO best practice guidelines to align with the cultural needs of the population (Bacchus et al., 2023). Other studies have attempted to adapt IPV interventions to a Sri Lankan context (Jayatilleke et al.,

2015) or to South Asian communities in the UK (Sohal et al., 2020). These examples highlight the importance of culturally tailored approaches to improve IPV response globally.

The quality of studies varied considerably, with most judged as having moderate to high bias. Common bias included poor intervention adherence, lack of assessor blinding, failure to account for confounders, and inadequate reporting of sample representativeness. High attrition rates resulted in incomplete outcome data, often with insufficient analysis on its impact. To address this, strong leadership buy-in is essential, not only because some studies noted a lack of leadership support was a barrier to intervention implementation, but also because successful studies often included leadership support. Future feasibility and acceptability studies, with expert by experience involvement should identify participation barriers, improve retention, and enhance intervention relevance for HCP.

Other methodological issues included lack of clarity in outcomes assessed. For example, knowledge, attitudes, and understanding were sometimes worded synonymously and grouped without separate analysis of constructs. One study claimed to assess HCP knowledge, yet measures focused on perceived barriers, self-confidence and responsibility in IPV response, and later these outcomes were described as skills/practice (Jayatilleke et al., 2015). Most studies lacked means and standard deviations, and some relied solely on descriptive data without sufficient statistical power. Interventions themselves were not well-described.

Although the practicality of evaluating interventions in real-life practice-based settings brings challenges, it is important that we do not lose progress in this field. High-quality RCTs with long-term follow-up are needed to secure funding and improve support for women impacted by IPV. We recommend that studies are transparent and clear in their primary and secondary outcomes, use validated-tools, and provide more detail of system-

level component content. Studies should report actual rates of statistical tests and effect sizes to enable quantitative analysis and cross-study comparisons. This would allow for a better understanding of which components are most effective for specific outcomes, and how to maintain these improvements. Research should also focus on HCP response and victim-survivor health outcomes, rather than HCP knowledge, attitudes and preparedness, or IPV identification – areas not necessarily associated with HCP-practice.

Limitations of the Review

There are several limitations of the review to consider. While we used a comprehensive search strategy, made efforts to scan reference lists and contact experts in the field, it is possible that some studies that would meet inclusion criteria were missed. Additionally, studies included were heterogenous in methodology. While this provides a more expansive overview of the system-level interventions available, cross-study comparisons were challenging and findings are difficult to generalise. Studies were also not geographically diverse, with limited representation of non-English speaking countries, which may be influenced from restricting to studies published in English.

Several studies were excluded as they did not provide *evidence* of system-level implementation. Studies that mentioned system-level interventions but did not explicitly indicate that they were sustained or continued (e.g. HCP advised to follow local protocols in training) were excluded. As a result, it is possible system-level interventions meeting the inclusion criteria were overlooked. However, we assume that studies meeting the criteria would have provided clear details about implementation. It is important that studies should not claim to use system-level interventions unless it involves implemented changes rather than just recommendations.

Future Research

This review outlines examples of system initiatives attempting to change healthcare culture towards IPV. Healthcare cultural change is not a quick process - it involves engagement from staff at all levels (particularly leadership) and understanding barriers to engagement and funding. The gendered nature of IPV has been argued to extend to how IPV interventions are researched, funded, and prioritised within healthcare, potentially creating structural barriers (Matoy et al., 2024; Otero-García et al., 2024). The lack of follow-up data highlights the importance of research reviewing interventions over a longer period to establish if improvements are sustained. It is widely acknowledged that there is an urgent need to invest in effective multi-sectoral interventions given IPV is a health issue of epidemic proportions (Sardinha et al., 2022; World Health Organization, 2021). Notably, our review found no cost-effectiveness studies. Earlier IRIS trials indicate system-level interventions to be cost-effective for services and cost-saving for society (Devine et al., 2012). The IRIS programme also provides evidence of successful outcomes beyond a trial context (Sohal et al., 2020). More cost-effectiveness research should be prioritised to generate a broad evidence base for policymakers and to accrue investments from commissioners.

Not only is there a need for more research on victim/survivor outcomes of system-level interventions, we also need to hear their voices in how they experience these interventions. Studies suggest it is *how* HCP conduct IPV discussions that is important to women (Morse et al., 2012). Qualitative research with HCP and victim/survivors is needed to explore the acceptability and perceived effectiveness of different system-level IPV components.

Conclusion

In conclusion, it has been increasingly recognised that one-off training is not sufficient to change HCP response to IPV, and the development of system-level interventions is needed. This review provides an up-to-date synthesis of system-level interventions, which show promise in improving HCP knowledge, attitudes and preparedness toward IPV, HCP response, referrals to specialist services, IPV identification, and some victim/survivor health indices. However, the sustainability of these outcomes long-term remains uncertain. Findings reinforce the importance of multi-component, comprehensive interventions that are embedded within healthcare systems. While certain system components appear more relevant for specific outcomes, significant heterogeneity in study designs, outcome measures, and reporting quality limits the ability to draw firm conclusions. Future research could provide better certainty evidence through RCTs, using validated outcome measures, and reporting effect sizes. Greater emphasis should be placed on evaluating actual HCP-practice and victim/survivor outcomes rather than focusing solely on perceived knowledge and attitudes. Longitudinal cost-effectiveness studies should also be prioritised to support investment in sustainable system-level interventions and improve long-term outcomes for women affected by IPV.

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Service Improvement Project

Improving Enquiry and Response to Disclosures of Domestic Abuse in NHS Talking Therapies Services

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Proposed Journal: BJPsych Open

Rationale: The open access journal publishes papers relevant to evidence based healthcare improvements, mental health policy, service delivery, and public health approaches.

I hereby confirm that my work has been deemed suitable for submission by my supervisors.

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Abstract

Background: Enquiry and response to domestic abuse (DA) in mental health services are poor despite policy and best practice guidelines.

Aims: This service improvement project evaluated the feasibility, acceptability, and efficacy of a single-session staff online training event on enquiry and response to disclosures of DA in two NHS Talking Therapies services.

Method: Training needs were identified from staff focus groups. Training content was co-developed and co-delivered by stakeholder services, Trust DA lead, local DA organisations and service users. A half-day multimedia training event was delivered online for two NHS TTad services. Staff self-reported their confidence in their knowledge and skills to enquire and respond to DA pre-post training and provided feedback via Qualtrics. An audit of casenotes measured evidence of staff behaviour change three months pre-post training.

Results: Training was acceptable and feasible. Training was effective in significantly improving staff self-reported confidence in their knowledge and skills to enquire and respond to DA (p <.001). Changes in staff behaviour were not signficant.

Conclusions: This study informs service improvement to ensure NHS TTad staff meet best practice standards of enquiry and response to service user disclosures of DA. Consideration of the impact for the service and future directions targeting lack of staff behaviour change are discussed.

Keywords: *Domestic violence and abuse, healthcare response, staff training, primary care, mental health*

Introduction

Domestic Abuse (DA) is a public health concern estimated to affect one in three women and one in six men (1). The costs of DA on physical and psychological health are significant (2, 3). The economic and social costs of DA in the UK are estimated to be £66 billion (4). The prevalence of DA can be influenced by wider societal factors. For example, the United Nations recognised a 'dual pandemic' of COVID-19 exacerbating instances of DA (5). Increases in covert help seeking behaviour were recorded, such as the use of chat lines, neighbour reports and DA website traffic (6). Despite widespread prevalence of DA, only 10-30% of cases are detected in mental healthcare (7). Lack of training and confidence, discomfort with the topic, and not seeing enquiry as part of their role or competence are some professional barriers to enquiry (8).

Individuals who experience DA are at increased risk of developing post-traumatic stress disorder (PTSD) (9). According to Ehlers and Clark's cognitive model of PTSD (10), excessive negative appraisals of others and mental defeat can lead to coping behaviours (e.g. mistrust, missed appointments, substance-misuse) that can be challenging for staff to understand without trauma-informed training. Contemporary theories emphasise the gendered nature of DA, situating it within the broader context of violence against women and girls (11). While men are more likely to be identified as perpetrators and women as victim/survivors in the general population, research suggests the gender disparity is less pronounced among individuals with mental health difficulties, as both genders in this group face higher risk of DA victimisation (7).

Research suggests healthcare systems do not adequately respond to DA (12). Findings from Domestic Homicide Reviews suggest that local health services are frequently the only agencies in contact with both victim/survivors and perpetrators, highlighting missed opportunities for early identification and intervention (13). Given the critical role of

healthcare in DA response, national initiatives such as Health Pathfinder have been piloted in select NHS sites to transform healthcare response (14). The pilot resulted in the development of a toolkit with recommendations for implementing DA staff training across NHS Trusts (15).

The National Institute for Health and Care Excellence (NICE) quality standards (16) identify DA as a high priority area for service improvement. Standards state staff should be trained to: (i) recognise indicators of DA, (ii) enquire and respond to disclosures sensitively and safely, (iii) and offer referral to specialist services (see Appendix C).

Service Context

This study was conducted in two NHS Talking Therapies for anxiety and depression (TTad) services within the UK. The services were in the Thames Valley region, serving both urban and rural populations. NHS TTad services provide evidence-based treatments for people with depression and anxiety disorders and comorbid long-term physical health conditions or medically unexplained symptoms. For service users accessing NHS TTad services, their mental health medical care is at the primary care level. As a key entry point into the healthcare system, NHS TTad services are well-positioned to identify and respond to DA. Stakeholder services observed an increase in DA indicators and identified a service gap in training, justifying a need for improving enquiry and response to disclosures of DA. At the time of the project, DA staff training was limited to part of a general safeguarding e-learning module provided by the Trust. This study was aimed to complement and expand that training to the specific needs of the stakeholder services. While this study focused on two services, efforts to improve DA recognition and response holds relevance nationally and across both statutory and tertiary sectors (17).

Research Aims and Questions

This study aimed to: (i) assess baseline DA-related practice within two NHS TTad services, (ii) deliver tailored staff training aligned with service needs and NICE quality standards, (iii) evaluate training acceptability, feasibility, and efficacy, and (iv) provide service recommendations based on these findings.

Research Questions:

1. How many service users with indicators of DA were asked about their experiences by staff?
2. How did staff respond to DA disclosures?
3. How confident were staff in their knowledge of risk factors, and skills to sensitively enquire and respond to disclosures of DA?

4.1 Did staff find training acceptable?

4.2 Was training feasible?

4.3 To what extent was training effective?

5. Based on the findings, what service changes were needed to meet NICE quality standards and improve staff confidence in responding to DA?

Method

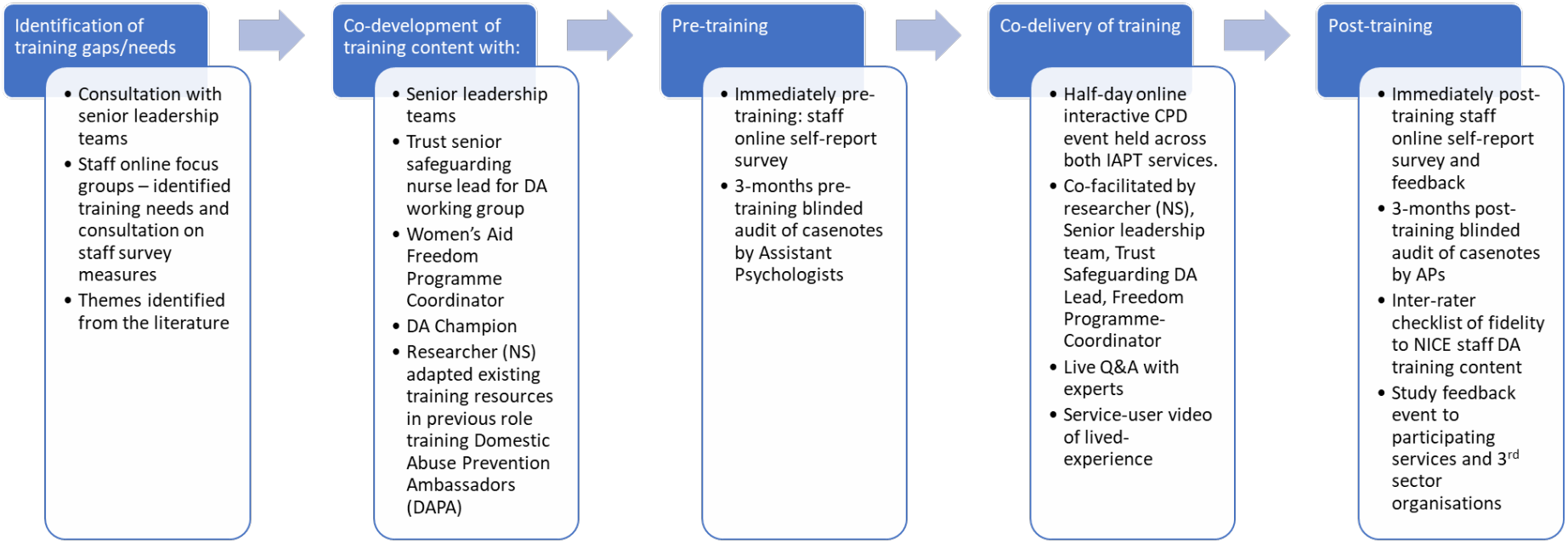
The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2013. All procedures involving human subjects/patients were approved by the Quality and Audit Team at Oxford Health Foundation Trust.

Design and Procedure

A cross-sectional within-subjects pre-post-test design was used, employing quantitative methods. The study procedure is outlined in Figure 1, highlighting identification of training needs, co-development of training content, pre-training, co-delivery of training and post-training phases.

Figure 1.

Study Procedure



Participants

Participants were all staff on shift on the mandatory training day in July 2021 across the two NHS TTad services. Staff were clinical and non-clinical facing across multiple-organisational levels. Clinical roles involved providing low intensity and high intensity psychological therapy, and non-clinical roles covered administration, operations, and management.

Measures

Staff Self-Report Survey

This measured staff self-reported training efficacy and acceptability. Questions were adapted from previous training informed by the Pathfinder project (15) and refined following consultation with staff focus groups (see Appendix D for full items). Staff were invited to complete an online anonymous survey on Qualtrics (an online survey software) immediately pre-and post-training. Staff provided their job role and completed a ten-item Likert scale ranging from 1 ('Not at all confident') to 10 ('Extremely confident'), assessing their confidence in knowledge of risk factors and skills to sensitively enquire and respond to DA disclosures. Post-training, in addition to the above, staff completed nine visual analogue type scales (VAS) with integer values ranging from 0 ('Not at all') to 10 ('Very much'). These scales measured how helpful they found the training, their likelihood of applying the knowledge in practice, whether training supported their clinical work, whether training was delivered in a way that was understandable, and relevance to their work. To gather qualitative module feedback, a free text box invited additional feedback with prompts such as: '*What did you like?', 'What did you dislike?',' What could be improved?*'.

Feasibility and Fidelity

The feasibility of making training routine practice was assessed based on staff feedback and delivering the online training within the intended timeframe. The number and percentage of staff attendees and training duration were measured. Two independent clinicians (who did not take part in the online survey) across both services observed the training and completed an inter-rater agreement checklist measuring adherence to intended NICE quality standard training format, measuring whether training covered: the epidemiology of DA, the effect of DA on people's lives, and the role of professionals in intervening safely.

Casenote Audit

The audit was conducted on a randomised sample (N=1770) of service user casenotes, balanced across both services. The audit covered a six-month period (April-Oct 2022) to compare staff enquiry and response behaviours three-months pre- and post-training. The audit was conducted by three Assistant Psychologists (EN, HH, LB) who were blinded to the study design. The audit process followed a standardised checklist, developed using operationalised DA-related definitions derived from NICE and Department of Health (DoH) guidelines (18) (Appendix E). A key objective of the checklist was to identify service users with and without indicators of DA, allowing for subgroup comparisons in the analysis. Assistant Psychologists were closely supervised by the principal researcher (NS) and adhered to a risk escalation flowchart developed in collaboration with senior leadership. This process ensured that if DA risk was identified in service user records without a documented service response, appropriate escalation procedures were followed.

Data Analysis

To evaluate objective training efficacy, audit data were pooled and a Chi-Square $\chi 2$ test compared pre- and post-training %. To assess subjective training acceptability and

efficacy, staff Likert data were pooled and mean pre- and -post-training scores calculated for each item. Paired sample t-tests compared pre- and post-training scores. Feasibility and fidelity were analysed by calculating inter-rater agreement percentage for checklist components successfully delivered, as well as frequency of attendance, and training duration. Staff quantitative VAS training feedback data was summarised using median and interquartile range. Staff qualitative training feedback was not subjected to formal analysis, but rather content was categorised into key themes based on broad strengths, and limitations or future directions.

Training Development

Staff Focus Groups

Staff members employed by the Trust were invited to participate in two 30-minute online focus groups, facilitated by the principal researcher (NS). The purpose of these focus groups was to identify areas of low confidence in DA enquiry and response to help inform the development of meaningful training content. A semi-structured staff interview schedule (see Appendix F) addressed three objectives: (i) to gain an understanding of current difficulties and training needs related to DA (ii) expectations and hopes of training content (iii) to assess whether the staff self-report survey was understandable and relevant. Staff were recruited via email distribution lists requesting expressions of interest. A total of six staff attended across both services, representing varying roles at trainee and qualified levels, across low and high intensity psychological therapy levels. With participant verbal consent formally recorded, the meeting was video recorded for review. Staff qualitative focus group data was not subjected to formal analysis, but rather content was categorised into key themes based on the three focus group objectives.

Staff expressed a need for training that covered: knowledge of DA, normalising DA enquiry, examples of sensitive questioning techniques, awareness of local community partnership service process (e.g. video on Multi-Agency Risk Assessment Conference (MARAC) process/guest presenters from local services), access to DA resources, awareness of the service DA Champion/MARAC reps/safeguarding leads and how to contact them, and clinical case studies.

Consistent with the literature (8), staff identified the following barriers to DA enquiry; limited time during assessments, perceived taboo around discussing DA, concerns around how to enquire sensitively, challenges associated with non face-to face consultations, and cultural differences. Staff expressed the need for in-depth training and a clear flowchart procedure outlining the steps to take after identifying DA.

Collaborative Co-design of Training Content

The broad design of the training content was based on training that the principle researcher (NS) previously co-facilitated in a train-the-trainer programme for Domestic Abuse Prevention Ambassadors in another NHS Trust. Training slides and the resource package was inspired by resources from Pathfinder, a national project that aims to establish comprehensive health practice in relation to DA and violence against women and girls across acute hospitals, mental health and primary care (15). Consent was given to use these training resources from the CNWL Domestic Abuse Practitioner (HT). Content was informed by NICE Quality Standards (16) and DoH guidelines (18). Content was adapted to the needs of the NHS TTad context following staff focus groups, and further refined following consultation with the senior leadership team, DA Champion, Trust senior safeguarding nurse lead for DA Working Group, and local 3rd sector partnership organisations with links with both services (e.g., Women's Aid, Freedom Programme). Training core principles included a

gendered perspective of DA, intersectional framework, and a trauma-informed approach based on Ehlers and Clark model of PTSD (10).

Co-delivery of Training

Training was a single-session continuing professional development event delivered live in July 2022 via Microsoft Teams Videoconference. Training slides on PowerPoint were screenshared. Training lasted three-hours, including 2x 10-minute breaks and a 30-minute Q&A with the training delivery team. Training was co-facilitated by NS, the senior leadership team, the Trust senior safeguarding nurse lead for the DA Working Group, and the Programme Coordinator of the local Women's Aid Service.

Training utilised a multimedia approach including: Slido.com to gain anonymous live online feedback of barriers to enquiry, answering myth-debunking quizzes via MS Teams live chat, small break-out rooms to practice application of skills with vignettes, reflective spaces, videos of local MARAC process, a video from an expert-by-experience, a short film from Women's Aid, and a variety of speakers. Content included:

- Definition and complex dynamics of DA
- Challenging harmful misconceptions around DA
- Best practice of DA enquiry and response
- Video of a service user with expert-by-experience of intimate partner violence, and their recommendations for staff
- Speaker from the Freedom Programme Coordinator of a local Women's Aid Service
- Contacts for each service DA Champion, safeguarding lead, and MARAC representative

- Access to resources: apps, referral pathways for community DA services, websites, further reading, informative BBC DA documentaries, personalised NHS TTad DA Response Flowchart for each service – all accessible on the Trust intranet
- 30-minute Q&A with expert panel

Staff Feedback Event

The principal researcher (NS) presented the findings to one stakeholder service in their bi-monthly online 'live event' to the whole service. The aim was to summarise findings and service recommendations. The local Woman's Aid Programme Coordinator involved in the project was invited to attend and sent written feedback in response to the results. A lay summary was sent to the other stakeholder service via email distribution and added to the their website for service users and professionals.

Results

Staff Self-Report Survey

Staff Demographics

Two-hundred and eighty-five staff attended the training live, and 118 staff who were not on shift accessed the training recording. A total of 286 pre-data points and 235 post-data points were collected. Sixty data points were removed from pre-data and nine from post-data due to duplicates, attrition, or insufficient outcome data completion. Two hundred and twenty-six matched data were included in analysis. Table 1 reports their professional backgrounds. One hundred and eighty-nine (83.6%) held clinical-facing roles, 69 (30.5%) were qualified at low intensity, 62 (27.4%) qualified at high intensity, and 44 (19.5%) were trainees at low intensity. Job role distribution was representative of the National NHS TTad workforce, according to the most recent consensus (19).

Table 1.

Professional Background of Staff Surveyed Pre-Post Training (N=226)

Job role	Specific profession	n (%)
Clinical facing	Training low intensity	44 (19.5)
	Qualified low intensity	69 (30.5)
	Training high intensity	7 (3.1)
	Qualified high intensity	62 (27.4)
	Assistant Psychologist	5 (2.2)
	Other clinical	2 (0.9)
	Total clinical facing	189 (83.6)
Non-clinical facing	Admin	3 (1.3)
	Operational	16 (7.1)
	Single Point of Access	4 (1.8)
	Employment advisor	10 (4.4)
	Management	1 (0.4)
	Other non-clinical	3 (1.3)
	Total non-clinical facing	37 (16.4)

Note. n=69 missing data due to duplicates, attrition, or insufficient completion.

Pre- and Post-Training Staff Self-Report Measures

Table 2 reports pre-post training comparison scores of staff confidence in their knowledge of risk factors and skills to sensitively enquire and respond to disclosures of DA. All Likert-scale items showed significant positive increases post-training with large effects. Mean Likert-scale scores ranged from 4.24 (awareness of care pathways) to 5.64 (awareness of link between DA and child protection) pre-training, and 7.39 (knowledge of safely recording DA disclosure) to 8.03 (knowledge of where to refer patients) post-training. Highest mean scores were for knowledge of where to refer patients experiencing DA. All median VAS scores were high (all ≥ 9).

Table 2.

Pre- and Post-Training Measures of Staff Confidence in their Knowledge of Risk Factors and Skills to Sensitively Enquire and Respond to Disclosures of DA (N = 226)

Survey Item	Pre-Training	Post-Training	*t*	*p*	*d*
Likert-Scale: 'Please rate the following: your overall level of…'	M (*SD)*	M (*SD)*			
Knowledge about domestic abuse (DA)	5.36 (1.8)	7.77 (1.2)	-26.51	<.001	-1.76
Knowledge about the health consequences associated with DA	4.79 (2.0)	7.42 (1.5)	-23.38	<.001	-1.56
Understanding of how to ask patients about DA	5.16 (2.0)	7.76 (1.4)	-22.19	<.001	-1.48
Awareness of the link between DA & Child Protection	5.64 (2.0)	7.71 (1.5)	-20.45	<.001	-1.36
Confidence to deal with and respond appropriately to a disclosure of DA	5.37 (2.0)	7.58 (1.5)	-22.28	<.001	-1.48
Ability to assess someone's level of immediate risk in relation to DA	5.43 (2.1)	7.47 (1.6)	-18.40	<.001	-1.22
Knowledge of how to safely record a disclosure of DA	4.97 (2.2)	7.39 (1.7)	-19.80	<.001	-1.32
Knowledge of where to refer patients experiencing DA	5.39 (2.1)	8.03 (1.4)	-21.72	<.001	-1.45
Awareness of care pathways for patients experiencing DA	4.24 (2.0)	7.50 (1.6)	-27.12	<.001	-1.80
Visual Analogue Scales: 'Please mark on the line to indicate…'		Mdn (*IQR*)			
How much did you find this training helpful?	-	9 (2)	-	-	-
How much will you apply the knowledge that you have learnt today?	-	9 (3)	-	-	-
How much did you find this training supports your clinical work?	-	9 (3)	-	-	-
How much did you think the training was delivered in a way that was understandable?	-	9 (2)	-	-	-
How much did you find this training relevant to your work?	-	9 (2)	-	-	-

Note. M = mean, SD = standard deviation, Mdn = median, IQR = interquartile range. *t* = Paired-Samples T-Test for Likert scale. Effect sizes were calculated using Cohen's *d*. n = 7 missing data in VAS post-training survey items. Likert scales used a 10-point range, while VAS scales used an 11-point range.

Staff Feedback.

Strengths. Staff found the training "clear, thorough, comprehensive". Staff felt the use of "multimedia" varying "with discussion, small groups, video and presenters" made it more "engaging" and "interactive". Content was described as "informative and relevant". The inclusion of "lived experience was really helpful" and "powerful".

Improvements and Future Direction. Some minor "technical issues" were reported, related to "audio" and guest presenter connectivity, but were "skilfully managed". Staff suggestions for future training included more regular training and time to "digest and discuss some of the content" with more "case studies" as well as "expand on topics" of diversity such as how DA presents in "LGBT+" relationships, for "male survivors" and "perpetrators", and across different "cultures".

Training Feasibility and Fidelity

Fidelity to NICE Training Quality Standards. Inter-rater agreement of fidelity to NICE staff DA-training indicated 3/3 (100%) components were delivered successfully (training covered the epidemiology of DA, the effect of DA on peoples' lives, and the role of professionals in intervening safely).

Training Attendance. Attendance rate was high; two-hundred and eighty-five staff attended live from both services. Staff not on shift were expected to watch the recording, which was accessed 118 times during the audit data collection period. A total of 403/442 (91.2%) of staff employed by both services on date of training completed the training and were representative of the wider national UK TTad workforce (19).

Training Duration. Training was successfully delivered over three-hours, including 2x 10-minute breaks and a 30-minute Q&A.

Casenote Audit

Demographics of Audit Sample (Table 3)

The majority of the audit sample across pre-and post-training groups identified as female and married.

Given identifying as female is a risk factor associated with DA (20), a Chi-Square Test of Independence was performed to assess the relationship between gender and indicator group. There was a significant relationship between the two variables $\chi 2$ (4, N = 1770) = 50.13, p <.001. Females were more likely to be identified in the indicator group than non-indicator group.

Relationship status influences the risk of DA. Separated and divorced individuals self-report higher rates of DA than married individuals (21), and the post-separation period is often a particularly dangerous time, eliciting the most severe and lethal abuse (22). A Chi-Square Test of Independence was performed to assess the relationship between relationship status and indicator group. There was a significant relationship between the two variables $\chi 2$ (6, N = 1770) = 95.04, p <.001. Across both pre and post-training, the indicator group were more likely be single or divorced, and less likely to be in a relationship than the non-indicator group.

Due to recent domestic abuse legislation recognising children as direct victims of DA (23), a Chi-Square Test of Independence was performed to assess the relationship between the presence of young children and indicator group. There was a significant relationship between the two variables $\chi 2$ (2, N = 1770) = 26.34, p <.001. Cases with indicators of DA were more likely to have young children.

Table 3.

Demographics of Audit Sample across Indicator Group Pre-Training (N = 866) and Post-Training (N =904)

Demographic	Subgroup	Non-Indicator Group Pre-Training n (%)	Indicator Group Pre-Training n (%)	Non-Indicator Group Post-Training n (%)	Indicator Group Post-Training n (%)
Gender					
	Female (incl. trans woman)	423 (60.7)	135 (79.9)	428 (60.5)	157 (80.1)
	Male (incl. trans man)	264 (37.9)	32 (18.9)	274 (38.7)	38 (19.4)
	Non-binary	4 (0.6)	-	2 (0.3)	-
	Other	2 (0.3)	-	-	-
	Unknown	4 (0.6)	2 (1.2)	4 (0.6)	1 (0.5)
Relationship Status					
	Single	96 (13.8)	41 (24.3)	87 (12.3)	59 (30.1)
	In a relationship	134 (19.2)	18 (10.7)	122 (17.3)	27 (13.8)
	Married/Civil Partner	216 (31.0)	53 (31.4)	229 (32.4)	39 (19.9)
	Divorced/Dissolved Civil Partnership	18 (2.6)	16 (9.5)	9 (1.3)	15 (7.7)
	Widowed/Surviving Civil Partnership	15 (2.2)	1 (0.6)	18 (2.5)	3 (1.5)
	Separated	5 (0.7)	5 (3.0)	15 (2.1)	3 (1.5)
	Unknown	213 (30.6)	35 (20.7)	227 (32.1)	50 (25.5)
Has Young Children?					
	Yes	188 (27.0)	76 (45.0)	229 (32.3)	84 (42.9)
	No	501 (72.0)	92 (54.4)	476 (67.2)	111 (56.6)
	Unknown	1 (1.0)	1 (0.6)	3 (0.4)	1 (0.5)

Note. Demographics are categorised based on the options the patient information management system offers to service users when providing their data.

Staff Enquiry and Response *(Table 4)*

Indicator and Non-Indicator Group (Routine Enquiry). The services did not meet the NICE and DoH (16, 18) recommendation of routine enquiry (for all service users, regardless of DA indicators present) as only 10.7% of service users were asked about DA-specific risk pre-training. Post-training rates of general and DA-specific risk enquiry were not significantly different to pre-training rates ($p > .05$).

Indicator-Only Group. Pre-post training scores did not differ significantly ($p > .05$) across all components of staff enquiry and response assessed.

Table 4.

Pre- and Post-Training Casenote Audit of Staff DA Response across Service Users with Indicators vs Non-Indicators of DA

NICE Quality Standards	Research Questions	Pre-Training *N* (%)	Post-Training *N* (%)	χ2 (*df*)	*p*
Service users presenting to staff with indicators of DA are asked about their experiences	How many service users show indicators* of DA?	169 (19.5)	196 (21.7)	1.268 (1)	0.260
	Indicator and non-indicator group: Evidence of…				
	General risk enquiry of others	852 (98.4)	891 (98.6)	0.094 (1)	0.759
	DA-specific risk enquiry	93 (10.7)	104 (11.5)	0.262 (1)	0.609
	Indicator-only group: Evidence of…				
	General risk enquiry of others	166 (98.2)	195 (99.5)	0.340 (1)	0.247
	DA-specific risk enquiry	73 (43.2)	85 (43.4)	0.001 (1)	0.974
Service users experiencing DA receive an appropriate response	Indicator-only group: Evidence of…				
	General risk assessment to self/children	158 (93.5)	186 (94.9)	0.331 (1)	0.565
	DA-specific risk assessment (SafeLives DASH)	2 (1.2)	3 (1.5)	0.081 (1)	0.776
	Discussion in supervision and/or safeguarding	137 (81.1)	162 (82.7)	0.154 (1)	0.694
Service users experiencing DA are offered referral to specialist support services	Specialist referral* offered	28 (16.6)	33 (16.8)	0.005 (1)	0.945
	Safety plan?	147 (87)	170 (86.7)	0.005 (1)	0.944
	Signposted to local DA services?	27 (16)	32 (16.3)	0.008 (1)	0.928
	Took to duty/safeguarding?	24 (14.2)	23 (11.7)	0.492 (1)	0.483
	Discussed with DA champion?	3 (1.8)	1 (0.5)	1.340 (1)	0.247

Note. Pre-training casenotes: N = 866, post-training: N = 904. Abbreviations: df, degrees of freedom; χ2, Chi Square Test of Independence. *See Appendix E for definitions of indicators, and examples of specialist DA services.

Discussion

This study evaluated the impact of staff training on enquiry and response to DA in NHS TTad services. Overall, training was effective in significantly increasing staff confidence in their knowledge of risk factors and skills to sensitively enquire and respond to disclosures of DA, however this was not reflected in staff behaviour. Staff behaviour did not significantly change post-training. High post-training VAS scores indicated staff found the training acceptable and effective. High staff attendance across two NHS TTad services (N = 403, 91.18%), positive staff feedback, fidelity to NICE quality training standards, and successful delivery of training within a half day online event, indicated training was acceptable and feasible.

Staff Self-Report Outcomes

Pre-training, staff self-reported low confidence in their knowledge and skills to sensitively enquire and respond to disclosures of DA, which speaks to a wider problem reported in the literature (8). Scores significantly increased to high levels post-training. Staff reported significantly higher confidence in their knowledge of DA, and understanding of how to sensitively enquire and manage disclosures - including documentation, risk assessment, and specialist referral. Staff found training helpful, understandable, relevant, and they were highly likely to apply it in their work. The high effectiveness and acceptability of training may be explained by training content closely following the needs identified in staff focus groups, as well as the interactive multimedia, inclusion of lived experience and varied presenters hightlighted in staff training feedback. On occasion, minor technical issues hindered the experience for a minority.

Staff Behavioural Outcomes

Staff pre-training behaviour indicated high rates of routine enquiry of general risk from others, general risk assessment, and discussion with supervisors/safeguarding. However, staff did not meet routine DA-specific enquiry recommended in NICE and DoH guidelines (16, 18). Staff had low rates of DA-specific response; low rates of specialist referral offered, taking to duty, signposting to local DA services and discussion with DA champion.

Consistent with the literature, post-training behavioural scores were not significantly different to pre-training scores (24). It is likely the audit data-collection period of three-months may be too short to reflect statistically significant behaviour change.

Consistent with our main findings, systematic reviews of DA training have highlighted single-event training increases staff confidence in their DA knowledge and skills to enquire and respond, but without system-level support, it is insufficient to create sustained behavioural change (24, 25). Studies with system-level support include prompts embedded in electronic health records to remind staff to enquire, and opportunities for ongoing learning which could be supported by additional training for leaders or champions and continuous audits or feedback (25). Notably, studies included in the review left a duration of at least eight-months rather than three-months in this study when measuring behaviour change. Staff training alone is unlikely to generate behavioural change in NHS TTad services in future unless combined with service-level changes and recommendations (discussed below).

Strengths

Staff involvement is widely recognised as crucial for successful and sustainable service improvement (26). The study emphasises the importance of collaborating with teams to develop meaningful training tailored to their specific needs. A key strength of this study was the co-development and co-delivery of training, facilitated through meaningful collaboration between staff, third sector DA organisations, and service users. Staff focus

groups played a pivotal role in shaping training content, allowing the researchers to identify barriers to DA enquiry and response and training needs. Another strength was the engagement of multiple-organisational levels, including both clinical and non-clinical roles. Leadership involvement was particularly crucial in beginning to embed system-level changes, ranging from their active participation in training, to the development of protocols and procedures. Research indicates that leadership engagement in the design, implementation and ongoing monitoring of interventions enhances the success of large-scale healthcare change (27).

Training capitalised on recent digital advancements in the NHS, allowing for interactive and engaging elements to capture real-time anonymous audience feedback; breakout rooms to practise skills via role-play vignettes; service user videos of lived experiences; and co-facilitating training including live Q&A panels with local 3rd sector expert organisations. Similar training can reach wider audiences using the online format. Training had a wide reach across individual and systems levels, including staff groups (management, administrative and clinical) and service process (policies, procedures, training), which provides a promising base from which a service-level cultural behaviour change can evolve. The large sample and recruitment from two NHS TTad services increases the generalisability of the data. The blinding of researchers who conducted the audit reduced bias, and the anonymous survey increased the likelihood for honest responses to the training.

Limitations

The audit relied on *evidence* of enquiry, discussions, and response in the clinical notes. It is plausible this information may have been omitted on the notes and therefore results may not be an accurate representation of staff behaviour. Nonetheless, clinical documentation on safeguarding, risk and DA is a standard required by services and national

guidelines, and particularly crucial as communication across services is necessary for a multi-agency response (28).

The drawbacks of aggregated data rather than linked self-report and audit data did not allow us to draw comparisons of pre/post individual staff response. The staff survey did not assess staff previous experience of training or working with DA, despite likely variations due to the mix of experienced and inexperienced staff across training and post-training roles. Consequently, we were unable to control for the potential influence of prior knowledge or exposure, which may have introduced bias in the findings. However, the consistently low pre-training scores, qualitative data from staff focus groups, and stakeholder services identifying a need for training suggest that most staff had limited prior DA knowledge and experience, and reduces the likelihood that prior experience significantly skewed the results.

Staff feedback highlighted training gaps that remained, such as how DA presents in LGBT+ relationships; for male survivors and perpetrators; and across different cultures. Exploration of perpetrators and male victims was beyond the scope of the project, as training was placed within a Violence Against Women and Girls framework, acknowledging the gendered nature of DA. Recently there has been an increase in expanding DA training to include male survivors and cultural differences in expression (29). Future training should address commonly overlooked aspects of diversity listed above.

Service Impact

What Has Been Implemented

The two services streamlined their processes to meet NICE quality standards (e.g., ongoing access to resources and guidance for staff to refer to, clarity on referral pathways and increasing partnership-working with local DA organisations). Although routine enquiry of DA was outlined in the Trust 2019 DA policy, the study findings have led to one stakeholder

service being the first in the Trust to embed DA-specific questions into their routine assessment proforma. Similar studies have shown relatively small system-level changes such as including DA-specific questions at assessment can have a large impact on increasing DA identification (30). One stakeholder service has now implemented DA quarterly emails reminding staff to keep DA at the forefront of their minds with routine enquiry, accompanied with examples of DA pathway, policy, and sensitive questions.

Following training, a resource pack developed by the Pathfinder project (15) was provided to services; including Dulwich Power and Control Resources, guides to recognise abuse, flowcharts to ensure safe enquiry, risk factors, SafeLives DASH risk assessment and a vignette. PowerPoint slides were disseminated in the fortnightly service newsletter. As requested from staff focus groups, a process flowchart was developed in consultation with service leads and the Trust DA Lead working group integrating DA response in their service process (Appendix G) and accessable on staff intranet. Staff were given CPD certificates following training.

Staff feedback, the lack of behavioural change and similar findings from the wider literature (25), highlight a one-off stand-alone training event is unlikely to cover the scope of DA. Given ongoing public health concern acknowledged from NICE and DoH (16, 18), the training was recorded, and the stakeholder services now include it as part of the new starter induction process.

Future Service Recommendations

In addition to staff-level change, broader service-level adaptations are needed to mutually reinforce and sustain change, such as supervisors and the leadership team encouraging attention to DA (e.g. regular agenda item in supervision or service-wide events), and repeating DA training with space to practise skills. Developing a trauma-informed culture of understanding of DA at the service level is necessary to reduce staff barriers to

address and implement training skills. Monthly dropins run by the DA champion and experts (e.g. Trust DA working group, local DA partnership organisations) would increase their visibility as a resource, strengthen collaboration between partnership organisations, maintain staff confidence, and capture recurring clinical issues. Similar recommendations have been made in the DA training literature, which is applicable to the stakeholder services (31). Continuing to build partnerships with local DA organisations is recommended to streamline onwards referral pathways and integrate DA response into clinical practice.

Future research and implications for practice

This project aligns with the literature indicating that single-session online training is insufficient to change staff behaviour. Without multifaceted education and institutional support, initial training gains often diminish, and practice change stalls (24, 25). NICE guidelines have called for services and commissioners to improve domestic abuse response in healthcare settings (16). Clinical psychologists are encouraged to use their leadership role to inform service-level policy and broader NHS strategies on domestic abuse, advocating for service-wide initiatives to keep the issue on the agenda and reinforce learning beyond standalone training. For example, this includes advising on commissioning decisions and ensuring that organisational policies explicitly incorporate NICE best practice on domestic abuse response, such as those used in evidence-based programmes like the IRIS model (33) or the Pathfinder toolkit (15). Such policy engagement ensures that gains from staff training are sustained and that there is a stronger focus on influencing staff behaviour and victim/survivor outcomes.

In terms of influencing individual practice, clinical psychologists can also facilitate reflective practice and complex case discussions to help overcome some staff barriers to

responding to domestic abuse; support the development of DA champions; embed routine enquiry prompts into electronic medical records; and ensure protocols are easily accessible to staff.

Future research would benefit from using a validated tool such as the PREMIS (32) to measure the impact of staff educational programmes on intimate partner violence (IPV) response. The current study did not use the PREMIS measure due to the broader emphasis on staff readiness and ability to enquire, rather than confidence and knowledge, and the topic is restricted to IPV rather than DA. Inclusion of service-user outcomes is also warrented, to see if the impact of staff training translates to victim/survivor indices of health such as quality of life or incidences of DA experienced.

It would be important to establish if self-reported benefits of training are sustained by repeating the staff survey eight-months post-training. Similarly, allowing more time to investigate whether training maps onto clinical practice by completing the audit eight-months post-training, as suggested in previous reviews (25). Further research investigating the effect of staff who revisit training on both self-reported confidence and objective clinical behaviour is merited.

Conclusions

This study describes the successful implementation of single-session online staff training to improve staff confidence in their knowledge and skills to respond to DA in NHS TTad services. The study informs service improvement and research within healthcare systems to ensure staff best practise when working with people experiencing DA. Co-developing and co-delivering meaningful training alongside staff, service users and partnership DA community organisations is crucial. Interactive, staff-tailored training should be combined with wider systemic-level support to increase likihood of staff behaviour

change. Future research should aim to include validated measures and establish if staff positive trends are sustained over time.

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Theory Driven Research Project

Evaluation of a Brief Online Universal Intervention for University Students' Understanding of Psychotic Experiences: A Randomised Controlled Experimental Study

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Proposed Journal: Journal of Medical Internet Research (JMIR) Mental Health
Rationale: This journal seeks papers focused on digital health and internet interventions for mental health, including evaluations related to digital psychiatry and psychology. This aligns well with the objectives of this study.

I hereby confirm that my work has been deemed suitable for submission by my supervisors.

Abstract

Background:

Psychotic-like experiences (PLE) are common in university-age students. Negative appraisals of PLE, and consequent negative emotions and unhelpful coping, can contribute to the development of psychosis for individuals at high risk. Providing information about what psychosis is, how to cope, and how to seek support is needed.

Objectives:

We developed a brief, single-session universal online module about PLE for university students and evaluated its impact on knowledge, appraisals, and help-seeking.

Methods:

UK university students aged 18-35 (n = 182) were randomly allocated to receive a single-session online module on either understanding PLE (intervention condition), or general wellbeing (control condition). Pre-post intervention questionnaires assessed knowledge of PLE, positive and negative appraisals of PLE, and help-seeking intentions. Feedback on the module was also collected.

Results:

From April-November 2024, 104 students (50% aged 18-21, 71% female, 56% white British) completed the module, pre and post questionnaires, and are included in the analysis. The intervention was acceptable for participants who completed the module, but there was high attrition, with 209 (53%) dropping out after expressing initial interest and 69 (18%) after module allocation, out of 391 students initially interested. Both groups showed significant pre-post improvements in knowledge, appraisals and help-seeking intentions across ($p < 0.01$) with large effects ($\eta^2 = .14$ to $.56$). However, the intervention condition was more effective ($p < 0.05$) in increasing knowledge and positive appraisals of PLE ($\eta^2 = .09$ to $.10$) and reducing negative appraisals of control and social marginalisation ($\eta^2 = .05$ to $.11$). There were no

significant group differences post-condition in negative appraisals of loss, entrapment, and shame, or help-seeking intentions.

Conclusions:

A brief, single-session online universal intervention can improve university students' knowledge and positive appraisals of PLE and reduce some negative appraisals. The lack of change in students' help-seeking intentions may highlight the complexity of designing universal interventions that simultaneously normalise PLE - hence reduce the need to seek help in non-clinical populations - and encourage help-seeking for distressing psychotic experiences among at-risk populations. Future research should explore tailored modular interventions for universal and at-risk groups, as well as embedding the module into existing university structures and enhancing its interactivity to address uptake and attrition.

Keywords: Psychosis, online intervention, student wellbeing, prevention, ultra-high risk, experimental.

Introduction

Psychotic-like experiences (PLE), defined as subclinical unusual beliefs or unusual sensory experiences, are common, with an estimated lifetime prevalence of 5% of the general population [1]. Annual prevalence rates are estimated at 5-8% [2]. The continuum model of psychosis suggests that common PLE are at one end of the continuum for healthy individuals and adolescents, and less common and disruptive psychotic experiences for individuals with psychotic disorder are at the other [2-4]. Research suggests a higher prevalence of PLE for people with common mental health difficulties and their presence is identified as a risk factor for developing psychosis [5]. However, not all those who experience PLE will go on to develop psychosis. PLE are transient for 80% of people, with 20% experiencing persisting symptoms and only 7% going on to develop psychosis [2, 6]. Thus, although the presence of PLE is associated with increased psychosis risk, it does not determine transition to psychosis. Trauma, stress, threatening appraisals of PLE, and mood disorders are other risk factors for psychosis [7, 8].

The dominant cognitive models of psychotic symptoms highlight the central role of appraisals in the development and maintenance of these symptoms [3, 9-11]. Research comparing the appraisals of persistent psychotic experiences for individuals with and without a need for care suggest paranoid and threatening appraisals may contribute to the transition to more clinically relevant symptoms [12], which has been supported with longitudinal data as part of the Dutch NEMESIS study [13]. Research suggests that non-clinical individuals with PLE are more likely to interpret their PLE as part of normal experience (or as more positive and benign) than clinical/help-seeking groups (at-risk mental state [ARMS] and first-episode psychosis [FEP]) [14]. Negative secondary illness appraisals of the PLE, such as interpreting them as stigmatising and humiliating, alongside a sense of loss of control, are also suggested to be factors in the development of psychosis, as well as barriers to help-seeking and

engaging with treatment [15, 16]. According to the cognitive models, the risk of developing psychotic symptoms is proposed to reduce if the individual is able to recognise and understand the causes and modulators of PLE, and not feel as frightened of them. Meta-analysis suggests that negative beliefs about psychosis (particularly regarding lack of control over experiences) are associated with greater distress, and interventions aiming to modify or prevent the formation of unhelpful beliefs about PLE may be beneficial [17].

Significant life events and periods of transition are identified as high-risk critical periods for emergence of FEP [18]. Transition to university has been identified as an acute stressor and associated with the onset of mental health difficulties [19]. Peak onset of FEP is between age 15-25 years, and preventative interventions in this age group are necessary to reduce the likelihood of psychosis onset and the duration of untreated psychosis [20, 21]. A priority of early intervention for psychosis services is to increase access and engagement via outreach in the community e.g., educational services. While university mental health interventions are accruing more visibility, current efforts focus on common mental health problems, with interventions addressing psychosis and PLE remaining sparse [22]. Psychosis is one of the most stigmatised mental health disorders, which creates a barrier to help-seeking, and this population has been found to have one of the lowest rates of help-seeking [23].

Feedback from adolescents following a Cognitive Behavioural Therapy intervention for unusual experiences was that they wished they had this information earlier, before contact with services, supporting the need for early intervention in educational settings [24]. Qualitative feedback from people with FEP highlights the importance of prior knowledge of psychosis, support from others and accessing help early in mitigating the trauma of psychosis (Buivydaite, Burns, Laughton., et al, in preparation). Working out what is going on, feeling in control, connecting to others with similar experiences and getting on with life were identified

as being of primary importance to young voice-hearers and their families [25]. Research into university-based workshop interventions indicates that students would like to know about mental health symptoms to look out for and routes to support [26].

Thus, educating young adults on PLE is important to increase knowledge, reduce negative appraisals and increase positive appraisals, and promote help-seeking behaviour if the psychotic experiences become disruptive. A universal intervention in secondary school students led to an increase in positive appraisals of PLE [27]. To our knowledge, no university-based intervention has focused on PLE.

In this pilot randomised controlled experimental study, we aimed to develop and evaluate a universal intervention (single-session online module) for university students on understanding psychotic experiences. Specifically, we sought to explore the impact of the intervention in improving: a) knowledge of PLE, b) appraisals of psychotic experiences, and c) help-seeking intentions. We hypothesised, that compared to a control group, the intervention group would demonstrate (i) an increase in knowledge of PLE, (ii) a reduction in negative illness appraisals of psychotic experiences, (iii) an increase in positive appraisals of psychotic experiences, (iv) and an increase in help-seeking intentions if needed.

Method

The study had a 2 (intervention vs control condition) X 2 (pre-post) research design. The study received ethical approval from the University of Oxford's Central University Research Ethics Committee (CUREC) reference R87026/RE00.

Recruitment

Participants were eligible if they were an English-speaking UK university student aged 18 years or over. Multiple recruitment strategies were utilised in universities across the

UK, including targeted social media adverts, university email distribution lists, the MQ Mental Health Research Participate platform, university volunteer pages, and putting study posters up in high-traffic campus areas (see Appendix I for full recruitment strategy). The study was open between April-November 2024.

Procedure and Randomisation

Participants were invited to read an information sheet and provide informed consent electronically. The single-session module and questionnaires were completed anonymously on the Qualtrics platform, taking approximately 30 minutes. After completing pre-module questionnaires, randomisation was implemented on Qualtrics (stratified by gender to ensure balance) to either the intervention (psychosis module) or control (general psychological wellbeing module) condition. Participants were invited to complete the questionnaires again immediately after the module. Participants in the control condition were offered access to a PDF of the intervention module after study completion.

Interventions

Knowledge and Understanding of Psychotic Experiences

The single-session intervention module was co-developed by NS, LJ and FW, and modified following input from RB (an expert by experience who was a university student and had received treatment from an Early intervention in Psychosis team). The final version was piloted with two university students. The module was designed as a universal intervention for students, either for those experiencing PLE or psychotic experiences themselves, or those supporting someone with psychotic experiences. The module included multimedia (text, images, audio, and interactive questions) for engagement. Table 1 describes module content.

Table 1

Intervention Module Content

Section	Content	Theory and Research Informing Content
1. What are PLE?	- Overview of common and less common PLE and psychotic experiences on a continuum (e.g. unusual perceptions, unusual strongly held beliefs, social and emotional withdrawal). - Examples of how some are more associated with illness than others [14] - Guidance on recognising when these experiences become disruptive in oneself or others.	- Content incorporated co-developed materials by people with psychosis or PLE, accessible online from the Voice Collective (voicecollective.co.uk), United Senses and Experiences Research Network (mmu.ac.uk/research/research-centres/hpac/usen-network), Epic Minds (epicminds.co.uk), Psychosis Net (psychosisnet.com), and Psychosis Research (psychosisresearch.com). - Qualitative feedback from individuals with FEP emphasise the importance of increasing awareness and understanding of psychosis for those affected, their family and friends, and wider society (Buivydaite et al, in preparation). Young people with FEP also wish they had received information earlier, before contact with services [24]. Specifically, providing information about what psychosis is, how it presents, and how to receive support, would facilitate earlier recognition of symptoms and help-seeking.
2. What can cause these experiences, what can make them worse, and what can help?	- Stress-vulnerability model: interaction of genetics or early experiences, and external stressors relevant to university life (e.g. moving away from home, substance use, and poor sleep). Contextualising the origins of PLE in past experiences. Mitigating strategies, e.g. exercise, social connection, and sleeping well. - How appraisals of threat or illness, can increase distress and impair functioning. - Two vignettes (voiced by two university students) followed their journeys responding to their PLE differently. One had disruptive experiences and sought the help of local EIS services. The other self-managed with general wellness strategies. - Throughout the module, self-reflection exercises encouraged participants to apply coping strategies to themselves or others.	- The literature suggests participants are likely to hold stigmatising views [28]. To address this, our approach aimed to not only directly challenge these negative appraisals, but also to embed alternative, positive appraisals of psychotic experiences. - Examples of interpretations were aligned with measures, embedding threatening or illness appraisals (PBIQ-R) [29] to generate and endorse positive alternatives (QPR) [30]. - Cognitive models of psychosis [3, 9-11]. - Fictional vignettes aligned with R-GTPS [31] and CAARMS [32] descriptions of psychotic experiences in university students.
3. When and where to seek help when psychotic experiences are disruptive.	- Traffic light system to recognise when to seek help at different levels of distress and disruption. - Signposting sources of help for disruptive psychotic experiences included resources, peer support, professionals, and a drop-down menu with regional services (e.g. local EIS services for self-referral).	- Positive experiences of hope and seeking effective help were emphasised, particularly within the vignettes and reflective sections, some of which closely mirrored the language and tone of the QPR [30].

Abbreviations: PBIQ-R = Personal Beliefs about Illness Questionnaire-Revised; QPR = The Questionnaire about the Process of Recovery; R-GTPS = The Revised Green et al., Paranoid Thoughts Scale; CAARMS = The Comprehensive Assessment of At-Risk Mental States

Knowledge and Understanding of Psychological Wellbeing

The single-session active control module on general psychological wellbeing was designed to be comparable with the intervention module in terms of duration, structure, depth of information, and interactivity (see Appendix J comparing module content). Topics included the stress-vulnerability model, and three elements ('Connect', 'Be Active', Take Notice') developed from Five Ways to Wellbeing [33], and when and where to seek help (signposting resources, peer support, professionals and links to local Talking Therapies for self-referral if needed).

Measures

Measures are summarised in Table 2. **Demographics, outcomes and module acceptability pre- and post-module are described.**

Table 2

Measures of Demographics, Outcomes and Module Acceptability

Measure	Description	Scale
Demographics (pre-module)	Participant age, gender, ethnicity, study status (full-time or part-time), education level (undergraduate or postgraduate course), and living arrangement (living at home or away from home). Participants were asked to disclose whether they had ever received help for a mental health problem (current or past) and specified their diagnoses if applicable. Participants were asked if they had any prior knowledge of PLE or psychosis, and if so, indicated their information source.	n/a
Outcome Measures (pre- and post-module)		
Knowledge of psychosis	A five-item measure was designed to reflect the module content. Items assessed knowledge of the broad presentation of PLE, associated risk factors and causes, impact of interpretations, moderators, and when/where to seek help (see Appendix K). Higher scores indicate greater knowledge.	10-point Likert scale ranging from 1 ('no knowledge') to 10 ("comprehensive knowledge").
Aspects of Recovery from Psychosis and Positive Appraisals	The Questionnaire about the Process of Recovery (QPR) [30] is a 15-item self-report measure co-developed with service users. Higher scores indicate greater recovery. The QPR has demonstrated good reliability and validity, with items strongly associated with themes of general psychological wellbeing, quality of life, and empowerment – key themes in recovery from psychosis. Items and instructions were extensively adapted from its intended use for this study, to ensure they were relevant for a universal population and did not imply prior experience of psychotic experiences (see Appendix K). In addition to the QPR, we developed five novel items to assess positive appraisals identified in the literature as important from people with lived experience of psychosis. These positive appraisals were specifically targeted in our intervention, but lacked any existing validated measure. Internal consistency of items was assessed following data collection.	Five-point Likert scale ranging from 0 ("strongly disagree") to 4 ("strongly agree")
Negative appraisals of psychotic experiences	The Personal Beliefs about Illnesses Questionnaire-Revised (PBIQ-R) [29] is a 20-item self-report measure containing five subscales of five items of emotion and appraisal following a psychotic illness: shame, loss, entrapment, control over illness, and social marginalisation. The scale was designed to measure stigma and social rank-based variables. Higher scores indicate higher stigma and lower social rank. The scale was not designed to provide an overall composite score. The PBIQ-R has demonstrated reliability, validity and sensitivity to change. Again, items and instructions were extensively adapted for this study to ensure they were relevant for a universal population and did not imply prior experience of PLE (see Appendix K). Internal consistency of items was assessed following data collection.	Four-point Likert scale ranging from 1 ("strongly disagree") to 4 ("strongly agree").

Help-seeking intentions	The General Help-Seeking Questionnaire (GHSQ) [34] assesses likelihood of seeking help from formal or informal sources. The ten-item self-report measure was designed to be flexibly applied to study-specific problems, therefore, for this study the wording of the items was tailored to be specific to PLE, rather than general emotional problems. For this study, the total score was calculated by summing all ten-item scores. Higher scores indicated stronger intentions to seek help.	Seven-point Likert scale ranging from 1("extremely unlikely") to 7 ("extremely likely").
Module acceptability (post-module)	Optional feedback via four Visual Analogue Scales (VAS) assessing module enjoyment, learning, belief change, and understandability.	10-point scale from 1 ('not at all') to 10 ('very much').
	Optional feedback to identify which module component experienced as most impactful.	Multiple-choice question
	Optional qualitative feedback. Data were not analysed as an outcome measure or subject to formal analysis, but rather categorised into core themes according to broadly positive and negative content to describe module acceptability to inform future developments.	Free text box
	See Appendix K for full description of feedback items.	

Statistical Analysis

To calculate the required sample size to achieve a small-medium effect size as indicated by a systematic review of digital wellbeing interventions for university populations [35], we conducted an a priori power analysis using G*Power [36]. The analysis calculated an alpha level of .05, a power .90 and an effect size (*f*) of .17 for a repeated measures analysis of variance (ANOVA), indicating a sample size of N = 94 was required.

Nine datapoints were excluded due to being outside the acceptable response time (<10 minutes and >24 hours). A chi-square analysis assessed potential group (intervention and control) differences in demographics. A binary logistic regression explored predictors of participant dropout. Item-level descriptives of outcome measures were presented as mean (SD). Data met all assumptions of normality and homogeneity of variance. Preliminary analysis involved independent samples t-tests of baseline scale differences. The internal consistency (Cronbach's alpha) of outcome measures were evaluated. For the main analysis, a mixed-model ANOVA was performed to examine both within-subject (time: pre- vs. post-test) and between-subject (group: intervention vs. control) factors. The reported results of tests of within-subjects factors (time: pre- vs post-test) are the univariate or averaged data. Effect sizes were reported (η^2). Where significant interaction effects were found, simple main effects were examined (Bonferroni-corrected t-tests, $\alpha = .0125$, 4 comparisons) for (i) changes in each group's scores (intervention, control) over time (T1, T2), and (ii) group differences at T1 and T2. Mean Visual Analogue Scale (VAS) scores were calculated. Qualitative feedback was not subject to formal analysis, but rather categorised into core themes according to broadly positive and negative content. All analyses were done in SPSS (version 30.0).

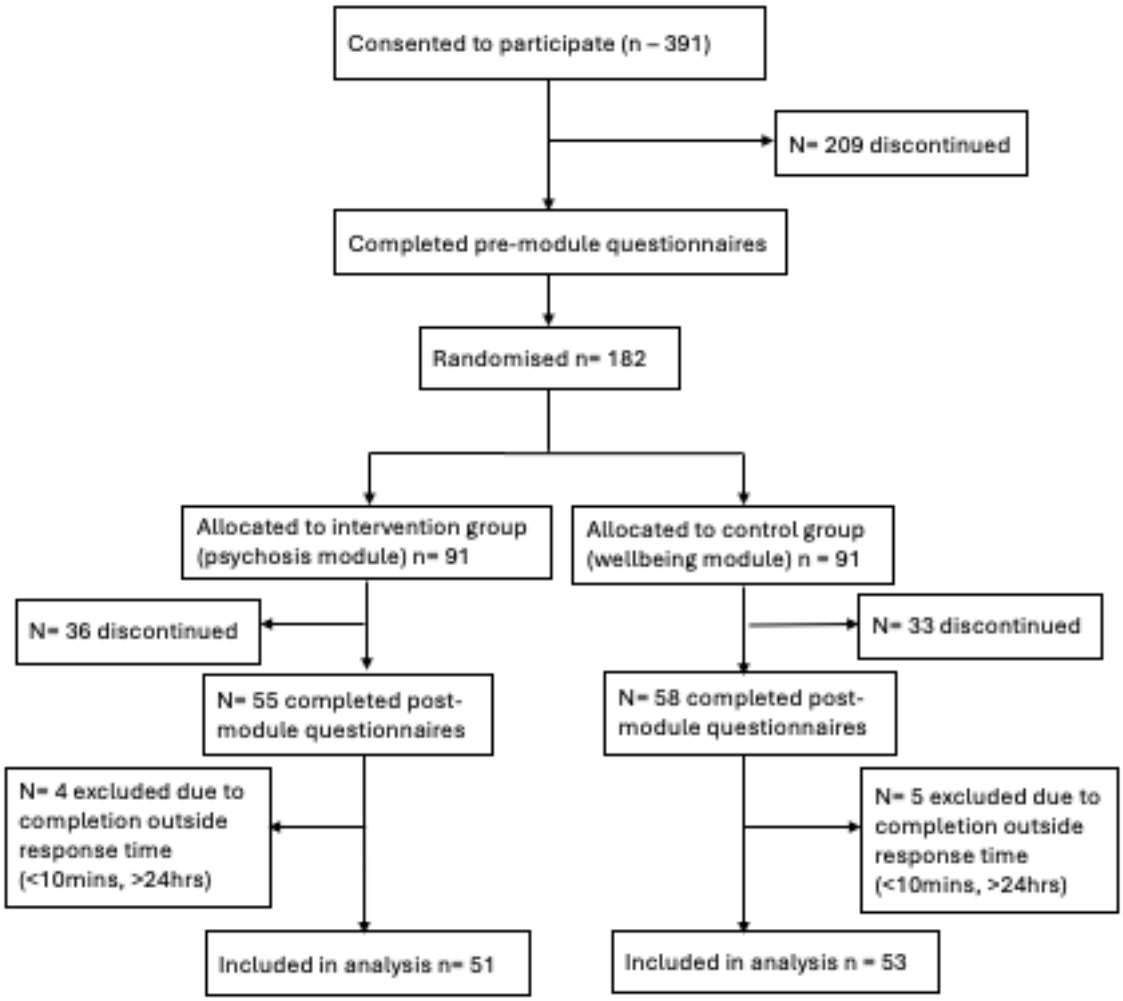
Results

Sample Characteristics

Recruitment, allocation and analysis is summarised in the CONSORT diagram (see Figure 1). A binary logistic regression examined the association between age group (18-21 vs. 22-35) and dropout following baseline questionnaires (n = 69). Age group was a significant predictor of dropout, $\chi^2(1) = 4.624$, $p = .031$. Participants aged 18-21 were half as likely to drop out compared to those aged 22-35 (OR = 0.5, 95% CI [0.27, 0.94]). No other demographic variables were significant.

Figure 1.

CONSORT Flow Diagram



Of the 104 participants included in the analysis, half were aged 18-21. Participants were most likely to identify as white British (n = 58, 55.8%) and as a woman (n = 74,

71.2%). Most participants were studying a full-time (n = 91, 87.5%) undergraduate course (n = 62, 59.6%) and living away from home (n = 69, 66.3%).

The intervention and control group did not significantly differ by age or ethnicity groupings (see Table 3). Although stratified randomisation by gender was used, a Chi Square test was performed to examine if participant dropout impacted the balance between groups. The test showed no significant difference across groups.

Table 3

Demographic Characteristics of the Whole Sample (N = 104), Intervention Group (n = 51) and Control Group (n = 53)

Demographic	Subgroup	Whole sample N (%)	Intervention n (%)	Control n (%)	$\chi^2(df)$	*p*
Age						
	18	10 (9.6)	6 (11.8)	4 (7.5)	-	-
	19	17 (16.3)	9 (17.6)	8 (15.1)	-	-
	20	16 (15.4)	7 (13.7)	9 (17.0)	-	-
	21	9 (8.7)	5 (9.8)	4 (7.5)	-	-
	22-25	21 (20.2)	9 (17.6)	12 (22.6)	-	-
	26-30	20 (19.2)	11 (21.6)	9 (17.0)	-	-
	31-35	11 (10.6)	4 (7.8)	7 (13.2)	-	-
Age groupings						
	18-21	52 (50.0)	27 (52.9)	25 (47.2)	-	-
	22-35	52 (50.0)	24 (47.1)	28 (52.8)	0.35(1)	0.556
Ethnicity						
	Asian or Asian British	31 (29.8)	18 (35.3)	13 (24.5)	-	-
	Black, Black British, Caribbean or African	3 (2.9)	3 (5.9)	0 (0.0)	-	-
	Mixed or multiple ethnic groups	9 (8.7)	4 (7.8)	5 (9.4)	-	-
	White	58 (55.8)	24 (47.1)	34 (64.2)	-	-
	Any other ethnic group	3 (2.9)	2 (3.9)	1 (1.9)	-	-
	Prefer not to say	0 (0.0)	0 (0.0)	0 (0.0)	-	-
Ethnicity groupings						
	White British	58 (55.8)	24 (47.1)	34 (64.2)	-	-
	All other ethnic groups	46 (44.2)	27 (52.9)	19 (35.8)	3.08(1)	0.079
Gender						
	Man	25 (24.0)	9 (17.6)	16 (30.2)	-	-
	Woman	74 (71.2)	39 (76.5)	35 (66.0)	-	-
	Non-binary	4 (3.8)	3 (5.9)	1 (1.9)	3.17(2)	0.205
	Prefer to self describe	0 (0.0)	0 (0.0)	0 (0.0)	-	-
	Prefer not to say	1 (1.0)	0 (0.0)	1 (1.9)	-	-
Education level						
	Undergraduate	62 (59.6)	33 (64.7)	29 (54.7)	-	-
	Postgraduate	42 (40.4)	18 (35.3)	24 (45.3)	1.08(1)	0.299
Study status						
	Full-time	91 (87.5)	45 (88.2)	46 (86.8)	-	-
	Part-time	13 (12.5)	6 (11.8)	7 (13.2)	0.05(1)	0.824
Living arrangement						
	Live away from home	69 (66.3)	32 (62.7)	37 (69.8)	-	-

	Live at home	35 (33.7)	19 (37.3)	16 (30.2)	0.58(1)	0.446
Received mental health support						
	Yes	53 (51.0)	27 (52.9)	26 (49.1)		
	No	48 (46.2)	23 (45.1)	25 (27.2)	0.09(1)	0.843
	Prefer not to say	3 (2.9)	1 (2.0)	2 (3.8)	-	-

Note. Due to small numbers, 'prefer not to say' options were excluded from Chi Square Tests, which limits representativeness. Similarly, participants were grouped into 'White British' vs 'All other ethnic groups', and ages 18-21 vs 22-35 to allow comparison; however, we recognise this broad categorisation may obscure important differences and limits our understanding of the experiences of more specific ethnic and age groups.

At baseline, 93 (89.42%) of participants reported that they knew something about PLE or psychosis. The most common sources of information about PLE were from media/tv/movies (n = 63, 67.7%), followed by observing others with PLE (n = 39, 41.9%), other sources (n = 17, 18.3%), and personal experience of PLE (n = 13, 14.0%).

Fifty-three (51.0%) participants reported receiving help for a mental health problem. The most common diagnoses among these participants were general anxiety disorder (n = 31, 26.1%), depression (n = 31, 25.1%), social anxiety (n = 12, 10.1%), post-traumatic stress disorder (n = 9, 7.6), obsessive-compulsive disorder (n = 8, 6.7%), panic disorder (n = 6, 5.0%), and psychosis (n = 2, 1.7%).

Preliminary Analysis

Baseline scores across all measures indicated no significant differences between intervention and control groups, as shown in Table 4 (Appendix L).

The psychometric properties of measures were analysed. The internal reliability for the Knowledge, QPR and PBIQ-R measures ranged from good to excellent, (α = .88 to α = .96) and the GHSQ measure was acceptable (α = .72) as shown in Table 5 (Appendix M). A psychometric evaluation of the five PBIQ-R appraisal subscales at pre- and post-intervention (see Table 6 in Appendix N) confirmed the main analysis would be conducted on each subscale rather than total summed score.

Main Analysis

The descriptive statistics are presented in Table 7 (below). The descriptive statistics cover the pre- and post-module outcome measures across groups.

Table 7

Descriptive Statistics for Pre- and Post-Module Outcome Measures Across Groups

	Whole sample M(SD)		Intervention M(SD)		Control M(SD)	
Measure	Pre	Post	Pre	Post	Pre	Post
Knowledge – broad presentation of symptoms	5.33 (2.52)	6.97 (2.09)	5.29 (2.52)	7.65 (1.61)	5.36 (2.55)	6.32 (2.30)
Knowledge– risk factors and causes	4.87 (2.44)	6.75 (2.11)	4.88 (2.43)	7.37 (1.61)	4.85 (2.48)	6.15 (2.37)
Knowledge – how interpretations affect symptoms	4.70 (2.53)	6.87 (2.18)	4.84 (2.62)	7.71 (1.57)	4.57 (2.46)	6.06 (2.38)
Knowledge – how the way we respond improves or worsens symptoms	4.82 (2.67)	7.15 (2.08)	4.88 (2.79)	7.92 (1.51)	4.75 (2.58)	6.42 (2.29)
Knowledge – how, when, where to seek help	5.04 (2.87)	7.61 (2.15)	5.02 (2.89)	8.08 (1.57)	5.06 (2.87)	7.15 (2.52)
Knowledge total score***	24.75 (12.08)	35.35 (9.69)	24.92 (1.70)	38.73 (1.28)	24.59 (1.67)	32.09 (1.26)
QPR total score***	61.55 (14.11)	72.76 (14.71)	63.35 (15.13)	79.00 (10.88)	59.81 (12.97)	66.75 (15.48)
PBIQ-R– Loss	10.56 (2.09)	9.35 (2.46)	10.61 (2.19)	9.14 (2.38)	10.51 (2.01)	9.55 (2.54)
PBIQ-R– Control**	10.84 (1.63)	9.41 (2.03)	10.98 (1.46)	8.90 (2.05)	10.70 (1.79)	9.91 (1.89)
PBIQ-R– Entrapment	10.49 (2.09)	9.16 (2.55)	10.62 (2.21)	8.73 (2.39)	10.36 (1.98)	9.58 (2.65)
PBIQ-R– Social marginalisation*	10.12(1.78)	8.83 (2.20)	10.14 (1.76)	8.39 (1.87)	10.09 (1.81)	9.25 (2.42)
PBIQ-R– Shame	10.00 (2.45)	8.95 (2.48)	10.20 (2.38)	8.66 (2.40)	9.81 (2.53)	9.23 (2.55)
GHSQ - Intimate partner	5.12 (1.42)	5.40 (1.63)	5.02 (1.53)	5.30 (1.80)	5.21 (1.31)	5.49 (1.46)
GHSQ - Friend	4.50 (1.53)	4.89 (1.63)	4.46 (1.57)	4.94 (1.65)	4.53 (1.51)	4.85 (1.62)
GHSQ - Parent	4.93 (2.01)	4.97 (2.11)	4.82 (2.10)	4.72 (2.16)	5.04 (1.97)	5.21 (2.06)

GHSQ - Other relative/family member	3.21 (1.71)	3.33 (1.88)	2.88 (1.60)	2.94 (1.73)	3.51 (1.77)	3.71 (1.96)
GHSQ - Mental health professional	5.83 (1.31)	5.99 (1.40)	6 (1.10)	6.18 (1.00)	5.66 (1.48)	5.81 (1.68)
GHSQ - Phone helpline	4.04 (1.79)	4.38 (1.96)	4.16 (1.81)	4.80 (1.63)	3.92 (1.77)	3.98 (2.17)
GHSQ - Doctor/GP	4.88 (1.77)	5.14 (1.84)	4.90 (1.89)	5.36 (1.83)	4.87 (1.65)	4.92 (1.84)
GHSQ - Minister or religious leader	2.14 (1.63)	2.10 (1.66)	2.12 (1.75)	2.00 (1.55)	2.15 (1.54)	2.19 (1.77)
GHSQ - Help for another not listed above	2.59(1.64)	2.98 (1.84)	2.74 (1.70)	3.22 (1.81)	2.45 (1.60)	2.75 (1.85)
GHSQ - I would not seek help from anyone (R)	5.16 (1.87)	5.77 (1.66)	5.10 (1.98)	5.70 (1.69)	5.21 (1.76)	5.83 (1.65)
GHSQ total score	42.25 (9.10)	44.85 (10.07)	42.12 (9.49)	45.16 (9.88)	42.36 (8.81)	44.57 (10.33)
VAS feedback: 'Please use the slider to indicate…' *…how much you enjoyed the module*	-	7.51 (2.31)	-	8.18 (1.70)	-	6.87 (2.63)
…how much you learned about psychosis	-	6.37 (3.33)	-	8.31 (1.91)	-	4.49 (3.33)
…how much your beliefs about psychosis have changed	-	6.67 (2.35)	-	7.67 (1.48)	-	5.72 (2.63)
…the extent to which the module provided information you could understand	-	8.99 (1.66)	-	9.20 (0.94)	-	8.79 (2.13)

Note. Significance level (* = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$). Post hoc analysis was conducted using Bonferroni-corrected t-tests ($\alpha = .0125$, 4 comparisons) to compare total post-scores between intervention and control groups. QPR scale was adjusted from 0-4 to 1-5 for analysis purposes, therefore total range is between 20-100. Abbreviations: QPR = The Questionnaire about the Process of Recovery; PBIQ-R = Personal Beliefs about Illness Questionnaire-Revised; GHSQ = General Help-Seeking Questionnaire.

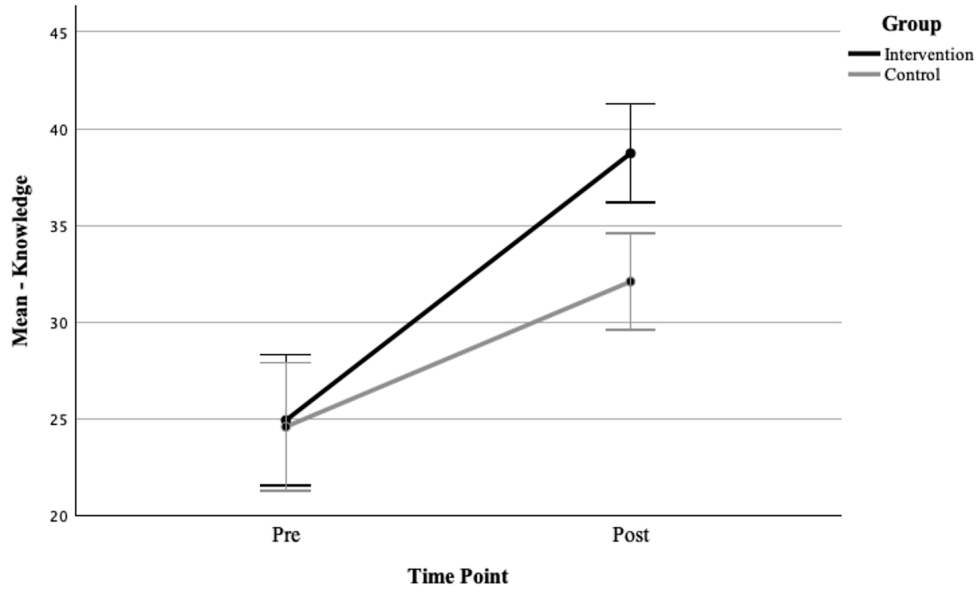
Effect of Intervention on Knowledge of Psychosis

We hypothesised the intervention would lead to an increase in knowledge of PLE compared with the control condition. There was a significant effect of time ($F(1, 102)= 130.91$, $p < .001$, $\eta^2 = .56$), and a significant interaction between time and condition ($F(1, 102)= 11.42$, $p < .001$, $\eta^2 = .10$). There was no significant effect of condition ($F(1, 102)= 1011.79$, p .068, $\eta^2 = .03$).

Knowledge of PLE increased from T1 to T2 in both the intervention ($t(50) = -10.31$, $M_{diff} = 13.80$, $SE = 1.33$ $p < .001$) and control group ($t(52) = -5.79$, $M_{diff} = 7.51$, SE = 1.30, $p < .001$). There was no significant difference in knowledge between the groups at T1 ($t(102) = 0.14$, $M_{diff} = 0.34$, $SE = 2.38$, $p = .888$), but the intervention group displayed greater knowledge compared to the control group at T2 ($t(102) = 3.70$, $M_{diff} = 6.63$, $SE = 1.79$, $p < .001$). While both groups reported increased knowledge of psychosis over time, this increase was significantly greater in the intervention group. Figure 2 illustrates the interaction.

Figure 2.

Mean Scores of Knowledge across Groups and Time

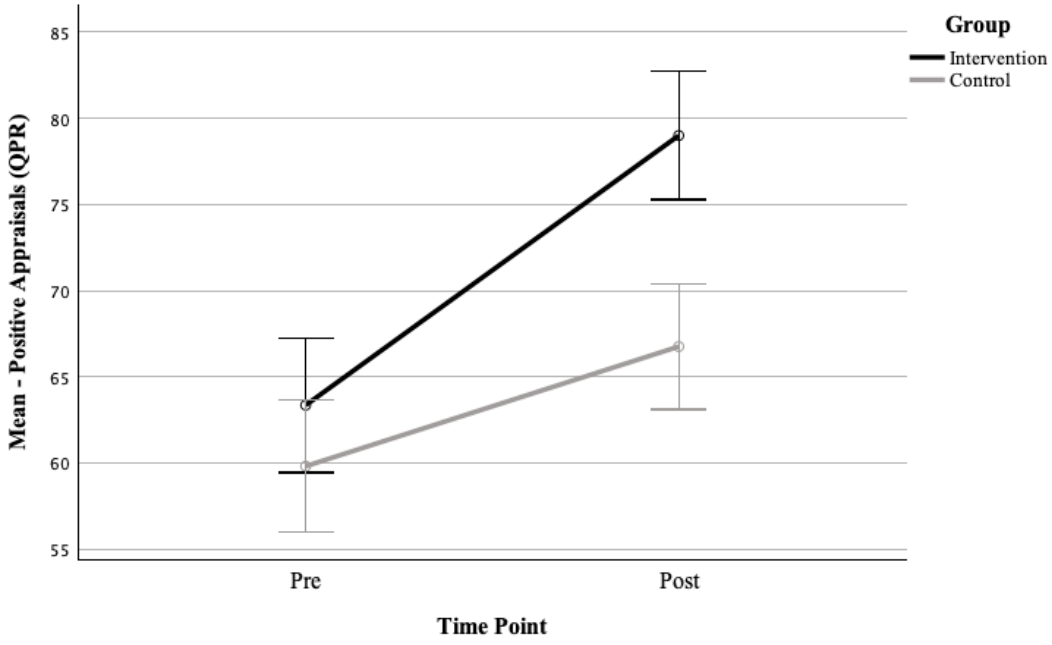


Effect of Intervention on Positive Appraisals of Psychosis

We hypothesised the intervention would lead to an increase in positive appraisals of PLE compared with the control condition. There was a significant effect of time ($F(1, 102)= 68.31$, $p < .001$, $\eta^2 = .40$) and a significant interaction between time and condition ($F(1, 102)= 10.14$, $p = .002$, $\eta^2 = .09$). Positive appraisals of psychosis increased from T1 to T2 in both the intervention ($t(50) = -7.71$, $M_{diff} = 15.65$, SE = 1.95 $p < .001$) and the control group ($t(52) = -3.78$, $M_{diff} = 6.94$, $SE = 1.91$, $p < .001$). There was no significant difference in positive appraisals between the groups at T1 ($t(102) = 1.28$, $M_{diff} = 3.54$, $SE = 2.76$, $p = .202$), but the intervention group displayed greater positive appraisals compared to the control group at T2 ($t(102) = 4.65$, $M_{diff} = 12.25$, $SE = 2.63$, $p < .001$). Figure 3 illustrates the interaction.

Figure 3.

Mean Scores of Positive Appraisals across Groups and Time



Effect of Intervention on Negative Appraisals of Psychosis

We hypothesised the intervention would lead to a decrease in negative illness appraisals of PLE compared with the control condition. There was a significant effect of time for all subscales. For control, entrapment, social marginalisation, and shame, there was a significant interaction between time and condition. Bonferroni-corrected t-tests confirmed the

decrease in negative appraisals from T1 to T2 in both conditions, but group differences at T2 were only present for control and social marginalisation subscales. For loss, there was only a significant effect of time, and no interaction between time and condition. See Table 8 for statistics. Figure 4 illustrates the results.

Table 8

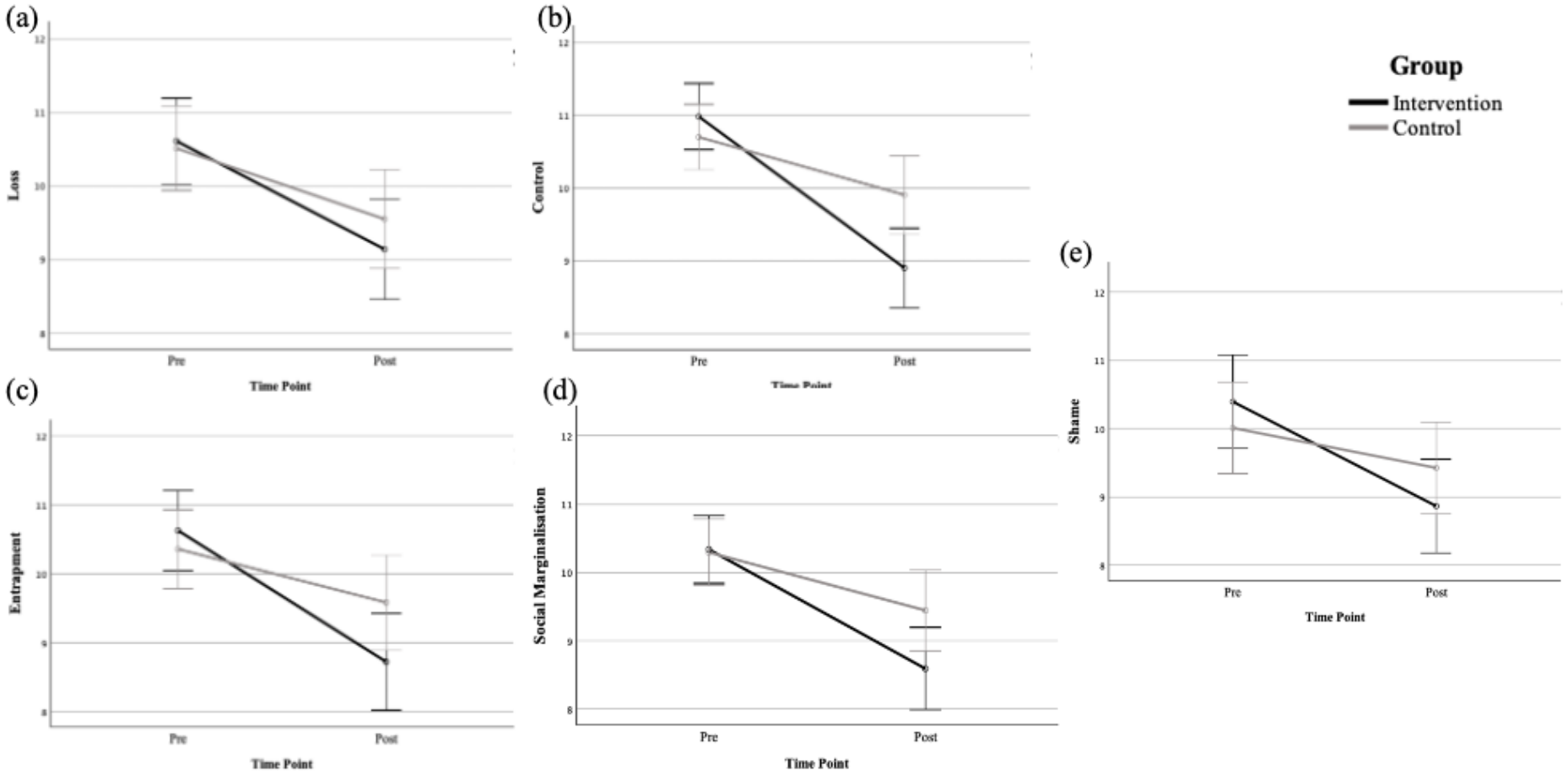
Summary of Main Analysis for Negative Appraisal Subscales

PBIQ-R subscale	**Main effect**			**Interaction**			**t-tests**			
	F(1, 102)	*p*	η^2	*F*(1, 102)	*p*	η^2	*t(102)*	M_{diff}	SE	*p*
Loss	38.97	.001***	.28	1.70	.195	.02	-	-	-	-
Control	62.71	.001***	.38	12.58	.001***	.11	-2.60	-1.00	0.39	.011*
Entrapment	37.23	.001***	.27	6.62	.012*	.06	-1.73	-0.86	0.49	.086
Social marginalisation	45.46	.001***	.31	5.42	.022*	.05	-2.01	-0.85	0.43	.047*
Shame	26.13	.001***	.20	5.21	.024*	.05	-1.15	-0.56	0.49	.252

Note. Significance level (* = $p < 0.05$; *** = $p < 0.001$). Abbreviations: M_{diff} = mean difference between conditions at T2; SE = standard error; η^2 = Partial Eta Squared effect size. Post hoc analysis was conducted using Bonferroni-corrected t-tests (significance threshold adjusted to $\alpha = .01$ based on 5 comparisons) to compare total post-scores between intervention and control groups.

Figure 4.

Mean Scores of Negative Appraisal Subscales across Groups and Time



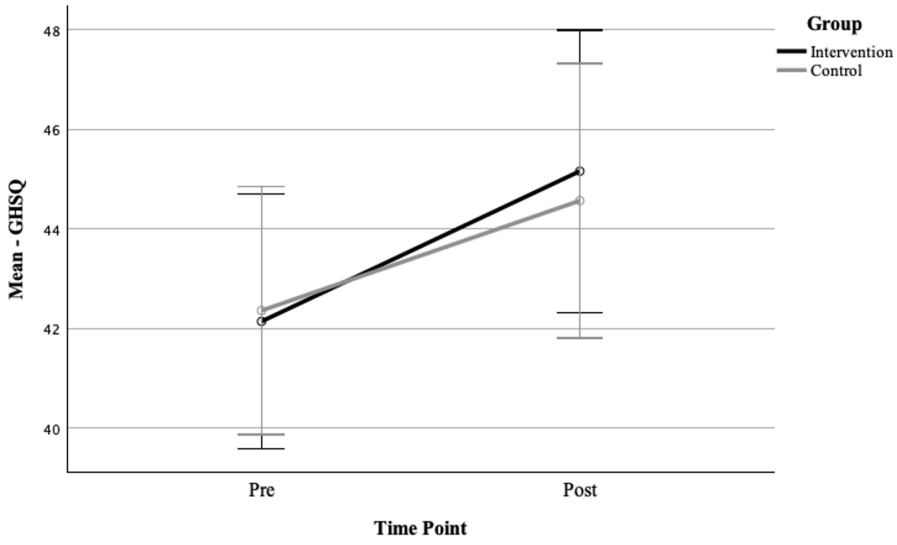
Note. (a) = loss subscale, (b) = control subscale, (c) = entrapment subscale, (d) = social marginalisation subscale, (e) = shame subscale.

Effect of Intervention on Help-Seeking Intentions

We hypothesised that participants completing the intervention module would report an increase in help-seeking intentions compared with those completing the control module. There was a significant effect of time ($F(1, 101)= 16.14$, $p < .001$, $\eta^2 = .14$), but no effect of condition ($F(1, 101)= 0.11$, $p = .917$, $\eta^2 = .00$) and no significant interaction effect between time and condition ($F(1, 101)= 0.39$, $p = .534$, $\eta^2 = .00$). Figure 5 illustrates the result.

Figure 5.

Mean Scores of Help-seeking Intentions across Groups and Time



Module Acceptability

Mean VAS scores from participants in the intervention condition ranged from 7.67 to 9.20. Higher mean VAS scores were for how much participants learned about psychosis and how understandable they found the module. Table 7 reports all mean (SD) VAS scores. The descriptions of what can cause PLE, what makes them worse and how to control them were reported to be the

most impactful part of the module (n = 29, 56.9%), followed by hearing young people talking about their experiences (n = 27, 52.9%), and engaging in self-reflection exercises (n = 19, 37.3%).

Fifty-eight (55.77%) participants provided qualitative feedback. Participants (n = 32) in the intervention group reported that the module's strengths were its engaging and accessible delivery via interactive elements, visuals, audio, and reflective exercises - neurodivergent and visual learners found this particularly helpful. Many found vignettes made the content relatable with real-life examples of how symptoms could present in their lives. Some participants with lived experience felt the module comprehensively covered key aspects of psychotic experiences. Weaknesses included over-reliance on text/audio and lack of interactivity in places, with some participants feeling the module would benefit from animated videos, short quizzes, and in-person delivery. Participants highlighted the need for clearer and more concise pre-post module questionnaires.

Discussion

In this study we set out to evaluate the effectiveness of a universal, single-session online module in improving university students' knowledge and appraisals of psychotic experiences and help-seeking intentions if these experiences became disruptive. Both intervention and control groups demonstrated significant pre-post increases in knowledge of PLE, positive appraisals of these experiences, and help-seeking intentions, as well as reductions in negative appraisals. As hypothesised, the intervention module was more effective in increasing knowledge and positive appraisals of psychotic experiences, and reducing negative appraisals of control and social marginalisation. Contrary to expectations, there were no significant differences between groups in the negative appraisals of loss, entrapment and shame, or help-seeking intentions post-module.

Attrition rates were high. However, acceptability of the intervention module on psychotic experiences was high, based on feedback from the students who completed it.

Large knowledge gains across groups are likely due to the inclusion of the stress-vulnerability model in both modules. The psychosis-specific module was more effective in enhancing knowledge of PLE, supporting the value of the tailored intervention.

The observed changes in positive appraisals and some negative appraisals are largely consistent with the literature. An online 30-minute universal psycho-educational intervention has been found to reduce college students' mental health-related stigma [37]. A reduction in the negative appraisal of loss of control over psychotic experiences post-module is a noteworthy outcome, given such beliefs are strongly associated with greater distress and development of psychosis [17]. Similarly, the reduction in appraisals of social marginalisation is a promising finding, given the high prevalence of loneliness and sense of social defeat reported in clinical populations [38].

Increased help-seeking intentions in both groups reflects findings from general mental health interventions [39]. This likely reflects the inclusion of help-seeking information in both modules, indicating general wellbeing or mental health interventions may have broad applicability. The absence of group differences aligns with the finding from an evaluation of a school-based universal single-session intervention for unusual sensory experiences [27], which also normalised common PLE and emphasised their non-threatening nature. While this message may reduce the need to seek help, it underscores the complexity of designing universal interventions that simultaneously normalise PLE for non-clinical populations, and encourage help-seeking for distressing psychotic experiences among at-risk populations. Tailored recruitment strategies and modular interventions that address specific group needs may help in this regard. For example, development of an online platform for students to select their appropriate intervention, starting with information on PLE and

guidance for supporting oneself or peers, progressing to additional strategies and signposting for those with more disruptive psychotic experiences, and screening and a self-referral option for those possibly clinical at clinically high risk for psychosis. A digital early intervention platform steering students to the appropriate level of care is currently in development [40].

Implications and Future Research

This study demonstrates the effectiveness of a brief, single-session online module in improving knowledge, positive appraisals of PLE, and some negative appraisals of PLE for university students. Future developments should refine module content to address the negative appraisals (loss, shame, and entrapment), and help-seeking that remained unchanged in this study. It is likely that a brief, single-session psychoeducational approach is insufficient to alter deeply held stigma-related beliefs or self-conscious emotions such as shame. Follow-up research could refine the intervention by incorporating compassion-focused-therapy models (e.g. with guided self-compassion exercises), to potentially reduce the internalised shame by strengthening self-compassion. It is possible that the unchanged negative appraisals were less ameneable to change via the online-delivery, and may require an immersive, experiential component for participants to experience the often rich and intense feelings of loss or shame felt by some people with psychotic experiences. Some ways future interventions could do this is by using in-person workshops, immersive experiences via simulations such as virtual reality or using the arts, or co-production of AI-generated videos of people talking about their psychotic experiences.

Findings support the applicability of cognitive models of psychosis [9] for universal populations. The intervention could potentially contribute to university mental health initiatives, a critical area for development [41], particularly given students prefer to access support within their

university community rather than community services [42]. The brief and accessible online format could be appealing to universities as a cost-effective student support initiative. The intervention could also be adapted for other groups, such as sixth-form students, to provide tools for early recognition and intervention during transition to university or the workplace. Future developments could enhance module interactivity via animated videos and consider offering in-person delivery.

Future research should investigate both the mechanisms of change and contextual factors influencing intervention effectiveness. Mediation analyses could help clarify how changes occurred (e.g. via increased knowledge or increased positive appraisals), while moderation analyses might identify for whom the intervention is most effective - considering variables such as ethnicity, gender, prior PLE exposure, or previous engagement with mental health support.

Further investigation in future pilot studies of other psychological processes present in cognitive models of psychosis [9] is warrented, including examination of the role of covariates such as schemas, cognitive flexibility, emotional processes and worry.

Strengths and Limitations

Study strengths include the generalisability of findings, as participants were recruited from universities across the UK, and study and module co-development alongside experts-by-experience. Participants found the module highly engaging and impactful, particularly through hearing young people's voices via vignettes. These findings echo the growing recognition of meaningfully incorporating young people's perspectives to deepen understanding of the complexities of psychosis [43]. Kolb's Learning theory [44] also suggests connecting to the stories of people with lived

experience can be a meaningful way of reframing beliefs, and vignettes are an effective tool to facilitate this [45].

The self-selecting sample and recruitment via many psychology departments may have introduced bias in the study's participants. The proportion of participants reporting a mental health problem and identifying as female and white in our sample reflects UK university demographics [46, 47]. The sample broadly reflects UK Higher Education Student demographics for the 2022/23 academic year, with some deviations [47]. Women comprised 71% of participants, exceeding the national undergraduate average of 57%, while men comprised 24%, below the national average of 43%. Most participants were undergraduates (60%), full-time students (88%), and living away from home (66%), broadly consistent with national trends. The proportions of participants aged ≤20 (41%) and 21–30 (48%) were also similar to national figures (36% and 41%, respectively). Due to differences in age banding, meaningful comparison between participants aged 30–35 and national data for students aged 30 and over was not possible. Ethnically, 30% of participants identified as Asian or Asian British, 9% as Mixed or multiple ethnic groups, 3% as Black, Black British, Caribbean or African, and 3% as Other, compared to national figures of 13%, 5%, 8%, and 2%, respectively. White participants made up 56% of the sample, compared to 72% nationally. The overrepresentation of women and Asian students and underrepresentation of men and Black, Black British, Caribbean or African students may limit the generalisability of findings, especially as rates of help-seeking are lower for men and some ethnic minoritised groups [48]. As such, targeted investigation, active outreach and co-production with more diverse samples is warranted to increase the inclusivity and generalisability of the intervention. Using co-production to refine the module

content with under-represented groups could ensure that language, vignette examples and experiences resonate across diverse student audiences.

The lack of diversity in our participant sample reflects a common challenge in research studies, and limits the applicability of our findings, especially for males and ethnic minority groups, who are higher-risk groups for psychosis [48]. Future developments should involve co-designing interventions with these under-represented and vulnerable populations, and consider incorporating targeted elements on the online platform (mentioned above) to address their specific needs.

Consistent with the literature, we observed high attrition among students expressing initial interest in the study [49]. It is possible that social stigma towards the topic of psychosis may have been a barrier to engagement, which has been described as a factor influencing decisions to participate in this research area [43, 50]. Recruitment difficulties and high attrition rates prior to pre-intervention questionnaires highlight challenges in engaging university students. Narrative feedback also suggests the burden of lengthy questionnaires may have influenced attrition rates, and the need for more interactive module designs. Effective strategies often involve incentives, such as course credits, and study endorsement from university counselling services [42, 51]. Despite extensive stakeholder engagement efforts, access to such strategies was limited by institutional gatekeeping. Clinical Psychologists are well-positioned to advocate for increased funding and development in this often-stigmatised and under-prioritised area within higher education. They can play a pivotal role in influencing policy and commissioning through engagement with bodies such as the Department of Education, NHS England and higher education institutions. One potential avenue is collaboration with universities to integrate psychoeducation about PLE modules into the student curriculum – this could include mandatory components in freshers' induction, academic credits, or embedded within

counselling services to increase uptake. Additionally, there is scope to develop and pilot psychoeducation on PLE within teacher training, equipping university tutors with the knowledge and confidence to identify and refer students who may be at risk of developing psychosis.

The lack of follow-up data means that we do not know the longer-term impact of the module. Anonymity constraints and attrition rendered follow-up unfeasible. Future studies could incorporate credit-based incentives to encourage follow-up rates. Additionally, the study used adapted measures due to lack of validated measures for universal populations, and participant feedback indicated the need for clearer, more concise questionnaires.

Conclusions

This study provides initial evidence that a brief, single-session online universal intervention can improve university students' knowledge and positive appraisals of psychotic experiences. The impact on negative appraisals of psychosis is mixed. The module was highly acceptable by the students who completed it and included valuable input from experts-by-experience. Challenges remain in engaging universal populations with these interventions and encouraging help-seeking among those in need. Interactive modular interventions tailored for universal and at-risk groups, and embedded into existing university structures, are now needed to build on the promising benefits suggested in this study and to provide a valuable contribution to university wellbeing support.

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Abbreviations:

ARMS: At-risk mental state

FEP: First-episode psychosis

PLE: Psychotic-like experiences

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Executive Summary

Background

- Psychotic-like experiences are common in the general population. Not everyone who experiences them will go on to develop psychosis, but it can be a risk factor.
- How individuals make sense of these experiences is suggested to be important in the development of psychosis. For example, interpreting a voice as threatening or as symptomatic of an illness might be more distressing than understanding the experience as common and often transitory.
- These experiences carry high levels of stigma, which reduces the likelihood of individuals seeking help when they become disruptive.
- Transition to university is a high-risk period for psychosis development due to the many life changes (e.g., sleep disruption, drug use, move to university, increased demands and stress). Given peak onset of first episode psychosis is between ages 15-25 years, preventative interventions in this age group are necessary.
- Despite the importance of early recognition, most university wellbeing programmes provide little, if any, information on psychosis, leaving students unprepared to recognise or understand psychotic symptoms in themselves or their peers.
- This study aimed to develop a brief and evaluate a single-session online module designed to:
    1. Improve university students' knowledge of psychotic-like experiences
    2. Encourage less threatening and more positive interpretations of these experiences.
    3. Promote help-seeking intentions for those experiencing distress.

Method

- University students (aged 18-35) from across the UK were randomly assigned to one of two groups.
    - Intervention group: completed an online module on psychotic like experiences.
    - Control group: completed a general wellbeing module.
- Intervention Content:
    - Examples of common and less common psychotic and psychotic-like experiences, and how they fit on a continuum.
    - Spotting when these experiences become disruptive, in oneself and others.
    - Common risk factors, including a combination of stress, past experiences, and genetics.
    - Strategies for managing these experiences, offering low stigmatising interpretations.
    - Self-reflective exercises to help students apply the strategies to their own lives
    - Understanding when we might need professional support at different levels of distress and signposting to appropriate sources of help.
    - Audio of two students' stories where they responded to their psychotic-like experiences differently. One had disruptive experiences and sought the help of early intervention in psychosis services. The other self-managed with general wellness strategies.
- Students completed questionnaires before and after the module. We used statistical analysis to measure whether their knowledge, interpretations and help-seeking intentions changed after the module.
- We also asked for students' feedback on the module.

Key Findings

- 104 students completed the modules.
- The intervention improved students' knowledge, positive beliefs and some negative beliefs of psychotic-like experiences
- Students' likelihood of seeking professional support did not change. This highlights the challenges of universal interventions that both normalise these experiences (reducing the need to seek help in non-clinical populations), while also encouraging help-seeking (for distressing psychotic experiences among at-risk populations).
- For students who completed the module, feedback was positive. They appreciated the interactive content, real-life examples and accessible language.
- However, drop-out rates for students that showed initial interest in the module were high. This highlights difficulty in engaging students with this topic.

Discussion

- The intervention shows promise in improving students' knowledge, positive beliefs and some negative beliefs of psychotic-like experiences.
- A universal module may not suit everyone. Future developments could create a stepped-care approach, allowing students to choose interventions based on their needs – from general self-help information to more structured support for those at higher risk.
- The module needs to be improved to better target some negative beliefs encourage help-seeking among at-risk students.
- Enhancing interactivity (e.g. adding animations, quizzes) could improve engagement.
- Embedding the module into university wellbeing services and online platforms, may improve uptake and sustainability.

Connecting Narrative

I began my clinical training feeling relatively confident in my research abilities. I was excited at taking on more of an independent role throughout the research cycle, having previously had limited involvement in project conception. I aimed to develop projects aligned with my interests, shaped by personal connection to these topics and previous professional experience. The challenges were significant - grappling with the breadth and complexity of designing large intervention projects alongside eight clinical placements, extra systemic qualifications, and … life. Despite these demands, the process was deeply rewarding, and I have many learnings to take with me in my career.

SIP

The SIP emerged from pre-doctorate experiences, during which I co-delivered train-the-trainer programmes for Domestic Abuse Ambassadors at CNWL and WLT NHS Trusts. Upon entering my first placement, the Talking Therapies service identified a need for this training. This project quickly expanded when a second Talking Therapies service requested it to be a joint training event. The scope further broadened with requests for additional components: a staff focus group to identify training needs, and an audit to assess whether training translates to staff behaviour - elements often overlooked in training evaluations.

This project significantly propelled my leadership competencies and understanding of the role of a clinical psychologist across wider systems early on in training. I had opportunities to supervise three Assistant Psychologists in a research capacity, co-design and co-produce with experts-by-experience, facilitate focus groups and conduct audits for the first time, influence

protocols and routine assessments, collaborate with 3rd sector organisations and Trust leads, and deliver training in total to over 500 staff.

This project ignited my interest in commissioning and service development, areas I intend to pursue in qualified life. Following the success of this project, I was invited to deliver the training for Oxford Adult CMHT Crisis Team and collaborated with their service manager to create their domestic abuse response protocols. I have also been asked to share the training, protocols, and resources to implement Trust-wide by the Operational Lead for Domestic Abuse at Oxford Health.

In my conversations with clinical leads across teams, I learnt there is a lot we can learn from one another. There is value in sharing resources when processes are successful, rather than '*reinventing the wheel'* concurrently, which wastes time and resources. This realisation also deepened my understanding about challenges in implementing national guidelines (which ran central to the study design) to local practice, and ensuring consistency across teams within Trusts.

SRL

Struck by the clear need for development in healthcare response to domestic abuse from my SIP, I initially chose to focus my SRL on healthcare training on domestic abuse. However, after a recent review was published on this topic, I adapted my focus to align with one of its recommendations: staff qualitative experiences of training. Unfortunately, there were insufficient studies available for a meaningful review, prompting me to shift to another recommended area: system-wide healthcare interventions. In hindsight, I am pleased I did this, as my SIP findings closely aligned with the review's conclusions, reinforcing my interest in understanding what interventions are needed to influence staff behaviour.

I had not conducted a systematic review before. One of the main challenges I encountered was the poor quality of reporting in published papers. This raised reflections on the challenges of

conducting rigorous research in stretched practice-based healthcare settings, balanced with the need for research to be conducted and reported to a quality that ensures we do not lose progress in this important field.

Both my SRL and SIP were underpinned by contemporary theories of domestic abuse, recognising domestic abuse as a gendered issue, within a violence against women and girls framework. These theoretical frameworks were crucial in shaping the content of training (SIP) and the focus of the review (SRL), to ensure this is addressed and recognised in systemic responses within healthcare.

TDRP

The TDRP developed out of an interest in early intervention and wanting to disseminate psychological knowledge in an accessible and meaningful way. The project was initially intended to be a face-to-face workshop in Oxford University Colleges. However, after a year of engagement efforts with the colleges, intuitional gatekeeping resulted in the project needing to be adapted. We developed an online module accessible for any UK university student instead, with hopes this would facilitate recruitment. Unfortunately, despite extensive efforts, we were still met with institutional gatekeeping.

Project delays were difficult, and taught me the importance of stakeholder buy-in. Indeed, the low participation and high attrition rates were a stark contrast to the SIP, which had strong stakeholder collaboration. I discussed these issues with Anne Duffy and Kate Saunders, who conducted similar digital interventions for common mental health difficulties – notably they did not experience the same challenges due to their platforms being embedded in university curriculum. Additionally, working with a commonly stigmatised topic became evidence through university feedback – some institutions did not consider understanding psychosis relevant to their students.

Collaboration with Experts-By-Experience

Doing *with* rather than *to*, is an ethos central to my clinical work which I was keen to extend to my research. The portfolio was enriched and made all that more powerful by the involvement of experts-by-experience. Participants in both the SIP and TDRP highlighted the personal stories and co-design elements as some of the most powerful aspects of the work. This approach provided invaluable insights into how psychosis and domestic abuse are *really experienced*. Being able to hear their voices and stories via vignettes (TDRP), service-user video testimonies (SIP), and healthcare staff focus groups (SIP) was deeply rewarding. This experience reinforced my commitment to continuing meaningful co-production in my future research.

Conducting three large and ambitious projects made me engage with these subjects in ways I had not initially imagined. It has provided valuable lessons of the time needed to devote for research alongside clinical work in future. I am left feeling proud of the amount of people this research has touched, and the scientific and clinical value I hope it leaves on the clinical psychology field.

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This portfolio would not exist without the participants who selflessly devoted their time to these projects. I am also grateful to the experts-by-experience, who brought the research to life and left a powerful imprint on participants and myself. I hope this portfolio will go some way to having your voices heard.

To my closest friends. You lifted me through this doctorate. Your support, laughter and belief in me meant more than you'll ever know. Thank you for being the best cheerleaders. Jo and Eith - you filled up my cup when I needed it most, thank you.

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Systematic Review of the Literature: Appendices

Appendix A: Database Search Strategy

Database: APA PsycInfo <1806 to November 2024>

1 ((("Intimate Partner Violence" or IPV or "Domestic Abuse*" or "Domestic Violence" or "Battered Women" or "Battered Woman" or "Coercive Control" or "Spous* Abuse*" or "Partner Abuse" or "Wife Abuse" or "Sexual Abuse" or "Physical Abuse" or "Emotional Abuse" or Gaslight* or "Family Violence" or "Battered Female*" or "Psychological Abuse*" or "Verbal Abuse" or "Marital Rape" or "Reproductive coercion" or "Gender-Based Violence" or "Gender Violence" or "Gender Abuse" or "Relationship Violence" or "Gender-Based Violence" or GBV or "Sexual Violence" or "Dating Violence") adj5 ("System Level Intervention*" or "System-Level Intervention*" or "System Wide Support*" or "System-Wide Support*" or "Admin* Train*" or "Social Work Involve*" or "Institutional Polic*" or "Institutional Protocol*" or "Domestic Abuse Train*" or Train* or Teach* or Educat* or Program* or Course* or "Continuing Professional Development" or CPD or Intervent* or AVA or "Against Violence Abuse" or "Pathfinder Project*" or "Professional Development" or "On the Job Train*" or "On-The-Job-Train*" or "Continuing Education" or "Personnel Training" or "Occupational Train*" or "Workplace train*" or Curricul* or Workshop* or "Computer based" or "Computer-based" or "career development")).ab,id,mh,mf,sh,ti.

2 (intimate partner violence/ or domestic violence/ or sexual violence/ or battered females/ or emotional abuse/ or gender violence/ or physical abuse/ or sexual abuse/ or sexual coercion/) adj5 (professional development or inservice training or mental health inservice training).af. (workaround MeSH search)

3 1 or 2

4 ("Healthcare Response*" or "Mental Health Professional*" or "Healthcare Staff*" or Clinician*

or Professional* or Nurs* or "Social Work*" or Psychiatrist* or GP or "General Practitioner*" or "Healthcare Provider*" or "primary care" or "clinic based" or "clinic-based" or Physician* or Psychologist* or "Assistant Psychologist*" or "Psychological Wellbeing Practitioner" or PWP or "Allied Healthcare Practitioner*" or Staff or Doctor* or Midwi* or Dentist* or "Healthcare Worker*" or "allied health" or "occupational therapist*" or "psychiatric technician*" or "speech therapist*" or SALT or "Speech and language Therapist*" or Paramedic* or Therapist* or HCA or "Health Care Assistant*" or Medic* or Pharmac* or "Mental Health Wellbeing Practitioner*" or MHWP or Consultant*).ab,id,ti.

5 health care delivery/ or health care services/ or clinical practice/ or health care reform/ or health service needs/ or managed care/ or "quality of care"/ or "quality of services"/ or health care policy/ or mental health programs/ or mental health services/ or primary health care/ or treatment/ or treatment planning/ (MeSH searches ran as normal)

6 ((Health or Social or Healthcare or Medic* or Mental or Psyc*) adj5 (Worker* or Personnel* or Staff* or Team* or Professional* or Provider* or Practitioner* or Clinician*)).ab,id,mh,mf,sh,ti.

7 4 or 5 or 6

8 3 and 7

9 limit 8 to (peer reviewed journal and english language and yr="2012 - 2025")

Database: Ovid Medline <1946 to November 2024>

1 (("Intimate Partner Violence" or IPV or "Domestic Abuse*" or "Domestic Violence" or "Battered Women" or "Battered Woman" or "Coercive Control" or "Spous* Abuse*" or "Partner Abuse" or "Wife Abuse" or "Sexual Abuse" or "Physical Abuse" or "Emotional Abuse" or Gaslight* or "Family Violence" or "Battered Female*" or "Psychological Abuse*" or "Verbal Abuse" or "Marital

Rape" or "Reproductive coercion" or "Gender-Based Violence" or "Gender Violence" or "Gender Abuse" or "Relationship Violence" or "Gender-Based Violence" or GBV or "Sexual Violence" or "Dating Violence") adj5 ("System Level Intervention*" or "System-Level Intervention*" or "System Wide Support*" or "System-Wide Support*" or "Admin* Train*" or "Social Work Involve*" or "Institutional Polic*" or "Institutional Protocol*" or "Domestic Abuse Train*" or Train* or Teach* or Educat* or Program* or Course* or "Continuing Professional Development" or CPD or Intervent* or AVA or "Against Violence Abuse" or "Pathfinder Project*" or "Professional Development" or "On the Job Train*" or "On-The-Job-Train*" or "Continuing Education" or "Personnel Training" or "Occupational Train*" or "Workplace train*" or Curricul* or Workshop* or "Computer based" or "Computer-based" or "career development")).ab,hw,kf,kw,sh,ti.

2 (Battered Women/ or Spouse Abuse/ or Domestic Violence/ or Intimate Partner Violence/) adj5 (education, professional or inservice training or staff development).af. (workaround MeSH search)

3 1 or 2

4 ("Healthcare Response*" or "Mental Health Professional*" or "Healthcare Staff*" or Clinician* or Professional* or Nurs* or "Social Work*" or Psychiatrist* or GP or "General Practitioner*" or "Healthcare Provider*" or "primary care" or "clinic based" or "clinic-based" or Physician* or Psychologist* or "Assistant Psychologist*" or "Psychological Wellbeing Practitioner" or PWP or "Allied Healthcare Practitioner*" or Staff or Doctor* or Midwi* or Dentist* or "Healthcare Worker*" or "allied health" or "occupational therapist*" or "psychiatric technician*" or "speech therapist*" or SALT or "Speech and language Therapist*" or Paramedic* or Therapist* or HCA or "Health Care Assistant*" or Medic* or Pharmac* or "Mental Health Wellbeing Practitioner*" or MHWP or Consultant*).ab,kf,kw,ti.

5 “delivery of health care"/ or health care reform/ or managed care programs/ or physician engagement/ or practice patterns, nurses'/ or practice patterns, physicians'/ or professional practice gaps/ or patient care team/ or "quality of health care"/ or "health care quality, access, and evaluation"/ (MeSH searches ran as normal)

6 ((Health or Social or Healthcare or Medic* or Mental or Psyc*) adj5 (Worker* or Personnel* or Staff* or Team* or Professional* or Provider* or Practitioner* or Clinician*)).ab,hw,kf,kw,sh,ti.

7 4 or 5 or 6

8 3 and 7

9 limit 8 to (english language and yr="2012 - 2025")

NB. Medline does not have the option to limit to peer-reviewed publications

Database: Embase (Ovid) <1973 to November 2024>

1 (("Intimate Partner Violence" or IPV or "Domestic Abuse*" or "Domestic Violence" or "Battered Women" or "Battered Woman" or "Coercive Control" or "Spous* Abuse*" or "Partner Abuse" or "Wife Abuse" or "Sexual Abuse" or "Physical Abuse" or "Emotional Abuse" or Gaslight* or "Family Violence" or "Battered Female*" or "Psychological Abuse*" or "Verbal Abuse" or "Marital Rape" or "Reproductive coercion" or "Gender-Based Violence" or "Gender Violence" or "Gender Abuse" or "Relationship Violence" or "Gender-Based Violence" or GBV or "Sexual Violence" or "Dating Violence") adj5 ("System Level Intervention*" or "System-Level Intervention*" or "System Wide Support*" or "System-Wide Support*" or "Admin* Train*" or "Social Work Involve*" or "Institutional Polic*" or "Institutional Protocol*" or "Domestic Abuse Train*" or Train* or Teach* or Educat* or Program* or Course* or "Continuing Professional Development" or CPD or Intervent* or AVA or "Against Violence Abuse" or "Pathfinder Project*" or "Professional

Development" or "On the Job Train*" or "On-The-Job-Train*" or "Continuing Education" or "Personnel Training" or "Occupational Train*" or "Workplace train*" or Curricul* or Workshop* or "Computer based" or "Computer-based" or "career development")).ab,hw,kf,kw,sh,ti.

2 (*education/ or *continuing education/ or *education program/ or *in service training/ or *interprofessional education/ or *medical education/ or *"outcome of education"/ or *vocational education/) adj5 (partner violence or domestic violence or marital rape).af) (workaround MeSH search)

3 1 or 2

4 ("Healthcare Response*" or "Mental Health Professional*" or "Healthcare Staff*" or Clinician* or Professional* or Nurs* or "Social Work*" or Psychiatrist* or GP or "General Practitioner*" or "Healthcare Provider*" or "primary care" or "clinic based" or "clinic-based" or Physician* or Psychologist* or "Assistant Psychologist*" or "Psychological Wellbeing Practitioner" or PWP or "Allied Healthcare Practitioner*" or Staff or Doctor* or Midwi* or Dentist* or "Healthcare Worker*" or "allied health" or "occupational therapist*" or "psychiatric technician*" or "speech therapist*" or SALT or "Speech and language Therapist*" or Paramedic* or Therapist* or HCA or "Health Care Assistant*" or Medic* or Pharmac* or "Mental Health Wellbeing Practitioner*" or MHWP or Consultant*).ab,kf,kw,ti.

5 health care delivery/ or community care/ or learning health system/ or practice gap/ or primary health care/ or secondary health care / (MeSH searches ran as normal)

6 ((Health or Social or Healthcare or Medic* or Mental or Psyc*) adj5 (Worker* or Personnel* or Staff* or Team* or Professional* or Provider* or Practitioner* or Clinician*)).ab,hw,kf,kw,sh,ti.

7 4 or 5 or 6

8 3 and 7

9 limit 8 to (english language and yr="2012 - 2025" and Embase (1693) (limiting to Embase removes conference abstracts, non-peer reviewed publications, and records from Medline)

Database: CINAHL <1983 to November 2024>

1 "Intimate Partner Violence" or IPV or "Domestic Abuse*" or "Domestic Violence" or "Battered Women" or "Battered Woman" or "Coercive Control" or "Spous* Abuse*" or "Partner Abuse" or "Wife Abuse" or "Sexual Abuse" or "Physical Abuse" or "Emotional Abuse" or Gaslight* or "Family Violence" or "Battered Female*" or "Psychological Abuse*" or "Verbal Abuse" or "Marital Rape" or "Reproductive coercion" or "Gender-Based Violence" or "Gender Violence" or "Gender Abuse" or "Relationship Violence" or "Gender-Based Violence" or GBV or "Sexual Violence" or "Dating Violence") N5 ("System Level Intervention*" or "System-Level Intervention*" or "System Wide Support*" or "System-Wide Support*" or "Admin* Train*" or "Social Work Involve*" or "Institutional Polic*" or "Institutional Protocol*" or "Domestic Abuse Train*" or Train* or Teach* or Educat* or Program* or Course* or "Continuing Professional Development" or CPD or Intervent* or AVA or "Against Violence Abuse" or "Pathfinder Project*" or "Professional Development" or "On the Job Train*" or "On-The-Job-Train*" or "Continuing Education" or "Personnel Training" or "Occupational Train*" or "Workplace train*" or Curricul* or Workshop* or "Computer based" or "Computer-based" or "career development". Ti,ab,mw

2 (MH "Intimate Partner Violence") OR (MH "Gender-Based Violence") OR (MH "Domestic Violence") N5 (MH "Professional Development") OR (MH "Association for Nursing Professional Development") OR (MH "Program Development"). Ti,ab,mw (workaround MeSH search)

3 1 or 2

4 ("Healthcare Response*" or "Mental Health Professional*" or "Healthcare Staff*" or Clinician* or Professional* or Nurs* or "Social Work*" or Psychiatrist* or GP or "General Practitioner*" or

"Healthcare Provider*" or "primary care" or "clinic based" or "clinic-based" or Physician* or Psychologist* or "Assistant Psychologist*" or "Psychological Wellbeing Practitioner" or PWP or "Allied Healthcare Practitioner*" or Staff or Doctor* or Midwi* or Dentist* or "Healthcare Worker*" or "allied health" or "occupational therapist*" or "psychiatric technician*" or "speech therapist*" or SALT or "Speech and language Therapist*" or Paramedic* or Therapist* or HCA or "Health Care Assistant*" or Medic* or Pharmac* or "Mental Health Wellbeing Practitioner*" or MHWP or Consultant*). Ti,ab,mw

5 (MH "Health Care Delivery") OR (MH "Physician Engagement") OR (MH "Health Care Reform") OR (MH "Primary Health Care") OR (MH "Secondary Health Care") OR (MH "Outcomes (Health Care)") OR (MH "Practice Guidelines") OR (MH "Professional Compliance") OR (MH "Quality of Nursing Care") OR (MM "Quality of Health Care"). (MeSH searches ran as normal)

6 ((Health or Social or Healthcare or Medic* or Mental or Psyc*) N5 (Worker* or Personnel* or Staff* or Team* or Professional* or Provider* or Practitioner* or Clinician*)). Ti,ab,mw

7 4 or 5 or 6

8 3 and 7

9 limit 8 to (english language and yr="2012 - 2025", peer-reviewed)

Appendix B: Journal of Trauma, Violence, and Abuse - Author Guidelines

Full author guidelines can be found here: https://journals.sagepub.com/author-instructions/tva

Title

Your manuscript's title should be concise, descriptive, unambiguous, accurate, and reflect the precise contents of the manuscript. A descriptive title that includes the topic of the manuscript makes an article more findable in the major indexing services.

Abstract

Please include an unstructured abstract of no more than 250 words between the title and main body of your manuscript that concisely states the purpose of the research, major findings, and conclusions. If your research includes clinical trials, the trial registry name and URL, and registration number must be included at the end of the abstract. Submissions that do not meet this requirement will not be considered.

Keywords

Please include a minimum of 4 keywords, listed after the abstract. Keywords should be as specific as possible to the research topic.

Title page

To ensure fair and anonymous peer review, your manuscript must be fully anonymized. Please ensure any identifying information is removed from the main manuscript document and included on the Title Page instead. Do not include any author names in the manuscript file name and remove names from headers and footers. This version of the manuscript **will** be sent to the peer reviewers. The Title Page **will not** be sent to peer reviewers. See the Sage Journal Author Gateway for detailed guidance on making an anonymous submission.

The Title Page should include:

- Article title
- The full list of authors including names and affiliations of each

    - **The listed affiliation should be the institution where the research was conducted**. If an author has moved to a new institution since completing the research, the new affiliation can be included in a note at the end of the manuscript – please indicate this on the title page.
    - **All persons eligible for authorship must be included at the time of submission (please see the authorship section for more information)**.
- Contact information for the corresponding author: name, institutional address, phone, email
- Acknowledgments section
- Declaration of conflicting interest
- Funding statement
- Ethical approval and informed consent statements
- Data availability statement
- Any other identifying information related to the authors and/or their institutions, funders, approval committees, etc, that might compromise anonymity.

Acknowledgments

If you are including an Acknowledgements section, this will be published at the end of your article. The Acknowledgments section should include all contributors who do not meet the criteria for authorship. Per ICMJE recommendations, it is best practice to obtain consent from non-author contributors who you are acknowledging in your manuscript.

Writing assistance and third party submissions: if you have received any writing or editing assistance from a third-party, for example a specialist communications company, this must be clearly stated in the Acknowledgements section and in the covering letter. Please see the Sage Author Gateway for what information to include in your Acknowledgements section. If your submission is being made on your behalf by someone who is not listed as an author, for example the third-party who provided writing/editing assistance, you must state this in the Acknowledgements and also in your covering letter. **Please note that the journal editor reserves the right to not consider submissions made by a third party rather than by the author/s themselves.**

Statements and declarations

To ensure proper anonymization, please include a section with the heading ‘Statements and Declarations’ on your title page, after the Acknowledgements section [and Author Contributions section if applicable] including each of the sub-headings listed below. If a declaration is not applicable to your submission, you must still include the heading and state ‘Not applicable’ underneath. Please note that you may be asked to justify why a declaration was not applicable to your submission by the Editorial Office. This information will be added to the end of your published paper.

Ethical considerations

Please include your ethics approval statements under this heading, even if you have already included ethics approval information in your methods section. If ethical approval was not required, you need to explicitly state this. You can find information on what to say in your ethical statements as well as example statements on our Publication ethics and research integrity policies page.

All papers reporting studies involving human participants, human data or human tissue must state that the relevant Ethics Committee or Institutional Review Board approved the study, or waived the requirement for approval, providing the full name and institution of the review committee in addition to the approval number. If applicable, please also include this information in the Methods section of your manuscript.

Consent to participate

Please include any participant consent information under this heading and state whether informed consent to participate was written or verbal. If the requirement for informed consent to participate has been waived by the relevant Ethics Committee or Institutional Review Board (i.e. where it has been deemed that consent would be impossible or impracticable to obtain), please state this. If this is not applicable to your manuscript, please state ‘Not applicable’ in this section. More information and example statements can be found on our Publication ethics and research integrity policies page.

Consent for publication

Submissions containing any data from an individual person (including individual details, images or videos) must include a statement confirming that informed consent for publication was provided by the participant(s) or a legally authorized representative. Non-essential identifying details should be omitted. Please do not submit the participant's actual written informed consent with your article, as this in itself breaches the patient's confidentiality. The Journal requests that you confirm to us, in writing, that you have obtained written informed consent to publish but the written consent itself should be held by the authors/investigators themselves, for example in a patient's hospital record. The confirmatory letter may be uploaded with your submission as a separate file in addition to the statement confirming that consent to publish was obtained within the manuscript text. If this is not applicable to your manuscript, please state 'Not applicable' in this section.

Declaration of conflicting interest

The journal requires a declaration of conflicting interests from all authors so that a statement can be included in your article. For guidance on conflict of interest statements, see our policy on conflicting interest declarations and the ICMJE recommendations.

If no conflict exists, your statement should read: 'The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article'.

Funding statement

All articles need to include a funding statement, under a separate heading, **even if you did not receive funding**. You'll find guidance and examples on our Funding page.

Data availability

The Journal is committed to facilitating openness, transparency and reproducibility of research, and has the following research data sharing policy. For more information, including FAQs please visit the Sage Research Data policy pages.

Subject to appropriate ethical and legal considerations, authors are encouraged to:

- Share your research data in a relevant public data repository

- Include a data availability statement linking to your data. If it is not possible to share your data, use the statement to confirm why it cannot be shared.
- Cite this data in your research

Reference style and citations

The journal follows the APA reference style. View the APA guidelines to ensure your manuscript conforms.

Every in-text citation must have a corresponding citation in the reference list and vice versa. Corresponding citations must have identical spelling and year.

Authors should update any references to preprints when a peer reviewed version is made available, to cite the published research. Citations to preprints are otherwise discouraged.

Service Improvement Project: Appendices

Appendix C: NICE Domestic Violence and Abuse Quality Standards (16)

Statement 1: **People presenting to frontline staff with indicators of possible domestic violence or abuse are asked about their experiences in a private discussion.**

Health and social care practitioners recognise indicators of possible domestic violence and abuse and respond appropriately. They make sensitive enquiries of people presenting with indicators of domestic violence or abuse about experiences as part of a private discussion and in an environment in which the person feels safe.

Statement 2: People experiencing domestic violence and abuse receive a response from level 1 or 2 trained staff.

Health and social care practitioners are trained to provide a level 1 or 2 response to disclosures of domestic violence or abuse. They should ask about domestic violence in a way that facilitates disclosures, in a private discussion, in a sensitive manner and in an environment in which the person feels safe. They should respond sensitively to disclosures in a way that ensures the person's safety; they should offer referral to specialist services. They should document discussions, agreed actions and outcomes.

Level 1: Staff should be trained to respond to a disclosure of domestic violence and abuse sensitively and in a way that ensures people's safety. They should also be able to direct people to specialist services.

Level 2: Staff should be trained to ask about domestic violence and abuse in a way that makes it easier for people to disclose it. This involves an understanding of the epidemiology of domestic

violence and abuse, how it affects people's lives and the role of professionals in intervening safely. Staff should also be able to respond with empathy and understanding, assess someone's immediate safety and offer referral to specialist services.)

Statement 3: People experiencing domestic violence or abuse are offered referral to specialist support services.

Health and social care practitioners are aware of local referral pathways for domestic violence and abuse and offer referrals to specialist support services to people who need them.

Statement 4: People who disclose that they are perpetrating domestic violence or abuse are offered referral to specialist services.

Health and social care practitioners are aware of local referral pathways and offer people perpetrating domestic violence or abuse referrals to specialist services.

Appendix D: Pre-and Post-Training Staff Self-Report Likert Scales

Please rate the following:

	No knowledge 1	2	3	4	5	6	7	8	9	Comprehensive knowledge 10
Your overall level of **knowledge about domestic violence and abuse** (DVA)	○	○	○	○	○	○	○	○	○	○

	No knowledge 1	2	3	4	5	6	7	8	9	Comprehensive knowledge 10
Your overall level of **knowledge about the health consequences** associated with DVA	○	○	○	○	○	○	○	○	○	○

	No understanding 1	2	3	4	5	6	7	8	9	Comprehensive understanding 10
Your overall level of **understanding of how to ask patients** about DVA	○	○	○	○	○	○	○	○	○	○

	Not at all aware 1	2	3	4	5	6	7	8	9	Extremely aware 10
Your level of **awareness of the link between DVA & Child Protection**	○	○	○	○	○	○	○	○	○	○

	Not at all confident 1	2	3	4	5	6	7	8	9	Extremely confident 10
How confident you feel to deal with and **respond appropriately to a disclosure** of DVA	○	○	○	○	○	○	○	○	○	○

	Not able at all 1	2	3	4	5	6	7	8	9	Extremely able 10
How able you feel to **assess someone's level of immediate risk** in relation to DVA	○	○	○	○	○	○	○	○	○	○

	No knowledge 1	2	3	4	5	6	7	8	9	Comprehensive knowledge 10
Your overall level of knowledge of **how to safely record a disclosure** of DVA	○	○	○	○	○	○	○	○	○	○

	No knowledge 1	2	3	4	5	6	7	8	9	Comprehensive knowledge 10
Your knowledge of **where to refer** patients experiencing DVA	○	○	○	○	○	○	○	○	○	○

	Not at all aware 1	2	3	4	5	6	7	8	9	Extremely aware 10
Your level of **awareness of care pathways** for patients experiencing DVA	○	○	○	○	○	○	○	○	○	○

Post Training-Only Staff Self-Report VAS and Free Text Feedback

Please answer the following questions by marking your answer on the line from 0 (not at all) to 10 (very much)

How much did you find this training **helpful**?

NOT AT ALL 0 1 2 3 4 5 6 7 8 9 10 VERY MUCH



How much will you **apply the knowledge that you have learnt** today?

NOT AT ALL 0 1 2 3 4 5 6 7 8 9 10 VERY MUCH



How much did you find this training **supports your clinical work**?

NOT AT ALL 0 1 2 3 4 5 6 7 8 9 10 VERY MUCH



How much did you think the training was **delivered in a way that was understandable**?

NOT AT ALL 0 1 2 3 4 5 6 7 8 9 10 VERY MUCH



How much did you find this training **relevant to your work**?

NOT AT ALL 0 1 2 3 4 5 6 7 8 9 10 VERY MUCH



Please provide any further comments about the training (e.g. *what did you like? What did you dislike? What could be improved?*)

Appendix E: Audit Checklist Guide

NICE statement	Audit Question
Demographics/family factors	**Gender** Male (including trans man) Female (including trans woman) Non-binary Other Unknown
	Relationship status Single In a relationship Married/Civil Partner Divorced/Dissolved Civil Partnership Widowed/Surviving Civil Partnership Separated Unknown
	Does the service user have (young) children? Yes No Unknown
People presenting to frontline staff with indicators of possible domestic violence or abuse are asked about their experiences in a private discussion. Routine enquiry of DA is recommended by the Department of Health.	**Is there evidence of disclosure or indicators of domestic abuse?** Overt disclosure = service user verbally reports DA Covert disclosure = evidence of subtle indicators e.g. risk factors or patterns of coercive/controlling behaviour. Evidence of **one or more** risk indicators present: **Pregnancy** - Is the victim pregnant or has recently given birth in the last 18 months? - Has the perpetrator ever been violent whilst the victim was pregnant? **Stalking/harassment** - Constant calling, texting, following them or on social media? **Separation** - Is the victim planning to leave the relationship or has recently left? - Are there any issues or conflict over child contact? - Are there any court orders relating to the perpetrator that have been breached? **Sexual abuse** - Has the perpetrator said or done things of a sexual nature which hurt the victim or made them feel bad? - Has the perpetrator ever committed or threatened to commit a sexual offence against the victim or anyone else? **Escalation of abuse** - Has the level and frequency of the abuse escalated? - Has the perpetrator caused injuries to the victim previously? - Has the perpetrator used or have access to weapons? - Has the perpetrator ever tried to strangle or smother the victim? - Has the perpetrator threatened or controlled the victim? **Victim isolation** - Does the victim face barriers in accessing help for example, language or isolation? - Does the victim live in an isolated rural area or are they isolated from family and friends?
	How many indicators are present? (0-6)
	Is there evidence that the practitioner has asked the service user about risk from others?
	Is there evidence that the practitioner has asked the service user about domestic abuse?

People experiencing domestic violence and abuse receive a response from level 1 or 2 trained staff. (NHS TTAD are level 2)	**If service user has disclosed, is there evidence that an appropriate* risk assessment was carried out?** *Appropriate = assessing risk from others to self/children
	Is there evidence of discussion in supervision and/or safeguarding?
	Has the SafeLives DASH risk assessment been used? (Recommended by Department of Health)
People experiencing or perpetrating domestic violence or abuse are offered referral to specialist support services.	**Is there evidence that a specialist referral has been offered?***
What is being done?	**If a specialist referral has not been offered, is there evidence of the practitioner completing the following?** Tick one or more Safety plan Signposted to local DA services* Took to duty/safeguarding Discussed with DA Champion Other _____

*e.g. Women's Aid, Freedom Programme, IDVA, MARAC, Reducing the Risk, Safe Lives UK, National DA helpline, Respect, Forced Marriage Unit.

Appendix F: Focus Group Semi-Structured Interview Questions

Improving Enquiry and Response to Disclosures of Domestic Abuse in NHS TTAD Services

Consultation & Feedback from NHS TTAD staff on training needs to inform Domestic Abuse training

Discussion Guide

29th June 2022

(1/2 hour)

Introduction (2 minutes)

MODERATOR: "Thank you very much for agreeing to speak with me today. My name is Natalie Steer and I'm a Trainee Clinical Psychologist.

I'm sure you're aware this focus group will be on the topic of Domestic Abuse, but if you feel at any point you need to step out then please feel free to take yourself off camera or leave the meeting and I will be available after if you need to contact me.

I've planned to speak to members of the various teams at NHS TTAD to try to understand what some of the acknowledged training needs are to enquiry and response to Domestic Abuse to inform the upcoming Domestic Abuse Training content. It

We're going to be talking for about ½ an hour and I'm seeking your thoughts about what the barriers are and what you think might help them to be overcome.

Do I have your consent to record the session? I will be recording the session so that I can go back over the tape and remind myself of what we talked about as I won't be able to remember everything. The only people who will hear this tape will be me (Natalie Steer). When I am not reviewing it, it will be stored in a secured location and the tape will be destroyed by me once the data has been analysed.

Let me also reassure you, that when I write my report, I never identify specific people as having made specific comments – so I would never say "Sally thought the management should be sacked!" – this would be reported anonymously – so without using Sally's name such as: "We need to change the management!".

I am doing this project to aim to help make things better for the teams and service users here and it is also part of my training as a Clinical Psychologist.

I just want to say finally that there are no right or wrong answers to anything I'm going to ask you and there are no trick questions and if you think I'm asking a silly question, just tell me and if you feel uncomfortable answering something that's fine too, just let me know and we can move on.

Section 1: Current gaps in skills and knowledge working with domestic abuse (10 minutes)

Objective: ***To gain an understanding of interviewees current difficulties and training needs in domestic abuse***

MODERATOR: "What areas of working with domestic abuse do you find difficult or less confident with?"

"What difficulties, if any, have you had that is a barrier during your assessments/therapy to enquire about DA?"

"What difficulties, if any, have you had that is a barrier during your assessments/therapy to respond to disclosures of DA?"

"What recent training, if any, have you had on domestic abuse in your service/trust?"

"Research has shown some professionals' barriers to enquiry of domestic Abuse are a lack of confidence and personal discomfort in approaching the subject – what do you think this is due to?"

Section 2: Training content (10 mins)

Objective: ***To gain an understanding of what interviewees hope to be covered in training***

MODERATOR: "What do you think would help you feel more confident with working with these kinds of issues?"
"Is there anything that you would hope that would be covered in the training?"
"What might improve staff confidence and knowledge of working with domestic abuse?"

Section 3: Consultation & Feedback on Staff Survey (10 mins)

Objective: ***To gain feedback on whether the staff survey questions make sense, are understandable, are relevant to staff, and if there is anything unclear/missing.***

MODERATOR: Share screen of document ‘Pre and Post staff training survey. These questions will be sent to staff to complete immediately before and after the training to measure how effective the training is. “Do these questions measuring knowledge, skills and acceptability of the training make sense?”

“Are the questions understandable?”

“Are the questions relevant to NHS TTAD staff?”

“If not, why not?”

“Is there anything unclear/missing or helpful to add?”

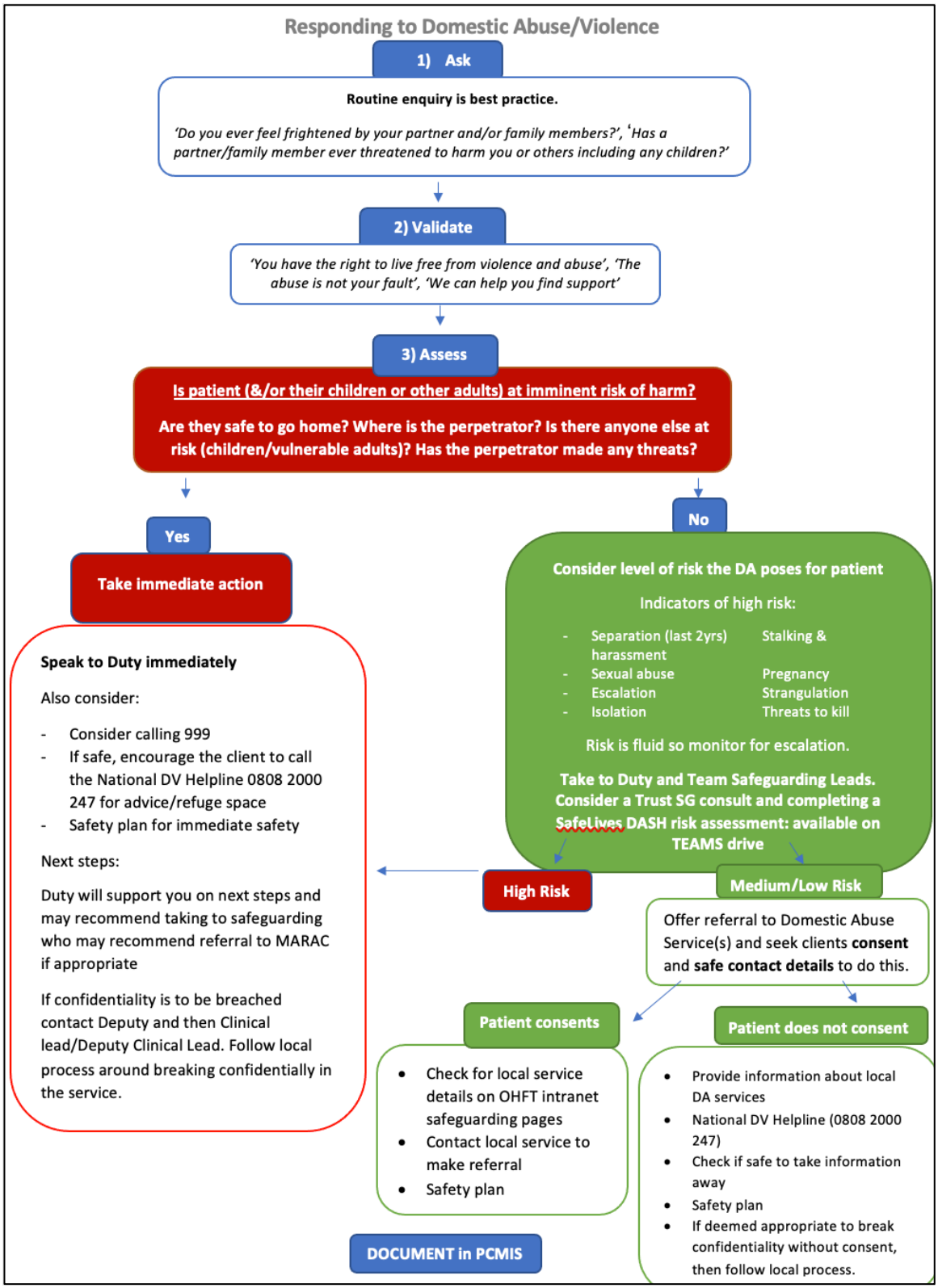
Close:

MODERATOR: “That has all been really helpful. We have a bit of time now before we finish, is there anything else you would like to say about the things we have been talking about today?”

Try to ensure that any attendees that have not contributed much during the session have a chance to feedback.

THANK AND CLOSE

Appendix G: Service Flowchart Process for Enquiry And Response To DA



Appendix H: BJPsych Open – Guidence for Authors

Full author guidelines can be found here: https://www.cambridge.org/core/journals/bjpsych-open/information/author-instructions

- The word count should be between 3000 and 5000 words in length (excluding references, tables and figure legends) and may include up to 40 essential references beyond those describing statistical procedures, psychometric instruments and diagnostic guidelines used in the study.
- Structured abstract of up to 250 words with the headings: **Background; Aims; Method; Results; Conclusions (Trial Registration Number** and **Data Set Information** where appropriate). Please find further guidance on writing an effective abstract here.
    - Quantitative studies: abstracts should provide effect sizes with confidence intervals (not *P*-values alone).
    - Conclusions, in isolation, are likely to be used by others citing or promoting the work and must therefore be an accurate reflection of the study's main findings.
- **Tables and Figures** - there is no limit for tables and figures unless the number becomes cumbersome and detracts from the paper. We recommend that large tables and figures (exceeding one journal page) should be included as supplementary material.
    - **Tables** - Tables should be numbered (e.g. Table 1, Table 2…) and referenced in the text of the manuscript. Authors must indicate the desired position of the table in the manuscript. Authors must obtain permission from the original publisher if they intend to use tables from other sources, and due acknowledgement should be made in a footnote to the table as follows: *Permission to replicate this table has been given to the authors by XXX.* Please ensure that tables are a reasonable size. Tables over two typeset pages (around 1,400 words) will be moved to supplementary material.
    - **Figures** - Figures should be numbered (e.g. Fig 1, Fig 2, Fig 3…) and referenced in the text of the manuscript. Authors must indicate the desired position of the figure in the manuscript. Please consult the journal artwork guide for a detailed specification on accepted file formats. Authors must obtain permission from the original publisher if they intend to use figures from other sources, and due acknowledgement should be made in the legend as follows: *Permission to replicate this figure has been given to the authors by XXX.*

- **Supplementary Material** – Material related to a paper but not essential to a general understanding of the paper will be published as an online data supplement. Supplementary material is peer reviewed but will not be copyedited or typeset and should be supplied as authors wish to appear online. Supplementary material should be uploaded as a separate file and referenced in the manuscript.

- **Main Text** - The main text should include the following sections: **Introduction, Method, Results and Discussion.**
  - Introductions should normally be no more than one paragraph. Longer introductions may be permissible but should be split with subheadings if they exceed two paragraphs.
  - Discussion section should always include limitations of the paper to ensure balance, use of subheadings is encouraged in this section.
  - A Conclusions section is not required in the main text.
- **References** – References should be numbered in the order that they appear in the text and listed at the end of the manuscript using the Vancouver style. Unpublished doctoral theses may be cited but no other citation of unpublished work, including unpublished conference presentations, is permissible. Authors are responsible for checking all references for accuracy and relevance before submission. Read our guide to Vancouver referencing here.

Theory Driven Research Project: Appendices

Appendix I: Recruitment Strategy

We considered guidelines and ethical considerations regarding the use of social media throughout our recruitment and abided by the respective platforms' terms of use (Gelinas et al., 2018).

In terms of passive recruitment, we developed social media accounts and pages on Facebook and Instagram with weekly updates of recruitment posters and reels to increase engagement. Posters rotated with images representing individuals from a range of ethnic backgrounds and genders to encourage diverse applicants. Paid advertisement was utilised from April – November 2024 across the platforms, targeting our population inclusion criteria (e.g. across the UK). Twitter and LinkedIn platforms were also used to share the study. Physical posters were put up on every Oxford University College wellbeing space and communal board notices, and some library spaces.

In terms of active recruitment, we reached out to a range of people, requesting to share the study on their social media forums, at the end of their lectures, distributing via email distribution lists, putting up posters in their communal areas, or offering as course credit. We contacted: heads of university departments (e.g. law, psychology, medicine, sociology, business), lecturers, counselling and student support services, welfare leads, the student unions and their representatives (presidents, communications officers, welfare officers), psychology society representatives, peer support services, and student engagement officers (Bath, Hertfordshire, KCL). Junior deans and welfare officers of every Oxbridge college were contacted (70+). Two schools in Leeds and Oxfordshire were contacted to share with their outgoing student freshers. Other organisations were contacted such as Student Minds.

Due to anonymous participation, we cannot evaluate which recruitment strategy was most successful, however we can infer from patterns of enrolment and feedback from people we contacted (e.g. if they shared with their students). A targeted approach appeared more successful i.e. contacting lecturers/departments, rather than student unions and counselling services. Some universities advertised the study on their online virtual learning environment portals, psychology pages, weekly bulletins, social media forums, posters in communal areas, and via announcements in lectures. One university offered the study module as research credit. Institutions and organisations that agreed to share the study below (not all listed):

- Bangor University: School of Psychology & Sport Science.
- University of Westminster: Law Society shared the study with the head of student wellbeing, who distributed it via email.
- University of Cambridge:
    - Department of Psychiatry.
    - Psychology undergraduate weekly bulletin.
- University of Manchester: BSc Programme Director and the wellbeing team.
- Birmingham City University.
- Oxford University:
    - Medics Welfare Lead.
    - Psychology Society.
    - Counselling Service (poster displayed in the waiting room).
    - HoDQuarters - Psychology News weekly departmental newsletter.
    - Several colleges, including Balliol, St Hilda's, Exeter, and LMH.
    - St Cross College Bulletin.

- Oxford Brookes University.
- Salford University: Programme Leader for BSc (Hons) Psychology and Criminology promoted the study on their programme's Blackboard platform.
- Queen Mary University London: Programme directors of psychology programmes.
- University of Sheffield.
- University of Bath.
- Cardiff Metropolitan University.
- University of Reading.
- King's College London.
- University of Bristol.
- De Montfort University.
- Royal Holloway University.
- Aston University.
- University of Liverpool: Lead of MSc in Investigative and Forensic Psychology.
- University of Worcester: Library services.
- UMHAN (University Mental Health Advisors Network): Shared the study on their forum and encouraged members (teachers, academics, mental health advisors, and mentors) to promote it within their universities.
- University of Edinburgh: Cognitive Psychology Summer School offered the study module as part of research credit.

The Study was Promoted on Various Volunteer Platforms:

- The Oxford University Department of Psychiatry webpage.
- The Oxford University MedSci Volunteers Communications webpage.
- MQ's Participate platform.
- The Oxford Brookes University 'Research Activity Google Group' (after receiving ethical approval from Oxford Brookes University).

Reasons for Institutions Declining Advertisement:

We found access to stakeholder support was limited by institutional gatekeeping. We did not receive a response for most contacts. Many counselling services have blanket policies against advertising research studies due to the high volume of requests from students. Typically, newsletters and communications teams refrain from promoting studies unless explicitly endorsed by student welfare and support services, and the counselling teams we contacted did not support this. One university redirected our request to their student peer mentor coordinator for feedback who shared "*the course was too specific and not relevant to our needs*". Additionally, some universities indicated that a formal screening process is required before sharing studies and referred us to their communications teams, but we did not receive a response.

Appendix J: Examples of Intervention Module (left) and Control Module (right) Content

This resource is designed to help you identify psychotic experiences that you might notice in yourself or in those close to you.

Throughout this module you will hear fictional stories from two people, **Zain** and **Lucy**. Their stories describe common psychotic experiences of students at university.



By the end of the module, we will have covered information on:
- Section 1: Psychotic experiences
- Section 2: What can cause these experiences, what can make them worse and what can help
- Section 3: When and where to seek help if needed

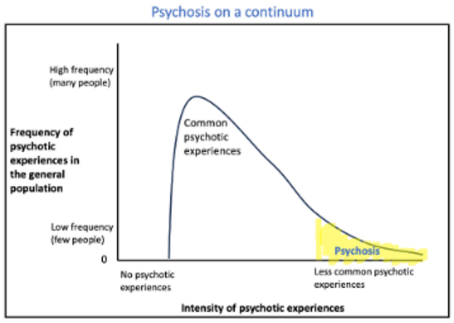
This module is based on some simple and proven actions that we can do in our daily lives to improve mental wellbeing in ourselves or those close to us.



Throughout this module you will hear fictional stories from two people, **Zain** and **Lucy**. Their stories describe common experiences of students at university. There will be reflective exercises to engage with if you wish to.

By the end of the module, we will have discussed:
- Section 1: What can negatively impact our wellbeing?
- Section 2: What can help?
  - Connect
  - Be Active
  - Take Notice
- Section 3: When and where to seek help if needed

These experiences lie on a continuum



You can see the continuum moving from experiences that are common in the general population (e.g. hearing your name being called when no one is around), to less common experiences (e.g. feeling worried others are deliberately out to get you) that make life more challenging.

When we think of physical health, most people in the general population fall within the healthy range of blood sugar levels, but for some in can increase until it reaches a threshold where they would be diagnosed with diabetes.

Similarly, there is a threshold for psychosis diagnosis in clinical practice, related to the experiences and their intensity, frequency and disruption to daily life.

Student life and wellbeing

- Being a student can bring a range of experiences, and leave us with a mixture of positive and negative feelings
- For many students, starting university will mean living away from home for the first time. You may come across situations which are new to you, and you may experience stress.
- From micro-stressors to major life events, stress is part of our daily lives.
- Stress can be helpful sometimes, allowing us to perform under pressure.
- However, stress can be damaging when we it feels too intense for too long, or when we cope with it in unhealthy ways, which impacts our health and relationships.
- To help us think more about what 'too much stress' looks like, we can think of our wellbeing as a stress bucket.



The Stress Bucket



When your bucket is close to overflowing, little things – like being late for a lecture, or someone making an upsetting comment - can be enough for it to spill over.

An overflowing bucket looks different for different people. Some of us get flu, some experience pain, some have changes in mood and psychotic experiences.

You might have some of the experiences described earlier in the module, such as unusual perceptions /strong beliefs, confused communication, anxiety, low mood, or numbness, or become more distant from others.

The Stress Bucket



When your bucket is close to overflowing, little things – like being late for a lecture, or someone making an upsetting comment - can be enough for it to spill over.

An overflowing bucket looks different for different people. Some of us get flu, some experience pain, some have changes in mood.

Take a moment to consider what is filling up your stress bucket currently.

Now we're going to hear from Zain and Lucy about some of their challenges



Zain moved from Pakistan to the UK when he was younger. He was bullied at school. Zain saw university as a fresh start and desperately wanted to fit in with a new group of friends. He felt the pressure in Freshers Fair to go to all the social events his housemates were going to and sometimes they would stay up late into the night smoking weed.



Lucy lost her grandma last year. They were very close.
She now has extra demands, often having to visit home and help look after her grandad now her grandma isn't there. This has meant she hasn't been able to spend as much time making friends at university and she is feeling a bit lonely.
Lucy is struggling to get to sleep, leaving her exhausted and falling behind with her studies.

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Lucy lost her grandma last year. They were very close.
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Lucy is struggling to get to sleep, leaving her exhausted and falling behind with her studies.



Over the last few weeks, Zain and Lucy have noticed strange noises when they use their phone, like clicks and whirring. On a couple of occasions, they have picked up the phone, no-one has spoken, and they have, after a short while, hung up.



Zain begins to think that his housemate may be behind these strange experiences.

He is feeling frightened and confused. He wonders if he is going crazy.

Zain isolates himself further from his friends and falls behind on coursework.



Lucy is aware that these experiences are common and no big deal.

She realises the experiences are a trick of the mind and indicative that she has been staying up too late either studying or scrolling on her phone.

Lucy is feeling curious about these experiences.

Lucy takes this as a sign that she is feeling stressed with uni work and a prompt to speak to someone. She speaks to the uni counselling service to get another perspective on how to cope, such as prioritising her sleep.

Listen to the audio below to hear Zain's experience of **feeling more connected to others**

0:00 / 0:29

"I decided to go to my freshers fair and invited my housemate to come along to see what sort of clubs and societies were available. There was a volunteering society that caught my eye. I took the plunge and signed up to it. I ended up going on trips abroad fundraising for charity and supporting local communities. It combined all the things I enjoyed: travelling, physical challenges and volunteering. The most important part was doing something that felt meaningful to me whilst connecting with likeminded people. I made some of my closest friends on those trips."



How were Lucy's interpretations different to Zain's?

These are our thoughts…



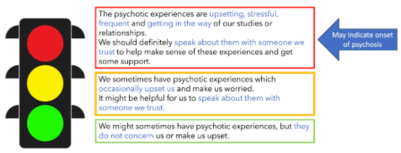
Lucy thinks of her experiences as common and is curious about them. She sees they are understandable given she is feeling stressed at the moment and has a sense of control over them by seeking help for parts of her wellbeing that can affect these experiences, such as sleep.

On the other hand, Zain thinks of these experiences as frightening and threatening, understandably making him worried. He takes the experiences to mean there is something abnormal about him. He thinks others are behind the experiences and feels less in control.

What are some things you could do to feel more connected with others?

Here are some suggestions:

- Arrange to meet people regularly e.g monthly dinner dates with friends or join a club/society at the Students' Union
- Stay connected to friends/family at home. Send them a text or give them a call to let them know you are thinking about them. Arrange a time to visit home.
- Take some time to get to know students in your accommodation/course.
- Find a study buddy – some uni's have buddy schemes
- Volunteer in the community – it can give a sense of belonging, purpose, and make a difference



Questions to ask ourselves about the impact of these experiences:
Do others share these experiences?

Am I having more of these experiences?

Have others noticed my behaviour changing recently? Are they concerned about this?

Early Intervention in Psychosis Team

You can refer yourself to this service - you don't have to go through your GP – just contact your local team (details below). The team will carry out an assessment and then treatment and support will be tailored to your individual needs.

You could look up your local service on the 'select your location' section of this website if you live in these areas of England
https://likemind.nhs.uk/advice-and-support/talking-to-someone



Otherwise, you can access the team via your GP or local NHS Trust.

When might we seek help?

- There will be times when our wellbeing dips, but we can still cope with short-term stressors. Investing time to take notice in our everyday lives, connect with others, and be more physically active can help get us through stressful times.
- However too much stress for too long can impact our wellbeing and we might need to seek extra support from others.
- If we feel our stress levels are frequent and high, and are getting in the way of our studies, relationships or daily life, we should definitely speak to someone we trust and get some support.

NHS Talking Therapies for Anxiety and Depression



- You can refer yourself to this free service - you don't have to go through your GP – just self-refer to your local team (details below). The team will carry out an assessment and then treatment and support will be tailored to your individual needs.
- Help is available in person, by video, over the phone or as an online course.
- Just click this section on the webpage below



https://www.nhs.uk/mental-health/talking-therapies-medicine-treatments/talking-therapies-and-counselling/nhs-talking-therapies/

Appendix K: Outcome Measures

Knowledge of PLE

Please rate your overall level of knowledge about...

	No knowledge 1	2	3	4	5	6	7	8	9	Comprehensive knowledge 10
the broad presentation of ***symptoms*** of psychotic-like experiences	○	○	○	○	○	○	○	○	○	○
the psychological, social, and biological ***risk factors and causes*** of psychotic-like experiences	○	○	○	○	○	○	○	○	○	○
how ***interpretations*** of psychotic-like experiences affect symptoms	○	○	○	○	○	○	○	○	○	○
how the ***way we respond*** to psychotic-like experiences improve or worsen symptoms	○	○	○	○	○	○	○	○	○	○
how, when and where to seek help when experiencing disruptive psychotic-like experiences	○	○	○	○	○	○	○	○	○	○

The Questionnaire about the Process of Recovery (QPR) [30] - Adapted Questions

Imagine that you or someone you knew had psychosis. How much do you agree with the following statements?	Disagree strongly (0)	Disagree (1)	Neither agree nor disagree (2)	Agree (3)
You or another person with psychosis would….				
1. feel okay about yourself				
2. feel able to take chances in life				
3. be able to develop positive relationships with other people				
4. feel part of society rather than isolated				
5. be able to assert yourself				
6. feel that life has a purpose				
7. believe the experiences may change you or them for the better				
8. be able to come to terms with things that have happened in the past and move on with life				
9. be strongly motivated to seek help				
10. be able to recognise the positive things you/they have done				
11. be able to understand yourself better				
12. **be able to cope with psychotic experiences**				
13. **feel hopeful for the future**				
You or another person with psychosis could ….				
14. take charge of your life				
15. actively engage with life				
16. take control of aspects of your life				
17. find the time to do the things you/they enjoy				
You or another person with psychosis would think ….				
18. **unusual experiences exist on a spectrum**				
19. **psychotic-like experiences are understandable following traumatic or stressful experiences**				
20. **There is effective support available if these experiences are distressing**				

Note. **Bold** = our five novel items added to the measure

Personal Beliefs About Illness Questionnaire-Revised (PBIQ-R) [29] – Adapted Questions

Imagine that you or someone you knew had psychosis. How much would you agree with the following sentences?

1. Psychosis would stop someone doing things they'd want to do (loss).
2. It would be difficult to cope with psychotic symptoms (control).
3. If someone were relapsing, they wouldn't be able to do anything about it (control).
4. One would be powerless to influence or control the psychotic illness (control).
5. Psychosis would stop someone getting on with things they'd want to do (entrapment).
6. Society needs to keep people with psychosis apart from everybody else (social marginalization).
7. People would feel excluded if they had psychosis (social marginalization).
8. Psychosis would be embarrassing to experience (shame).
9. You would think psychosis would make someone too sensitive to work or study (loss)
10. Anyone would be ashamed if they had psychosis (shame).
11. Because of psychosis, someone would not fit in (social marginalization).
12. Things would change for the worse because of psychosis (loss).
13. Psychosis would prevent someone from having friends and relationships (entrapment).
14. Psychosis would prevent someone from planning for their future (entrapment).
15. Relationships with friends would change for the worse because of psychosis (loss).
16. Psychosis would make someone feel like an outsider (social marginalization).
17. One would be intimidated by their experience of psychosis (control).
18. One would be trapped by their experience of psychosis (entrapment).
19. Others would see someone with psychosis as fragile or weak (shame).
20. Others would look down on someone who has psychosis (shame).

Module Feedback

Thank you for completing this module. We have a few questions for you to give some feedback on the module. We would be grateful if you are able to complete these to allow us to improve.

Please use the slider to indicate how much you ENJOYED the module



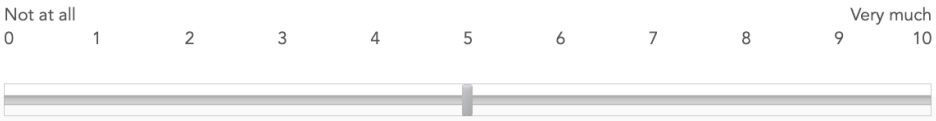
Please use the slider to indicate how much you LEARNED ABOUT psychosis from the module



Please use the slider to indicate how your BELIEFS about psychosis have changed as a result of this module



Please indicate the extent to which the module provided INFORMATION that you could UNDERSTAND



Which of the following components had an impact on your knowledge and understanding of psychosis?

- ○ Descriptions of what can cause psychotic-like experiences, what makes them worse and how to control them
- ○ Engaging in the self-reflection exercises
- ○ Young people talking about their experiences
- ○ None
- ○ Prefer not to say

We are looking to improve this module to make it more helpful for others. Please write here any recommendations or thoughts you have about how we might improve.

Appendix L: Questionnaire Baseline Scores

Table 4

Questionnaire baseline scores across intervention (n = 51) and control (n = 53) group

	Whole Sample	Intervention	Control		
Measure	*M (SD)*	*M (SD)*	*M (SD)*	t (p-value)	*d*
Knowledge	24.8 (12.1)	24.9 (12.2)	24.6 (12.1)	0.14 (0.44)	0.03
QPR	61.5 (14.1)	63.4 (15.1)	59.8 (12.9)	1.28 (0.10)	0.25
PBIQ-R - loss	10.6 (2.1)	10.6 (2.2)	10.6 (2.0)	0.23 (0.81)	0.05
PBIQ-R – control	10.8 (1.6)	10.9 (1.5)	10.7 (1.8)	0.88 (0.38)	0.17
PBIQ-R - entrapment	10.5 (2.1)	10.6 (2.2)	10.4 (1.9)	0.65 (0.51)	0.13
PBIQ-R – social marginalisation	10.2 (1.8)	10.1 (1.8)	10.1 (1.8)	0.12 (0.90)	0.02
PBIQ-R - shame	10.0 (2.4)	10.2 (2.4)	9.8 (2.5)	0.79 (0.43)	0.16
GHSQ	42.3 (9.1)	52.5 (7.8)	51.5 (8.1)	0.69 (0.25)	0.14

Note. Abbreviations: M = mean, *SD* = standard deviation, *t* = Independent Samples T-Test, effect sizes were calculated using Cohen's *d*. QPR = The Questionnaire about the Process of Recovery; PBIQ-R = Personal Beliefs about Illness Questionnaire-Revised; GHSQ = General Help-Seeking Questionnaire.

Appendix M: Reliability of Measures

Table 5

Cronbach's alpha coefficients for included questionnaire measures.

	Whole sample	Intervention	Control
Knowledge Pre	0.958	0.953	0.963
Knowledge Post	0.950	0.914	0.956
QPR Pre	0.933	0.942	0.920
QPR Post	0.956	0.930	0.956
PBIQ-R Pre	0.882	0.876	0.889
PBIQ-R Post	0.945	0.948	0.941
GHSQ Pre	0.734	0.748	0.722
GHSQ Post	0.771	0.779	0.774

Note. Abbreviations: QPR = The Questionnaire about the Process of Recovery; PBIQ-R = Personal Beliefs about Illness Questionnaire-Revised; GHSQ = General Help-Seeking Questionnaire.

Appendix N: Psychometric Evaluation of PBIQ-R Subscales

Table 6

Correlations between five PBIQ-R appraisal subscales at pre- and post-intervention (N = 104).

Subscale	1	2	3	4	5
1. Loss	1	.380**	.479**	.424**	-.300**
2. Control		1	.413**	.278**	-.343**
3. Entrapment			1	.399**	-.364**
4. Social Marginalisation				1	-.260**
5. Shame					1

Note. ** all correlations significant at $p < 0.01$.

There were weak to moderate correlations between the subscales (loss, control, entrapment, social marginalisation, shame). Most were moderate (>0.3). While the KMO value of .838 suggested correlations between the items were adequate to conduct an overall EFA, the five subscales did not conform to a unidimensional model ($\chi^2 = 714.66$; $p < 0.01$), which as noted previously, is in line with the PBIQ-R scoring instructions whereby using a total summed score is deemed inappropriate due to the multidimensional structure. Considering this, five individual EFA were conducted on the five subscales. An eigenvalue-one with varimax rotation procedure was applied. Only one component was extracted for each subscale. Loss explained 81% of the variance (eigenvalue = 1.6), control 73% (eigenvalue = 1.5), entrapment 76% (eigenvalue = 1.5), social marginalisation 75% (eigenvalue = 1.5), and shame 62% (eigenvalue = 1.2). All subscales had a factor loading of >0.6. Therefore, individual analysis was conducted on each subscale.

Appendix O: Evidence of Ethical Approval

MEDICAL SCIENCES INTERDIVISIONAL RESEARCH ETHICS COMMITTEE
Research Services, Boundary Brook House, Churchill Drive, Headington, Oxford, OX3 7GB
Tel: +44(0)1865 616575
ethics@medsci.ox.ac.uk

CONFIDENTIAL

Dr Louise Johns & Natalie Steer
Oxford Institute for Clinical Psychology Training
(OxICPT)
Isis Education Centre
Warneford Hospital
Oxford

14 June 2023

Dear Dr Johns and Natalie,

Research Ethics Approval - CUREC 1

Ethics Approval Reference: R87026/RE001

Study title: Universal Intervention for University Students on Understanding Unusual Experiences

Short title: University students, understanding unusual experiences

The above application has been considered on behalf of the Medical Sciences Interdivisional Research Ethics Committee (MS IDREC) in accordance with the University's procedures for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to the IDREC, the proposed research has been judged as meeting appropriate ethical standards, and approval has been granted for a period of **18 months**, commencing on **14th June 2023.**

Amendments

Should there be any subsequent changes to the study, you should submit details to the MS IDREC for consideration and approval. Details of changes must be listed on an amendment form.

Yours Sincerely

DocuSigned by:
Leah Butts
9F14889D2BC549A...

Mrs Leah Butts
Research Ethics Administrator

for
Dr Helen Barnby-Porritt
Research Ethics Manager

Appendix P: Journal of Medical Internet Research – Guidance for Authors

Full author guidelines can be found here: https://mental.jmir.org/author-information/instructions-for-authors

Papers should be written in accordance with the American Medical Association Manual of Style: A Guide for Authors and Editors, 11th Edition (Oxford University Press; 2020)

The following format ("**IMRD Format**") must be used for the paper:

Title

Abstract (not exceeding 450 words for structured abstracts)

Keywords

Introduction (e.g. theory, hypotheses, prior work)

Methods (e.g. with the subheadings "Recruitment", "Statistical Analysis", etc.)

Results (e.g. user statistics, evaluation outcomes). If your study consists of different stages/parts, subheadings in this section should mirror subheadings in the methods section to describe these parts.

Discussion (e.g. with the subheadings "Principal Results", "Limitations", "Comparison with Prior Work", "Conclusions")

Acknowledgements (How should the "Acknowledgments" section be formatted?)

Conflicts of Interest (How does JMIR Publications define a Conflict of Interest (COI)?)

[optional] Multimedia Appendix of supplementary files (e.g. a PowerPoint presentation of a conference talk about the study, additional screenshots of a website, mpeg/ Quicktime video or audio files, or Excel, Access, SAS, or SPSS files containing original data)

Abbreviations

Data Availability

References

Please use further subheadings within the main "Introduction," "Methods," "Results," and "Discussion" sections. For example, if you describe three different methods, use three subheadings within the "Methods" section. Also, use matching subheadings in the "Results" section if you report the results from each of the described methods.