

## ORIGINAL ARTICLE



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# Experiences of clinical staff who work with patients who self-harm by ligature: An exploratory survey of inpatient mental health service staff

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## Accessible Summary

### What is known on the subject:

- Self-harm by ligature is common within inpatient mental healthcare settings and is a dangerous method of self-harm. Most fatal and non-fatal suicidal behaviours in inpatient settings are a result of ligature use.
- There is a lack of research which has explored the experiences of staff members who work within inpatient settings where patients may self-harm by ligature.

### What the paper adds to existing knowledge:

- Key issues related to self-harm by ligature reported by staff included (1) understaffing increasing risk of ligature incidents, (2) spreading of self-harm by ligature within inpatient settings and (3) negative attitudes of staff related to patients who self-harm by ligature.
- Working with self-harm by ligature can have negative impacts on staff's personal (e.g. fear of blame) and professional lives (e.g. increased cautiousness). Many staff members currently feel underprepared by training related to working with self-harm by ligature, and unsupported after responding to a ligature incident.

### What are the implications for practice:

- Training about self-harm by ligature needs to be improved and be accessible for all inpatient mental healthcare staff. Training should be coproduced, and could include practical components, education on potential reasons for self-harm, and acknowledgement of the emotional impact on staff.
- Support for staff members who respond to ligature incidents should be available for all staff members who respond to self-harm by ligature incidents. Stigma associated with accessing support should be challenged, alongside blame cultures within the workplace.

## Abstract

**Introduction:** Self-harm by ligature is a common form of self-harm within inpatient mental health services in England, where most suicides within inpatient settings

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involve hanging or suffocation. However, little research has examined the experiences of staff members working with this method of self-harm.

**Aim:** We explored the experiences of clinical staff who work with patients who self-harm by ligature.

**Method:** A staff survey was developed and disseminated to clinical staff working in inpatient settings in England. Quantitative data were analysed using descriptive statistics, and qualitative data using the framework approach. The study was STROBE checklist compliant.

**Results:** 275 staff members participated. Challenges most frequently reported about working with self-harm by ligature included understaffing (210, 76.6%), spreading of ligature incidents (198, 72.8%) and negative attitudes held by clinical staff towards such patients (185, 68.5%). Participants' responses indicated that this work could have significant impacts on their professional and personal lives. Staff often reported inadequate training and lack of preparedness, alongside insufficient support opportunities following ligature incidents.

**Discussion:** Staff had a diverse range of professional and personal experiences and identified multiple challenges associated with working with patients who have self-harmed by ligature.

**Implications for Practice:** There is a need to improve accessibility, format and content of training and support for staff working within inpatient settings where patients may self-harm by ligature.

#### KEYWORDS

acute mental health, self-harm, staff perceptions, suicidal behaviour, suicide

## 1 | BACKGROUND

Self-harm by ligature can be defined as when a part of the body is tied tightly, and blood flow is stopped or impeded (Razak, 2022). Ligaturing is most dangerous when the neck is tied, where hanging or suffocation is a highly lethal method of suicide (Cai et al., 2022). Self-harm by ligature is a common method of self-harm within inpatient mental health services in the United Kingdom (UK). Between 1999 and 2007, 77% of suicides within psychiatric wards in England and Wales were a result of hanging, involving a wide range of ligatures and ligature points (Hunt et al., 2012). Hanging has also been reported as the most common method of fatal and non-fatal suicidal behaviours within inpatient settings in America (Mills et al., 2020), and Switzerland (Ruff et al., 2018).

Despite an overall reduction in inpatient suicides in England in recent years (Kapur et al., 2013; National Confidential Inquiry into Suicide and Safety in Mental Health, 2023), most deaths following self-harm that occur on psychiatric wards still involve ligatures (National Confidential Inquiry into Suicide and Safety in Mental Health, 2023). In 2020 a National Patient Safety Alert was issued in the UK about ligature and ligature point risk assessment tools and policies. Concerns were highlighted regarding inpatient

environments, including management of ligature points, and underestimation of the risk of low-lying ligature points (National Health Service (NHS) England, 2020). Indeed, deaths using ligatures within inpatient settings often involve a low-lying or no ligature point (National Confidential Inquiry into Suicide and Safety in Mental Health, 2023).

Multiple barriers to preventing self-harm by ligature exist. Within inpatient settings, other methods of self-harm can be more effectively controlled (e.g. restricting access to sharp implements), but patients are likely to have easier access to means for ligaturing (Biddle et al., 2010; Sabrinskas et al., 2022). This is complicated by the multiple objects which can be used as ligatures or ligature points, and the evolving use of novel methods of ligaturing (Hunt et al., 2012). Prevention of self-harm by ligature is largely reliant on removal of ligature points and potential ligatures. However, it is widely acknowledged it is not possible to remove all possible ligatures or ligature points within a ward environment (Evans et al., 2022). Therefore, staff observation is frequently used to facilitate a fast response to incidents. However, this may be undermined by understaffing (McGough et al., 2021). A recent review examining suicide by hanging highlighted the lack of evidence examining contributory or protective factors towards this method of suicide (Sabrinskas et al., 2022).



There is a scarcity of research exploring the experiences of staff working with patients who self-harm by ligature. In a small qualitative study, staff working in adolescent inpatient units experienced ligaturing as more distressing than other methods of self-harm, citing the risk of accidental death and spreading of ligature incidents within wards (Rouski et al., 2017). Similarly, in interviews with staff in Child and Adolescent Mental Health Services (CAMHS), anxieties were expressed regarding the danger of ligatures, and the procedures for responding to incidents. Participants also discussed the traumatic nature of incidents, and concerns regarding incidents spreading (Razak, 2022).

Working with patients who self-harm or have died by suicide can have a significant impact on staff (Cranage & Foster, 2022; Croft et al., 2023; Gibbons et al., 2019; Hagen et al., 2017; Sandford et al., 2021). This may include inducing feelings of incompetence, self-blame and risk of post-traumatic stress (Hagen et al., 2017; Rouski et al., 2017; Sandford et al., 2021). Work practices may be impacted. Over-cautiousness, or thoughts of leaving the profession have been reported following the suicide of a patient (Croft et al., 2023; Gibbons et al., 2019; Sandford et al., 2021). Most studies within the literature have examined the impact of suicide on staff. Responding to self-harm where dangerous methods have been used, including repeated exposure, may have different impacts.

Studies have explored support and procedures experienced by mental health staff after responding to self-harm or suicide. Differing and sometimes conflicting opinions regarding the helpfulness of sources of support have been identified, including support from colleagues, managers, family and formal processes, including serious incident procedures (Croft et al., 2023; Hagen et al., 2017; Sandford et al., 2021). Multiple studies have highlighted fear among staff surrounding blame following self-harm or suicide (Awenat et al., 2017; McGough et al., 2021). Attendance at a coroner's court, and reactions of patients' family members, may also have detrimental effects on staff following the suicide of a patient (Croft et al., 2023; Sandford et al., 2021).

Despite national concerns regarding self-harm by ligature within inpatient services, there is little research examining the experiences of staff who support patients who may use this method of self-harm. In this study we sought to understand these experiences, including the impact of this type of work and helpfulness of and needs regarding training and support.

## 2 | METHODS

### 2.1 | Design

A cross-sectional exploratory survey was developed to investigate the experiences of clinical staff regarding working with patients who self-harm by ligature. Qualitative alongside quantitative questions were used to facilitate expansion on quantitative responses and

provide an opportunity for reflection on experiences not captured by numerical items.

### 2.2 | Participants

All staff working clinically within inpatient mental health services in England were eligible to participate. This included students, healthcare assistants and support workers, given these roles often involve extensive contact with patients (Bee et al., 2006), alongside qualified staff including nurses, psychiatrists, allied health professionals (e.g. occupational therapists, psychologists and pharmacists) and agency staff. Eligible staff were those working within the NHS or private mental healthcare providers in a range of services, including, adult, CAMHS, forensic and specialist services. Staff were eligible regardless of experience of working with patients who use ligatures, as perspectives of those without such experience may reflect how prepared these (potentially new) staff are for working with ligatures for the first time. A minimum sample size of 250 participants was identified, based on the exploratory and descriptive nature of this survey and the numbers included in previous similar research (Denscombe, 2017), including surveys examining the impact of suicide on healthcare practitioners (Croft et al., 2023; Gibbons et al., 2019). Sample size was also determined by the feasibility of conducting qualitative analyses on the full dataset.

### 2.3 | Survey development

An initial draft survey was developed by reviewing relevant literature, findings from a small regional survey conducted by a member of the research team (SG), and the Theoretical Domains Framework (TDF) (Atkins et al., 2017), alongside patient and public involvement consultations with staff members and a service user representative. The TDF is a framework which facilitates the exploration of barriers to implementation of interventions into routine practice (e.g. practices for working with ligatures). Service user representative consultation was used to identify issues (e.g. perceived attitudes) which may not be identified by staff themselves. The drafting of the survey underwent an iterative review process, including review by 11 geographically and occupationally diverse clinicians who would be eligible to participate in the survey. After revision, the survey was transferred into online format using survey software Qualtrics and piloted to assess survey length, clarity and final issues with questions. Piloting was similarly conducted with individuals eligible to participate.

### 2.4 | Survey content

The survey comprised of open and closed questions, including binary questions (e.g. yes, no), 5-point Likert scales (e.g. ranging from fully

disagree to fully agree) and free-text questions. The survey had five main components: (1) demographic questions, (2) context-related questions (e.g. frequency of ligature incidents within workplace), (3) barriers and facilitators associated with working with patients who self-harm by ligature (items informed by the TDF and research literature), (4) impact of responding to ligature incidents and (5) support and training needs of staff working with patients who self-harm by ligature. The Trauma Screening Questionnaire (TSQ) (Brewin et al., 2002) was included. This is a brief validated scale comprising 10 binary (yes/no) items, measuring symptoms of re-experiencing trauma and hyperarousal. Scores can range from 0 to 10, where a score of six or more is indicative of possible PTSD, with sensitivity and specificity of 0.86 and 0.89 respectively (Brewin et al., 2002). Within the current sample, the measure had good internal consistency  $\alpha = .89$ . The scale has been used to examine trauma among healthcare professionals, including nurses (Chen et al., 2021). Only participants who had experienced a self-harm by ligature were asked to complete the TSQ, and participants were asked to complete the scale in relation to the most distressing ligature incident they had experienced.

Survey questions presented to participants were guided by previous responses. For example, only participants who indicated they had experienced a patient self-harming by ligature were asked questions surrounding support received following such an event and were asked to complete the TSQ. Participants were asked between 49 and 96 questions depending on their experience of responding to ligature incidents. Across the survey, 10 questions were free-text responses, some of which were opportunities to reflect on quantitative responses, and others which directed participants' responses (e.g. asking for suggestions of how training or support can be improved).

## 2.5 | Procedure

Multiple recruitment strategies were employed to capture a geographically and occupationally diverse sample. Advertisements with an embedded survey link were distributed across healthcare providers and universities to disseminate to staff working on inpatient psychiatric units. Additionally, staff networks and forums were invited to advertise the study. Upon clicking the survey link, individuals were presented with a participant information sheet and consent form. Given the extensive circulation, participants were asked to confirm that they had not previously completed the survey. After confirming consent, participants were directed to the main survey. After survey completion, participants were provided with an embedded debrief sheet containing contact details of relevant support organizations such as the confidential NHS Staff Support Line. The survey was open from March 11th to June 1st, 2022.

## 2.6 | Analysis

Quantitative survey data were analysed using descriptive statistics, including frequencies and percentages. Data were analysed using

the Statistical Package for Social Sciences, version 22. Some survey items were reverse scored. Likert scale responses which indicated 'somewhat', or 'full' agreement were grouped for analyses with the procedure repeated for responses indicating 'somewhat', or 'full' disagreement. For some survey items participants had the option to select 'Not Applicable'. For these items, the results are presented with the denominator omitting individuals who selected this option. Responses of student nurses or doctors were grouped due to low number of such participants, and a subgroup of 'other role' was created comprising a small number of additional roles not well-represented within the survey, for example, teachers and researchers. Scores of the TSQ were analysed using median and interquartile range.

The framework approach was used for qualitative data analyses. (Smith & Firth, 2011). A preliminary coding framework was developed based on research aims (e.g. training improvement), an initial subset of free-text responses ( $n = 10$ ), and domains of the TDF. This was produced by SG and discussed and reviewed by KL. The framework guided deductive coding and was iteratively reviewed throughout analyses to account for additional codes identified by inductive coding. Each participant's free-text responses were coded and read by one member of the research team (SG) and charted into a framework matrix, with regular discussion with another member (KL). Data were then interpreted, and themes generated. For the purposes of this article, qualitative data are presented to provide context and expand on quantitative findings. Themes generated will be reported in a separate article.

## 2.7 | Ethical considerations

Ethical approval was granted by the Health Research Authority [No. 303835]. All participants provided informed consent prior to participation. Survey responses were anonymous, with qualitative data anonymised prior to analyses. Participants were able to contact the research team to indicate interest in receiving a summary of the research findings or to be notified of future research opportunities.

## 3 | RESULTS

The survey was accessed 626 times, with 462 individuals completing the consent form and demographic information. A total of 275 participants completed the survey, which was 43.9% of those accessing the survey and 59.5% of those completing the consent form. Nearly all completing participants provided at least one free-text response (265, 96.4%).

### 3.1 | Participant and workplace characteristics

Most participants worked in the NHS or were in training (225, 81.8%). Respondents worked in a variety of inpatient settings, with adult acute (151, 54.9%), CAMHS (55, 20.0%) and psychiatric

**TABLE 1** Characteristics of respondents. (Some participants worked for multiple organizations, within multiple settings, multiple roles, and with multiple contract types, therefore percentages may exceed 100%; this is denoted by an a).

Characteristic	N (%)
Gender	
Woman	207 (75.3%)
Man	65 (23.6%)
Non-binary/Gender fluid	3 (1.1%)
Age	
18–24	45 (16.4%)
25–34	72 (26.2%)
35–44	48 (17.5%)
45–54	60 (21.8%)
55–64	44 (16.0%)
65+	6 (2.2%)
Region	
North-East and Yorkshire	38 (13.8%)
North-West	35 (12.7%)
Midlands	39 (14.2%)
East of England	33 (12.0%)
London	25 (9.1%)
South-East	62 (22.5%)
South-West	43 (15.6%)
Organization <sub>a</sub>	
NHS (including University training)	225 (81.8%)
Private	51 (18.5%)
Other/not stated	1 (0.4%)
Work setting <sub>a</sub>	
Adult acute	151 (54.9%)
Adult forensic	31 (11.3%)
Adult ED	8 (2.9%)
PICU	46 (16.7%)
CAMHS inpatient	55 (20.0%)
CAMHS ED	13 (4.7%)
CAMHS forensic	4 (1.5%)
Older adult	19 (6.9%)
Dementia	10 (3.6%)
Personality disorder	12 (4.4%)
LD	12 (4.4%)
Mother & Baby	5 (1.8%)
Other inpatient for example, Suite 136	15 (5.5%)
Other (e.g. across services)	8 (2.9%)
Role <sub>a</sub>	
Nurse	120 (43.6%)
Nurse associate/ Practitioner	5 (1.8%)
HCA	57 (20.7%)
Support and peer support worker	21 (7.6%)
AHP	26 (9.5%)

**TABLE 1** (Continued)

Characteristic	N (%)
Psychiatrist	13 (4.7%)
Student nurse/Doctor	24 (8.7%)
Other/not stated	13 (4.7%)

Abbreviations: AHP, allied health professionals; CAMHS, Child and Adolescent Mental Health Services; ED, eating disorder; HCA, healthcare assistant; LD, learning disability; NHS, National Health Service; PICU, psychiatric intensive care unit.

intensive care units (46, 16.7%) most frequent. The most common professions were nurses (including ward managers) (120, 43.6%), healthcare assistants (57, 20.7%) and allied health professionals (26, 9.5%). Just over a third of respondents had managerial responsibilities (103, 37.5%). Over two-thirds were permanent members of staff (190, 69.1%). A small proportion of respondents were students (24, 8.7%). A summary of the characteristics of participants is shown in [Table 1](#) (full characteristics of respondents available in [Table S1](#)).

### 3.2 | Contextual characteristics

Nearly all participants had experienced working with patients who had self-harmed by ligature (260/275, 94.5%). Some participants reported ligatures occurring multiple times a day within the last 6 months in their workplace (44/260, 16.9%). Additionally, a fifth reported over 10 different patients using self-harm by ligature over the past 6 months (52/260, 20.0%). Over a third of participants reported having been physically hurt when responding to ligature incidents; for example when using ligature cutters (92/260, 35.4%). Two-thirds had experienced aggression from a patient when responding to ligature incidents (173/260, 66.5%).

Nearly a third of participants had experienced the death of a patient through self-harm by ligature in an inpatient setting (78/260, 30.0%), with a third of these individuals experiencing this more than once (26/78, 33.3%). Participants were asked to reflect on the perceived intentionality of these deaths, with those experiencing multiple deaths, asked to reflect on their most recent experience. Nearly half of these participants believed the death was intentional (36/78, 46.2%), a third were unsure (27/78, 34.6%) and some believed the death was accidental (15/78, 19.2%). Factors informing perceived intentionality included knowledge of patients' reasons for self-harm, characteristics of the incident, and the patients' previous and current difficulties.

### 3.3 | Challenges associated working with self-harm by ligature

All participants rated a list of pre-defined issues related to self-harm by ligature and many provided free-text quotes (see [Table 2](#)



for full list of items with illustrative quotations). The most common issue which participants agreed or strongly agreed with related to understaffing leading to increased risk of ligature incidents (210/274, 76.6%). Free-text comments clarified consequences of understaffing, including increased use of restrictive interventions, not having time to document incidents, inability to help patients avoid self-harm or support patients following a ligature incident (at times due to the lack of an existing relationship between bank/agency staff and patients), and reduced opportunities for supervision and support for staff:

Staffing plays a major part in supporting patients [...] Poor staffing numbers makes it difficult and often can increase the risk of self-harm

P70, Nurse, Adult Acute Ward

The second most frequently endorsed item concerned the spreading of ligature incidents between patients (198/272, 72.8%). Several respondents discussed clustering of ligature incidents within and across wards. Many participants (142/273, 52.0%) reported patients may learn about ligatures for the first time during their admission:

[...] from my experience, patients learn about ligaturing from each other and in some cases encourage it from each other

P187, Student Nurse/Doctor, Adult Acute Ward

Negative attitudes by staff members towards working with patients who self-harm by ligature was the third most frequently endorsed item (185/270, 68.5%). Negative attitudes discussed within free-text comments included stigmatizing views as to why a patient may ligature (e.g. 'attention seeking'), strained relationships between staff and patients, and polarizing views about how to best care for patients following an incident (e.g. decreasing engagement vs increasing support). Some respondents reflected on the source of negative attitudes, including staff pressures inducing compassion fatigue:

Patients who repeatedly tie ligatures daily (often more) are met with apathy (myself included on occasion by the end of a 13 hour, fraught and demoralising shift) as we have been 'firefighting' all day rather than actually caring

P136, Healthcare Assistant, Adult Acute Ward

Additional challenges identified by inductive coding of free-text responses included issues surrounding the high risk of fatality of ligatures; the diversity of items which can be used as a ligature; decision-making regarding when to remove a ligature, use restrictive interventions, or restraint; encountering aggression; patient knowledge of the harms of ligatures; and communicating about self-harm by ligature with family/carers.

### 3.4 | Impact of working with self-harm by ligature on staff

When asked to indicate the presence of emotions associated with working with self-harm by ligature, anxiety (173, 62.9%), sadness (170, 61.8%), frustration (161, 58.5%), fear (146, 53.1%) shock (128, 46.5%) and helplessness (125, 45.5%) were most frequently endorsed. The median score of the TSQ was 1 (IQR 3) (scores could range from 0 to 10). However, over one in 10 participants scored above the clinical threshold for trauma related to their experience of a distressing ligature incident (34/260, 13.1%). The symptom 'heightened awareness of potential dangers to yourself and others' was reported by a large proportion of participants (105/260, 40.4%). This was exemplified by some respondents' free-text responses:

I have developed an awareness of ligature points in all aspects of my life and now subconsciously scan every room for potential points and risks

P238, Support Worker, Psychiatric Intensive Care Unit

All participants ( $n=275$ ), including those who had not experienced working with self-harm by ligature ( $n=15$ ), rated several issues related to worry about ligatures. Over half reported feeling anxious when conducting observations that they may find a patient who has self-harmed by ligature (153/242, 63.2%). Worry was also endorsed regarding fear of blame by the workplace (126/269, 46.8%) or the patient's family (166/266, 62.4%) following an incident, being named in the media (100/268, 37.3%), or attending an inquest if a patient dies following use of a ligature (185/268, 69.0%).

Staff who reported experience of working with ligatures were asked additional questions assessing impact ( $n=260$ ). Over a quarter said that supporting patients who use ligatures had negative impacts on their personal (68/258, 26.4%) and professional (68/259, 26.3%) lives. The most commonly endorsed responses regarding effects on clinical practice included increased caution in decision-making following a ligature incident (169/256, 66.0%), worrying about responding correctly (148/251, 59.0%) and not having the time to recover before returning to work (142/241, 58.9%). Pertaining to personal life, a third said their own mental health had been negatively impacted through working with patients using ligatures (91/258, 35.3%), and one-in-five had considered leaving their role following an incident (56/256, 21.9%) (See Table 3 for full table of impacts, with illustrative free-text quotes).

Free-text responses clarified the impact of working with self-harm by ligature on staff. The first time a staff member responded to a ligature incident, and incidents where patients were visibly oxygen deprived (e.g. discoloration) were particularly distressing. Responding to multiple ligature incidents was described as having a cumulative impact, ranging from desensitization, to impacting life outside of work:



TABLE 2 Problems related to working with patients who may use ligaturing to self-harm, with illustrative free-text quotations<sup>a</sup>.

Item	Agreed /strongly agreed N (%)	Illustrative quote
Understaffing at the workplace increasing risk of self-harm by ligature	210/274 (76.6%)	"I feel so much less confident that we can manage a patient who is ligaturing when we have a low number of regular staff on shift [...] I don't always feel sure that agency staff will spot the signs of a patient's risk level increasing, or respond appropriately"
Self-harm by ligature tending to spread between patients	198/272 (72.8%)	"...from my experience, patients learn about ligaturing from each other and in some cases encourage it from each other"
Some staff having negative attitudes about working with patients who self-harm by ligature	185/270 (68.5%)	"I think it can be quite polarising in the staff team between staff who see it as genuine distress and those who see it as an attention seeking behaviour"
A sense that staff members' reactions to self-harm by ligature may reinforce the behaviour	168/274 (61.3%)	"It is important not to offer too much reassurance and support following the ligature, as that can result in reinforcing the self-harm [...] instead allow time for the service user to de-escalate themselves, and staff to offer support and debrief thereafter"
Staff do not have the time to fully support a patient after they have self-harmed by ligature	144/270 (53.3%)	"Giving patients time to de-escalate so not engaging in 121 time immediately following the ligature [...] This is in an ideal world though and often this is missed though due to time and staff constraints on the ward"
Patients learning about self-harm by ligature for the first time when admitted to an inpatient setting	142/273 (52.0%)	"[...] often they have never ligatured prior to their admission, it is something they pick up while on the unit"
A lack of guidelines for working with patients who self-harm by ligature	138/273 (50.5%)	"[...] There appears to be no national guidelines which help guide staff to ensure that care is consistent. This can make it difficult for the service users as they don't have a consistent care pathways as someone who ligatures"
Lack of regular assessment of how staff respond to self-harm by ligature at workplace	117/266 (44.0%)	Not discussed within free-text responses
Not being familiar with evidence-based interventions for managing self-harm by ligature	102/273 (37.4%)	"Minimal evidence base on guidance on how to best respond"
Ligature cutters sometimes not being suitable for use (e.g. too blunt)	92/259 (35.5%)	"The ligature cutters in our [organisation] are awful compared to other [organisations] I have worked in. They are box cutters used by staff in supermarkets and not made for purpose, never sharpened, or replaced [...]"
Finding it hard to monitor the risk of self-harm by ligature concerning each patient	78/265 (29.4%)	"Although a patient's history can show a significant risk of self-harm by ligature [...] their mental health can be so unstable that's it's very difficult to predict if they'll use it or not"
In the moment, not always remembering how to respond if a patient self-harms by ligature	62/264 (23.5%)	"It is anxiety provoking for staff, some panic. Less experienced don't know what to do in the situation..."
The current physical environment of workplace (e.g. age of building) increasing the risk of self-harm by ligature	61/274 (22.3%)	"It is not possible to completely eliminate risk materials used for ligatures"
Feeling unable to rely on my colleagues (or employees) to respond correctly if a patient self-harms by ligature	56/272 (20.6%)	"If there is a lack of regular staff, unfamiliar agency staff are not always confident or competent to know patient's risk management plans or even to undertake observations correctly..."
A lack of monitoring and documentation processes for patients who self-harm by ligature at workplace	54/267 (20.2%)	"Because self-harm happens so regularly on the ward, incident forms are rarely completed. If there was a quicker and easier reporting system this could help but the culture also needs to change..."
Not knowing how to support a patient in the days after they have tied a ligature	49/271 (18.1%)	Not discussed within free-text comments
Lack of consistent procedures for managing self-harm by ligature at workplace	47/269 (17.5%)	"Consistency of approach across shifts is really difficult to maintain, Why I am comfortable with dealing with confidently and in collaboration with the service user, another clinician may not feel happy with"
Feeling unable to balance patient autonomy with least restrictive practice	40/270 (14.8%)	"[...]There is sometime disparity of opinions on how to manage ligatures in terms of observation levels based on wanting to keep them safe but not wanting to increase observations as this sometimes causes an increase in self-harm, assaults on staff, de-motivation and halts progress in their recovery"

TABLE 2 (Continued)

Item	Agreed /strongly agreed N (%)	Illustrative quote
Not having a clear plan of how to respond if a patient self-harms by ligature	31/270 (11.5%)	"I feel there should be a clear standard and response. It often varies from place of work which can be risky in itself given the bed status in the UK"
Finding it hard to understand why patients may self-harm by ligature	31/274 (11.3%)	"difficult to understand why people self-harm in this way"
Not feeling confident about working with patients who self-harm by ligature	31/274 (11.3%)	"Not all staff have the confidence or experience to deal with ligatures effectively"
Working with patients who self-harm by ligature not being part of role	13/268 (4.9%)	Not discussed within free-text comments

<sup>a</sup>Not all respondents may have experienced working with self-harm by ligature.

There have been several [...] suicides by ligature in the wards next door [...] this has heightened my anxiety that the risk of death is so high making me even more jumpy and anxious. I am jumpy and anxious at home which irritates my partner and have sometimes seen [household item] hanging from a door for example and screamed

P152, Nurse, Adult Acute Ward

Although participants reflected on the negative impacts of working with patients who use ligatures, respondents still largely agreed that the experience improved their competence as a healthcare worker (177/255, 69.4%). With appropriate resources and time, positive outcomes for the patient and staff member can occur:

It's not all gloom and doom. When you [spend] consistent time with such patients, it's like letting a flower bloom. When you provide the right ingredients, magic happens. [...] That's why I enjoy working with people who self-harm by ligature. It's tough, [...] but when you invest and you are patient with these people, it does work

P99, Nurse, Adult Acute Ward

### 3.5 | Staff training

Training received regarding self-harm by ligature was reported as highly variable, with many participants stating that they had received no training and learning was instead done 'on the job'. Reflections on the first time that staff responded to a ligature incident included lack of preparedness resulting in psychological consequences:

I first had to respond to a ligature prior to having any training [...], not even an informal chat, which was very overwhelming and anxiety provoking. I don't think I should have been allowed on the ward without this

P132, Other Role, Multiple Settings

Of participants who had received training, modality and frequency were inconsistent. Some participants reported having refresher courses, others said they had received training at their first role induction, which would now be largely 'outdated'. Content varied, but many reported a focus on incident response (e.g. how to use ligature cutters), rather than understanding motives for the self-harm, managing risk, and supporting patients prior to or following an incident. Preparedness for working with self-harm by ligature following current training varied. More than a third felt somewhat prepared (97, 35.3%), and some felt very unprepared (45, 16.4%).

Regarding improvements in training, respondents thought training should be available for all staff members, with consistent training across organizations. Staff called for practical training to prepare individuals for what to expect when responding to ligature incidents. However, notably, a substantial number of participants highlighted no amount of training will fully prepare staff. Training content suggestions included risk management, motives for self-harm by ligature, and effective support of patients after a ligature incident. Use of real-world examples was suggested to be helpful to bridge the theory-practice gap. The need for coproduction of training was highlighted, including with patients who had self-harmed in this way. Finally, staff thought that training should recognize the emotional impact of responding to ligatures on staff, including providing information on what support is available following incidents.

### 3.6 | Staff support

Following responding to a ligature incident, nearly two-thirds of participants felt they had received support (165/260, 63.5%). See Table 4 for support sources. Support from colleagues (220/244, 90.2%) and reflective practice (150/178, 84.3%) were most likely to be rated as somewhat or very helpful, and discussion with the patient's family (52 /117, 44.4%), and organizational procedures (e.g. serious incident processes) being somewhat less often reported as helpful (both 77 /152, 50.7%).

Within free-text comments, participants reported that support should be available for all staff involved in responding to an incident of self-harm by ligature. However, an underlying culture was described whereby self-harm is regarded as just 'part of the job' and



**TABLE 3** Impact on staff of working with patients who use ligaturing, with examples of related quotes. Denominator in some items is informed by *N* of participants who have experienced working with patients who self-harm by ligature (*N* = 260), also removes respondents who selected 'Not Applicable'.

Item in order of % endorsed	Agreed /strongly agreed <i>N</i> (%)	Illustrative quote
Working with patients who self-harm by ligature has improved my competence as a healthcare worker	177/255 (69.4%)	"It's not all gloom and doom. When you spent consistent time with such patients, it's like letting a flower bloom"
I am worried that I may be asked to attend an inquest if a patient dies as a result of self-harm by ligature	185/268 (69.0%)	"This is what worries if I am to speak up in a coroners court, it would not be because of the nature of the incident or the patient, but rather the actions (or should I say inaction) of my team"
I have become more cautious in my decision-making in the period following a patient self-harming by ligature	169/256 (66.0%)	"It is my experience that the use of ligatures is one of the more effective ways by which people end their lives, this leads to a lot of anxiety around self-harm by ligature. This can make it very difficult to act objectively [...] it is very easy in an inpatient setting to find yourself in a rapid escalation of restrictive interventions"
I feel anxious when conducting observations that I may find a person who has self-harmed by ligature	153/242 (63.2%)	"When there are multiple ligatures on a shift especially by more than one person it is very stressful, not knowing what you may find checking rooms"
I feel worried I may be blamed by the patient's family if a person harms themselves by ligature	166/266 (62.4%)	"It is [...] extremely difficult to explain the rationale to family/carers who then are very accusatory about how staff will harm or even kill the patient through this action" [discussion of patient autonomy vs restrictive practice]
After responding to a patient who self-harmed by ligature I have found myself worrying whether I responded correctly	148/251 (59.0%)	"I found myself highly traumatised with increased sense of failure and imposter syndrome"
After responding to a patient who self-harmed by ligature I have found I did not have time to recover before going back in to work	142/241 (58.9%)	"I feel that many staff are not always able to debrief properly or have time to recover following an incident"
I feel worried I may be blamed by my workplace if a person harms themselves by ligature	126/269 (46.8%)	"It is far too often in our workplace that senior management look for a finger to point and to blame for incidents"
I am worried I may be named in the media after a person has self-harmed by ligature	100/268, (37.3%)	Not discussed within free-text comments
Working with patients who self-harm by ligature has had a negative impact on my own mental health	91/258 (35.3%)	"I am constantly in a state of PTSD in my job. I am constantly skipping with the line of managing my own mental health and that of my patients as a result [...] I personally know a handful of [staff members] who have required hospitalisation for their own mental health and/or periods of sickness because of this"
I have blamed myself after a patient has self-harmed by ligature	73/256 (28.5%)	"Staff can also take it personally at times—that it is intended to punish them, or that they made a mistake that resulted in the ligature"
Supporting patients who self-harm by ligature has had a negative effect on my personal life	68/258 (26.4%)	"I have developed an awareness of ligature points in all aspects of my life and now subconsciously scan every room for potential points and risks"
Supporting patients who self-harm by ligature has had a negative effect on my professional life	68/259 (26.3%)	"Debriefs and supervision need to be prioritised but instead are the first things to be delayed/cancelled because of ward and staff pressures which in turn make the environment more stressful and dangerous and then staff end up burnt out and going off sick"
I have considered leaving my role after working with a patient who has self-harmed by ligature	56/256 (21.9%)	"But the [experiences including responding to ligatures] probably tipped me into applying for a community role"
My confidence in my ability to do my role has decreased after responding to a patient who has self-harmed by ligature	38/249 (15.3%)	"I found myself highly traumatised with increased sense of failure and imposter syndrome"

staff are expected to 'carry on regardless'. This culture of normalization was sometimes linked to the frequency of ligatures resulting in staff becoming 'numb' and 'desensitized'. Concerns were expressed

that accessing support may therefore appear 'weak', displaying a lack of 'resilience' or suggesting inability in handling challenging behaviours:

TABLE 4 Access to, and helpfulness of, sources of support following self-harm by ligature (N = 260).

Source of support	N (%) Not receiving support through this source (N = 260)	N (%) of those reporting receipt of support and indicating this was somewhat or very helpful
Support from colleagues	16 (6.2%)	220/244 (90.2%)
Reflective practice	82 (31.5%)	150/178 (84.3%)
Debriefs/ post incident support	71 (27.3%)	158/189 (83.6%)
Individual supervision	75 (28.8%)	152/185 (82.2%)
Support from family and friends	67 (25.8%)	153/193 (79.3%)
Support from manager	66 (25.4%)	151/194 (77.8%)
Group supervision	117 (45.0%)	108/143 (75.5%)
Discussion with patient	55 (21.2%)	143/205 (69.8%)
External psychological support (e.g. counselling)	180 (69.2%)	55/80 (68.8%)
Self-care (e.g. mindfulness practices)	81 (31.2%)	122/179 (68.2%)
The option of time off from work	195 (75.0%)	41/65 (63.1%)
Wellbeing initiatives at my workplace	162 (62.3%)	58/98 (59.2%)
Internal support for example, occupational health service	195 (75.0%)	34/65 (52.3%)
Support from specialist self-harm/suicide prevention clinician within organization	195 (75.0%)	33/65 (50.8%)
Organizational procedures for example, serious incident processes	108 (41.5%)	77/152 (50.7%)
Discussion with patient's family	143 (55.0%)	52/117 (44.4%)

Mental health nursing can be difficult. However, if the act of patients self-harming has a bad effect on your own mental health, you should look for another job

P195, Nurse, Multiple Settings

This culture seemed to have particularly negative effects on less experienced staff, including students or healthcare assistants, as well as staff working in particularly challenging environments. For example, where self-harm by ligature was happening frequently, or wards were understaffed:

[...] I have actually cried in the car park post-shift [...] staff just forget the student or become so hardened to things that they forget that it may be that person's first time encountering that. I could have asked to discuss these things, but I wasn't in the right frame of mind and afraid that it would affect my supervisor's impressions of me. I needed that compassionate support of someone reaching out to me and putting themselves in my shoes.

P168, Student Nurse/Doctor, Multiple Settings

[...] when patients regularly ligature, despite how traumatic the experience is, the space to debrief/manage our emotions becomes smaller and smaller as it's an 'expected part of the role'. Staff need to have a space they can access (even if the ward is short staffed) to discuss the impact of the ligature [...] someone needs to assess if the staff member is actually OK to return

to work. Ligatures are seen as "normal" and therefore there is rarely any support post-ligature

P21, Allied Health Professional, Multiple Settings

Most participants thought that support for staff after responding to ligature incidents needs to be improved (228/260, 87.7%). Many felt that support should be tailored and not 'one size fits all', including availability of external independent support if participants do not feel comfortable accessing support internally. Staff thought support should take account of the impact of accumulative exposure to traumatic incidents and should be developed by a multidisciplinary team. Alongside support provision, a need to challenge stigma surrounding accessing support, and also eliminating blame, were highlighted:

[support]should be changed from, "what did we do right and what did we do wrong", to "how do we feel" and validating these feelings. "It's okay to be scared, it's scary" and [breathe]/ground ourselves

P7, Nurse, Other Inpatient Setting

## 4 | DISCUSSION

We have investigated the experiences of clinical staff working in inpatient mental health services in England regarding their experiences of working with patients who self-harm by ligature. Specifically, we examined the issues they face, the personal and professional impacts, perceptions of training and support received, and recommendations for improvements.



The survey findings show the personal and professional impact of supporting patients who self-harm by ligature. Reflecting previous research examining reactions following inpatient suicide or suicidal behaviours (Croft et al., 2023; Gibbons et al., 2019; Hagen et al., 2017; Sandford et al., 2021), this study shows that the professional practices of staff following responding to ligatures are affected. Effects include more cautious management of risk, restrictive practices, professional doubt and consideration of a role change. Respondents' personal lives were also impacted, including a small proportion of participants meeting thresholds for possible PTSD.

Many survey respondents were frequently exposed to ligatures and had experienced the death of a patient through this method. Impact of exposure appeared to differ across level of experience. Participants described the shock and trauma of seeing a ligature incident for the first time; however, with repeated exposure, some reported habituation to self-harm, describing a culture where staff cannot access support following incidents. Normalization and repeated exposure to self-harm warrants further attention, given potential associations with complacency, detachment, burnout, moral distress and trauma responses, (Matthews & Williamson, 2016; Rouski et al., 2017). Exposure to suicidal behaviours has been shown to be associated with depression, anxiety and PTSD among mental health professionals (Aldrich & Cerel, 2022; Slade et al., 2019). The present study suggests that exposure to self-harm by ligature can also result in deleterious impacts on staff mental health.

Understaffing was frequently discussed throughout the survey. This was implicated in influencing the care of patients who ligature and staff responding to such incidents. Safe staffing levels (including adequate skill mix) have important implications for prevention of self-harm and suicide (Bowers et al., 2007; National Confidential Inquiry into Suicide and Safety in Mental Health, 2015). Spreading of ligature incidents was the second most reported issue, and mirrors findings of other qualitative studies exploring staff experiences of self-harm by ligature (Razak, 2022; Rouski et al., 2017). Negative attitudes towards, and strained relationships with patients who use ligatures were reported. Stigmatizing views regarding supporting patients who self-harm has been frequently documented in studies of staff members and service users (Awenat et al., 2017; McGough et al., 2021; Mitten et al., 2016). Causes may include burnout (Streeto & Phillips, 2022), the traumatic nature of incidents (Wilstrand et al., 2007), lack of knowledge and skills, (McGough et al., 2021; Shaw & Sandy, 2016) and working with repeated self-harm (Murphy et al., 2019).

Findings from this and other studies (Bohan & Doyle, 2008; Causer et al., 2019; Leddie et al., 2022; McGough et al., 2021; Sandford et al., 2021) highlight the need for improvements regarding training and support received by staff who respond to self-harm incidents. Guidance from the National Institute for Health and Care Excellence (2022) outlines how staff working with people who self-harm should be trained and supported. The results of the present study reinforce that at present much of this guidance is not being met. This is particularly concerning given appropriate training is important for staff retention (Adams et al., 2021) and reduction of anxiety and negative attitudes surrounding working with

suicidal behaviours and self-harm (Gibson, et al., 2019; Mitchell et al., 2020). Lack of support for staff following suicidal behaviours may have adverse effects on staff including increased emotional impact and trauma symptoms (Castelli Dransart et al., 2014).

Despite only a small number of student nurses/doctors participating, those responding gave powerful accounts of feeling unprepared and unsupported regarding working with ligatures. These findings echo responses of student nurses working with suicidal behaviours (Phillips et al., 2013), and calls from mental health nurses to educate students about working with self-harm from undergraduate level onwards (McGough et al., 2021). Due to the small number of student participants, responses were grouped. Future research should examine the experiences of students from different disciplines separately, and in more detail, to inform improvements in training and support.

## 4.1 | Strengths and limitations

The use of an exploratory design allowed a rich dataset to be gathered, including identifying challenges faced by staff members that were not addressed in fixed questions. However, for the purposes of this study, only descriptive analyses of the qualitative data were reported. Further inductive qualitative analyses will be conducted on this dataset for future publication. Despite attempts to recruit a representative sample, there are likely biases in responses. Individuals who have experienced or have strong opinions regarding ligaturing may have been more likely to participate, possibly exemplified by the large proportions of respondents who had sadly experienced the death of patients. Furthermore, due to our online sampling strategy, we were unable to target specific roles or calculate response rates. By necessity our survey was not based on an established, validated tool, with some results based on pre-defined statements. Estimates of the prevalence of self-harm by ligature were purely contextual, with further research required to record the current prevalence of self-harm by ligature incidents within inpatient mental health settings in the UK. The study focused solely on experiences of clinical staff within inpatient environments. Staff working in other settings, such as acute hospitals, prisons and the community, are also likely to be exposed to ligature use (Hawton et al., 2014; Lawrence et al., 2022; Tsiachristas et al., 2020). Further research should explore the experiences of staff in these settings.

## 4.2 | Conclusions

Staff members working within inpatient mental health services in England reported a diverse range of experiences and many challenges associated with working in inpatient settings where patients may self-harm by ligature. This study has shown a substantial impact on the personal and professional lives of staff members and indicated where improvements in training and support could have benefits for both staff and patient care.

### 4.3 | Implications for practice

The findings of this study have identified implications for training and improving support (see Table 5 for a summary of recommendations). Training regarding self-harm by ligature, coproduced with those with lived experience of ligature incidents (patients and staff), should be developed, evaluated and implemented. Training

may benefit from including practical components (such as how to use a ligature cutter), simulation and reflection on real-life scenarios, recognition of the emotional impact of response, education on reasons for self-harm, and how to provide support for patients following incidents. It may also be beneficial for students studying mental health nursing to receive such training prior to clinical placements. The survey responses and findings of other

**TABLE 5** Training, support and research recommendations.

Recommendation	Explanation
<b>Training</b>	
Consistent training for all staff	<ul style="list-style-type: none"> <li>All staff members who work within an inpatient mental health setting regardless of position, and inclusive of students, should receive training regarding self-harm, including self-harm by ligature.</li> <li>Evidence-based training should be shared across organizations upon evaluation to promote good practice across settings.</li> </ul>
Practical training	<ul style="list-style-type: none"> <li>Training should include practical components. For example, showing types of ligature cutters and practice of their use.</li> </ul>
Proactive training	Training should explore: <ul style="list-style-type: none"> <li>Potential reasons why self-harm by ligature may occur (including addressing stigmatizing assumptions)</li> <li>Strategies to avoid self-harm by ligature (e.g. patient support, identifying environmental risks)</li> <li>How to support patients following a self-harm incident.</li> <li>What may occur if a patient sadly dies though self-harm or suicide. For example, what to expect at a coroner's court and how the organization will respond to media attention following a suicide.</li> </ul>
Recognition of emotional impact	<ul style="list-style-type: none"> <li>The emotional impact that working with self-harm should be named and acknowledged.</li> <li>Training should include education on sources of support following incidents, and how to support colleagues in a peer capacity.</li> </ul>
Reflection on real-world incidents	<ul style="list-style-type: none"> <li>Training should include examples of previous self-harm by ligature incidents relevant to the individual inpatient setting.</li> </ul>
Coproduction	<ul style="list-style-type: none"> <li>Training should be informed and piloted with staff who have experience of responding to ligature incidents, alongside individuals with lived experience of self-harm by ligature.</li> </ul>
<b>Support</b>	
Consistent support for all staff	<ul style="list-style-type: none"> <li>All members of staff, regardless of position should be able to access support following a self-harm incident.</li> <li>Further considerations should be made for individuals in managerial positions, who may be supporting other staff, alongside requiring their own support.</li> </ul>
Protected time for support	<ul style="list-style-type: none"> <li>Staff should be able to access support following incidents of self-harm alongside existing clinical supervision opportunities.</li> </ul>
Multiple sources of support	<ul style="list-style-type: none"> <li>Staff should be able to access multiple forms of informal and formal support measures. For example, from colleagues, managers and occupational health.</li> <li>External independent support should be signposted.</li> </ul>
Challenge normalization	<ul style="list-style-type: none"> <li>Repeated exposure to self-harm should not be normalized.</li> <li>Stigma surrounding accessing support following self-harm should be challenged.</li> <li>Staff should be educated about the potential impact of exposure and encouraged to seek support whenever required.</li> </ul>
Challenge blame culture	<ul style="list-style-type: none"> <li>Staff should not feel blamed following a self-harm incident.</li> <li>Support for staff (alongside patients) should be prioritized following incidents.</li> </ul>
Acknowledge cumulative effect	<ul style="list-style-type: none"> <li>Support providers should be aware of and account for the cumulative impact that responding to multiple traumatic incidents may have on staff.</li> </ul>
Involve multidisciplinary team	<ul style="list-style-type: none"> <li>Support plans should be developed with involvement of multidisciplinary professions including psychological input.</li> </ul>
<b>Research</b>	
Students within inpatient settings	<ul style="list-style-type: none"> <li>The experiences of students who encounter self-harm while on clinical placement should be explored in greater detail to understand how training and support can be improved.</li> </ul>
Additional mental health settings	<ul style="list-style-type: none"> <li>Challenges surrounding self-harm by ligature in other settings should also be examined, for example in prisons, general hospitals and within the community.</li> </ul>
Training programmes	<ul style="list-style-type: none"> <li>Training surrounding self-harm should be developed, evaluated and implemented, including the use of implementation science to support embedding training into routine practice.</li> </ul>

studies suggest that provision of support for staff working in settings where patients self-harm is also highly variable and requires greater attention.

## 5 | RELEVANCE STATEMENT

Self-harm by ligature is a common method of self-harm within inpatient mental health settings and carries a high risk of fatality. Despite national concerns regarding ligatures, there is little research examining the experiences of staff (including nurses) who support patients who use this method of self-harm. Staff experience a range of issues related to working with ligatures. There is a need to improve accessibility, format, and content of training and support for staff working within inpatient settings where patients may self-harm by ligature, including training and support for student nurses prior to practice.

## AUTHOR CONTRIBUTIONS

Keith Hawton, Samantha Groves and Karen Lascelles were responsible for study conception and design, and interpretation of the results. Samantha Groves and Karen Lascelles acquired the data. Samantha Groves and Karen Lascelles were responsible for data analysis. Samantha Groves drafted the report, which all authors critically revised for intellectual content. All authors approved the final report and are accountable for all aspects of this work.

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## DISCLOSURE STATEMENT

KH declares grants from the National Institute for Health Research and the Department of Health and Social Care. He is a member of the National Suicide Prevention Strategy for England Advisory Group and is a National Institute for Health Research (NIHR) Senior Investigator (Emeritus). All other authors declare no competing interests. The views expressed are those of the authors and not necessarily those of the NHS, NHSE, NIHR, or the Department of Health and Social Care.

## DATA AVAILABILITY STATEMENT

Research data are not shared.

## ETHICS STATEMENT

Ethical approval was granted by the Health Research Authority 22/HRA/0653. All participants provided informed consent prior to participation. Quantitative survey responses were anonymous, and qualitative data were anonymised prior to analyses. Participants

were given the option to contact the research team to indicate interest in receiving a summary of research findings or to be notified of future related research opportunities.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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