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Title page

Indirect victims of violence: mental health and the close relatives of serious assault victims in England

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Elizabeth Cook: Conceptualization. Writing – original draft, **Sally McManus:** Conceptualization. Formal analysis, Data curation, Writing – review & editing,.

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Data availability: The APMS dataset is lodged with the UK Data Service archive. Permission to use the dataset for this analysis was obtained from NHS Digital. Requests for further use should be made to the Data Access Request Service at NHS Digital [https://digital.nhs.uk/services/data-access-request-service-dars].

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Conflicts of interest

On behalf of all authors, the corresponding author states that there are no conflicts of interest.

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Abstract

An extensive body of evidence shows the impact of being the *direct* victim of a serious assault. However, much less is known about the impact on the family and close relatives of victims, who may be considered *indirect* victims. Based on analyses of the 2014 Adult Psychiatric Morbidity Survey, a face-to-face, cross-sectional probability-sample survey of 7519 adults aged 16 and over in England, this article estimates what proportion of the population was closely related to a victim of serious assault, and whether this experience was associated with a higher prevalence of feeling unsafe, depression and anxiety disorder, post-traumatic stress, self-harm, and suicidality. Descriptive and multivariable regression analyses were conducted, adjusting for complex survey design and potentially confounding factors. Results show that one in twenty adults (4.5%, n=345) was closely related to a victim of serious assault (95% confidence interval (CI):4.0-5.2%). Close adult relatives of assault victims were more likely than the rest of the population to have been direct victims of violence and abuse themselves, to have experienced multiple other adversities, and to live in more deprived neighbourhoods. However, even when controlling for these experiences, relatives of victims had adjusted odds of feeling unsafe in the neighbourhood where they lived 2.36 times higher than the rest of the population (CI:1.26-4.44), and their odds of having a depressive or anxiety disorder were 1.37 times higher (0.99-1.90). These analyses indicate that relatives in England may already be vulnerable, with potential to also be further affected by the experiences of family members. To more fully account for the effects of violence in society, research with indirect victims of serious violence in the context of their own experiences of direct victimization and wider

adversities is required. This could be factored into a broader remit for victim support services which includes support for victims' families.

Main text

Introduction

The positioning of interpersonal violence as a public health problem has highlighted the extensive harms of violence to mental health and wellbeing, and the strain that violence places on social, health and welfare services (Krug et al., 2002; Bellis et al., 2012; Public Health England, 2019). Previous studies have shown that direct experience of violence increases the risk of physical injury and poor mental health outcomes, such as anxiety, depression, and self-harm (McManus et al., 2022), as well as creating economic burdens on society through the cost of public services, lost productivity, and reducing the quality of life for victims (Walby and Olive, 2014). The impact of interpersonal violence extends beyond those experienced directly by the individual and can travel across ties of kinship, family (Condry, 2010; Cook, 2021) and social bonds/identities to a wider range of indirect victims. With around half of direct victims seeking non-statutory sources of support, these are the people often turned to for help (McCart et al., 2010).

However, the extent to which indirect victims (in particular, the family members and other close relatives of direct victims) are affected has received little attention and represents a significant gap in our understanding of violent victimization. While the mental health impacts on indirect victims of violence may be similar to those experienced by direct victims, the mechanisms leading to them may be different and dependant on the type of violence, or the degree of physical or relational proximity to the violent event or victim. What we know about these mechanisms can be drawn from research on secondary trauma and related fields. Secondary trauma has been defined as the spread of negative emotional and cognitive states

from those who are traumatized to those who have close contact with these individuals (Motta, 2023). Motta describes secondary trauma as a common and commonly ignored stressor whose impact is wide ranging. It has been linked to a range of childhood experiences (Motta, 2023), including children exposed to violence in the home, and family members with shared emotional, familial, socioeconomic and neighbourhood proximity to violence and risk factors for violence (Evans, Davies and DiLillo, 2008). Vicarious trauma, secondary traumatic stress, and compassion fatigue have been widely examined in those working as first responders, professional caregivers, and in an array of other occupations (Velasco et al., 2023; Newell & MacNeil, 2010; Rauvola et al., 2019). The mental health consequences of providing social support to direct victims (Gregory, Williamson and Feder, 2017) has also been researched, often focusing on those providing care for family members with health conditions (Schulz & Sherwood, 2008), including COVID-19 (Dellafiore et al., 2022). In relation specifically to violence, research has tended to focus on the experience of violent bereavement (experienced by relatives or friends of homicide victims) rather than the relatives of victims of non-fatal violence (Reed and Caraballo, 2022).

Various mechanisms by which indirect victims may be affected by violent victimization have been proposed. These include via physical proximity (e.g., intervening), witnessing (e.g., seeing or hearing) or coping with the aftermath (e.g., caring or providing for someone who has been harmed) (Mohr et al., 2000; Evans, Davies and DeLillo, 2008). Relatives may be affected because they witnessed violence, feared for their relative's life or their own, or witnessed the subsequent distress or injury experienced by their relative may also have feelings of guilt at having failed to protect (Davis, Taylor and Bench, 1995). Although, relatives form a significant part of direct victims' social support networks, Gregory, Williamson and Feder's (2017) systematic literature review of the impact of providing 'informal support' for domestic violence victims identified only 24 studies with any data on the subject, none of which addressed the

question directly. When indirect victims were considered in these studies, it was only in so far as they helped or hindered the *direct* victim's recovery. Relatives may also be affected in that they have acquired new caring or advocacy responsibilities for the direct victim (Cook, 2021) or have been affected by their relative's reduced capacity in some other way, for example, the loss of income (Smith et al, 2014). This research demonstrates that there may be additional administrative or financial burdens which are shouldered by relatives, as well as emotional and social ones.

Finally, there is a literature on families' experiences of violent bereavement (i.e., fatal violence) (Connolly and Gordon, 2015; Reed and Caraballo, 2022). Although fatality presents a unique burden on relatives, this body of literature raises several questions for how relatives experience and respond to *non-fatal* violence. For example, Connolly and Gordon's (2015) systematic review found that relatives of homicide victims commonly experienced symptoms of post-traumatic stress, anxiety, and depression, while children and adolescents also experienced behavioural changes such as aggression or withdrawal, embedded within a broader context of social, emotional, and familial upheaval. This field raises questions regarding what the presence of fatality does in the context of relatives' experiences of interpersonal violence, and how it differs in terms of what statutory services are available for relatives in the aftermath of non-fatal violent victimization (Connolly and Gordon, 2015).

Taken together, the existing evidence shows that relatives are in various ways negatively affected by violent victimization, including vulnerability, depression and anxiety disorder, post-traumatic stress, increased caring responsibilities – without being directly victimized. However, the existing literature has been limited in terms of the clinical relevance and breadth of mental health sequelae captured. The mental health measures used have tended to screen for general psychological distress and not operationalise diagnostic criteria and severity thresholds in the assessment of mental health conditions. While existing research on

the effects of indirect experience of violence has considered symptoms of anxiety, depression and post-traumatic stress, few studies beyond those on bereavement by violent victimization have examined outcomes related to suicidal thoughts and behaviours and self-harm (Scott et al., 2020). Further, existing research has rarely been based on nationally representative probability samples, and so has provided little insight on the extent of indirect victimization in populations.

As scholarship on wider exposure to violence develops, it is important to distinguish between different *levels* of exposure, including in the context of familial relationships (Mohr et al., 2000; Soler et al., 2013; Turner, Finkelhor and Henley, 2021). Considering exposure through the lens of poly-victimization has also provided a framework through which these intersections have been viewed, confirming the importance of "understanding the accumulation and intersections of violence, victimization, and adversity across different contexts and domains of exposure" (Turner, Finkelhor and Henley, 2021). However, studies that have taken a person-centred approach to examining clustering not only found that several types of violent victimization (for example, bullying and domestic violence) can occur alongside one another, but also that they often occur alongside other forms of major adversity (for example, bereavement, unemployment, housing crises, and divorce) (Scott and McManus, 2016; Soler et al., 2013; Finkelhor, Ormrod and Turner, 2007). To more fully account for the range of mental health impacts and outcomes of serious violence in society, analysis of indirect victims of serious violence in the context of their own direct experiences of victimization and wider adversities is required.

Relatives could be 'exposed' to violence in that they are directly victimized themselves (for example, being harmed as a result of the violence targeted at another person or as a co-victim of the same perpetrator, or in the same attack), they could witness violence (for example, seeing or hearing violence against a relative), attempt to intervene (for example, trying to

mediate or protect a relative being assaulted), or have to adapt and cope in the aftermath of a violent episode (for example, caring or advocating for a relative, or taking on more responsibility). Even more, although most work in this area is focused on the experiences of children and adolescents, often in relation to family violence, these are experiences that can be spread across the life course (DeCou and Lynch, 2017). A relative could experience indirect victimization via all, one, or none of these mechanisms. However, because indirect victimization is rarely asked about on national population surveys, little is known of its prevalence.

The questions that this paper seeks to address are: *What proportion of England's adult population is closely related to a victim of serious assault?* And, considering the negative effects of secondary trauma: *Do relatives of victims of serious assault have poorer mental health and elevated suicidality than those who are not related to a victim of serious assault, when adjusting for their experiences of direct victimization?* The primary aim of this paper is to address the gap in evidence specifically on adult relatives of victims of non-fatal violence. Having outlined some approaches to this field, we outline a methodology in the next section consisting of secondary analyses of a general population survey of the mental health of adults in England. We then present our results including descriptive and regression analyses. Descriptive analyses estimate the prevalence of being closely related to an assault victim and describe relatives' characteristics and experiences of victimisation and adversity compared with the rest of the population. A series of six multiple regression analyses identify whether they were more likely than the rest of the population to feel unsafe and experience various indicators of poor mental health, self-harm, and suicidality, after step-by-step adjustment for demographic characteristics, socioeconomic circumstances, and their own direct experiences of adversity and victimization. In the final section, we discuss the limitations and implications for future research, policy and practice, arguing that to more fully account for the effects of

serious violence in society, we must consider the experiences of relatives of victims of serious violence in the context of their own direct experiences of wider adversities and victimization.

Methodology

We conducted a secondary analysis of data from the 2014 Adult Psychiatric Morbidity Survey (APMS), the most recent in a series of national, cross-sectional survey of the mental health of adults in England.

Participants and procedures

The survey covered the household population of England aged 16 and above, using a stratified, multistage random probability sampling design drawing on the national Small User Postcode Address File. This involved multiple stages: sampling primary sampling units (PSUs); addresses within selected PSUs; and one individual from each selected address. PSUs were individual or groups of postcode sectors. A postal sector contains on average 2,550 delivery points (or addresses). Small postal sectors were grouped with contiguous sectors so that each group contained at least 500 delivery points. Before selection, the list of PSUs in England was ordered (stratified) by a number of strata and a systematic random sample was selected from the ordered list. This ensured the different strata in the population were correctly represented and increases the precision of survey estimates (McManus et al., 2016; McManus et al., 2020). People living in communal or institutional establishments, in temporary housing, or sleeping rough, were not in scope.

After the mailing of an advance letter with information about the study, all selected addresses were visited in person by a trained interviewer who introduced the survey to the randomly selected resident. Participants were interviewed in their own homes, or another location as preferred, at a time of their choosing. Fieldwork took place May 2014 to September 2015, with verbal informed consent. The final sample comprised 7546 individuals interviewed

in their own homes, a response rate of 57%. At the end of the interview all participants were provided with a list of helplines, as well as a voucher as a token of appreciation.

Weights were developed to take account of selection probabilities and known patterns of non-response, in order to render results representative of the household population. Interviews averaged an hour and a half and were conducted in people's own homes (or elsewhere, if preferred) by trained research interviewers.

The interview involved computer-assisted personal interviewing (CAPI), with some sensitive information collected using computer-assisted self-completion interview (CASI), in which the participant used the interviewer's laptop. They were told beforehand that the interviewer would be unable to see the results of the self-completed parts of the interview.

Measures

Outcomes: feeling unsafe, mental disorder and suicidality.

Whether participants felt unsafe in their local neighbourhood was indicated by disagreement with a single-item statement: 'I feel safe around here in the daytime'. Participants were instructed that 'by "around here" we mean anywhere you can walk to, from your home, in 5 minutes'. The question was framed as about current feeling, with no time frame specified. A binary coded variable was derived combining 'strongly disagree' with 'somewhat disagree' (1) and 'neither' and 'somewhat agree' with 'strongly agree' (0).

Common mental disorders (CMDs) were assessed using the Clinical Interview Schedule – Revised (CIS-R). This is an extensive interviewer-administered structured interview covering the presence of non-psychotic symptoms in the week prior to interview, comprising over 130 items. It can provide prevalence estimates for six CMDs according to ICD-10 clinical criteria (WHO, 1993): generalised anxiety disorder, phobia, obsessive compulsive disorder, panic disorder, depression and other common mental disorder not

otherwise specified (Lewis et al., 1992). A derived outcome indicated either the presence or absence of any CMD.

Possible cases of current PTSD were screened for using the civilian version of the PTSD Checklist (PCL-c), a 17-item self-report measure covering the DSM-IV criteria for PTSD, the survey was designed before the DSM-5 revised criteria were in wide use. (Conybeare et al., 2012). The items referred to the past month. A positive screen was defined as a score of 50 or more on the derived symptom severity score, provided items from each of the three DSM-IV criteria for PTSD (re-experiencing; avoidance and numbing; hyperarousal) were endorsed. CMD identified using the CIS-R was the primary mental health outcome in the analyses, given this was assessed using the more detailed assessment tool. Although not assessed with same level of diagnostic accuracy, screening positive for PTSD was included as a secondary mental health outcome to provide insight on symptoms more explicitly attributable to experience of traumatic events.

In the face-to-face section of the interview, participants were asked: 'Have you ever thought of taking your life, even though you would not actually do it?' An affirmative response was followed with a question about when this had last occurred, and a variable was derived indicating those reporting such thoughts in the past year. Although intentionality can be difficult to establish, suicide attempts and non-suicidal self-harm were examined separately (McManus et al., 2019). Questions about suicide attempts within the past year were asked in both the face-to-face and self-completion sections of the interview: 'Have you ever made an attempt to take your life, by taking an overdose of tablets or in some other way?' A variable was derived that combined reports of a suicide attempt in the past year in either section of the interview. Non-suicidal self-harm was also asked both face-to-face and in the self-completion section: 'Have you ever deliberately harmed yourself in any way but not with the intention of killing yourself?' Non-suicidal self-harm in the past year also drew on reports from either the

face-to-face or self-completion section. While agreement was high, rates from the self-completion section were higher.

Exposure: being closely related to victim of serious assault.

An adapted version of the List of Threatening Experiences (LTE) (Brugha et al., 1985) was used. During the face-to-face interview participants were handed a show-card and asked to indicate which, if any, of the listed items they had ever experienced during their life. The items on the show-card were numbered: if they preferred, participants just gave the relevant number to denote endorsement of the experience. The latest survey, carried out in 2014, divided an existing item on being the close relative of someone who had experienced illness, injury or serious assault into two new separate items. This analysis focuses on those who reported having ever been the serious assault of a close relative (irrespective of whether they also endorsed the item on illness/injury). No further information about the assault was available. It should be noted that participants would only report being related to a victim of assault where they were aware that an assault had occurred, assaults that had not been witnessed by or disclosed to others therefore are likely to be missed.

Covariates: other adversities and sociodemographic factors.

Using the LTE, the number of other lifetime adversities experienced were counted to produce a summary variable. The types of adversity counted were: direct experience of serious illness or injury, sexual abuse, violence at home, violence at work, homelessness, running away from home, expulsion from school, bullying, redundancy or having been sacked from a job, extended work search without success, major financial crisis, something valued being lost or stolen, and relationship breakdown.

Participants' own direct experience of serious assault was also established using the LTE. In addition, experience of physical violence from a current or former partner was also about in the self-completion section of the interview with questions adapted from the British

Crime Survey, originally based on the Conflict Tactics Scale (CTS) (Straus, 1979). Physical violence from an intimate partner was established by asking: 'Has a partner or ex-partner ever pushed you, held or pinned you down or slapped you?' and 'Has a partner or ex-partner ever kicked you, bit you, or hit you with a fist or something else, or threw something at you that hurt you?' Sexual violence or abuse since age 16, from any type of perpetrator, was derived from questions about non-consensual sexual contact and sexual intercourse.

Standard demographic questions established gender (men, women), age (16-34, 35-54, 55-74, 75 or over) and de facto marital status (single; married or cohabiting; separated divorced or widowed). Ethnicity was self-ascribed and grouped into White British, White Other, Black/Black British, Asian/Asian British, and Mixed, Multiple or Other ethnic group. Socioeconomic context was captured using housing tenure (owner-occupier, renting from a social landlord, renting from a private landlord) and participants' employment status (employed, unemployed and looking for work, economically inactive). Having regular unpaid caring responsibilities for someone due to health or disability was asked, and coded as being either for a relative or a non-relative. If participants provided unpaid care for more than one person, they were classified according to the person they provided the most care for. Area-level deprivation was measured using quintiles of the ranked English Index of Multiple Deprivation (IMD) scores (Noble et al., 2019). One of the domains that make up the IMD score takes account of local area rates of reported crime.

The questionnaire and further methodological details are available elsewhere (McManus et al., 2016; McManus et al., 2020).

Data analysis

Our analyses used weighted data and took account of complex survey design, selection probabilities and non-response, rendering results representative of the household population. Population control totals were obtained from the UK Office for National Statistics population

estimates for age by sex and region. True (unweighted) sample sizes are presented. In Table 1, the prevalence of demographic and socioeconomic indicators of social circumstance are presented for close relatives of assault victims and the rest of the population. In Table 2, the prevalence of direct victimisation, multiple adversity and indicators of poor mental health are presented. The significance of differences between the groups was established with a *p* value generated through unadjusted binary logistic regressions. Non-overlapping 95% confidence intervals (CI) provided further statistical evidence for differences between groups.

We examined the extent to which the association between being related to an assault victim and mental health related outcomes could be explained by other characteristics and experiences (Table 3). A series of four logistic regression models were run to produce unadjusted and adjusted odds ratios (OR) for each of the six dependent variables (feeling unsafe in the local neighbourhood (1), depression and anxiety disorder (2) and screening positive for PTSD (3) in the past week, and past year non-suicidal self-harm (4), suicidal thoughts (5), and suicide attempt (6)) with being the close relative of an assault victim as the independent variable. All dependent (outcome) variables were binary coded so that a consistent binary logistic regression approach could be applied in all 24 models. To test the extent to which demographic and socioeconomic differences might account for mental health differences between relatives and the rest of the population, the first adjusted models included gender, banded age, housing tenure, and area-level deprivation quintiles. The second adjusted models further included being a direct victim of violence, to examine whether differences in the mental health of relatives and the rest of the population could be accounted for by their own direct experience of violent victimization. The final adjusted model further included a wide range of adversities, to test whether differences in mental health were driven by differences in experience of multiple adversity to the extent that being the relative of a victim of violence would no longer confer a significant, independent effect. Correlation coefficients were

reviewed as a check for collinearity, with further checks conducted by calculating the variance inflation factors of independent variables; all variables had variance inflation factor values of less than 2, indicating that they were not too closely correlated. Missing data were minimal: 27 participants did not respond to the question on being closely related to an assault victim, mostly due to partial completion of the survey. They were excluded from analyses, yielding an analytic sample of 7519. All analyses were conducted in SPSS (version 21.0) or Stata (version 14.1).

Results

Prevalence and characteristics of relatives of assault victims

In 2014, around one adult in twenty (4.5%, 95% CI: 4.0-5.2, n=345) in England was aware that they were closely related to a victim of serious assault (Table 1). Relatives of assault victims were slightly more likely than the rest of the population to be younger (p=0.024) and to live in social housing (p<0.001) and in the most deprived neighbourhoods (p=0.004). Relatives of victims of violence were also more likely than the rest of the population to have unpaid caring responsibilities for family members due to sickness or disability (p=0.029). There were no statistically significant differences in the likelihood of being the close relative of an assault victim between men and women, by ethnic group, by marital or cohabitation status, or by employment status.

<TABLE 1 HERE>

Table 2 shows that adults related to assault victims were about five times more likely (29.1%) than adults not related to assault victims (5.4%) to have direct experience of a serious assault victimization themselves. Relatives of assault victims were twice as likely as the rest of the population to have experienced physical violence from an intimate partner (32.0%, compared

with 13.4%) or sexual violence (11.1%, compared with 5.3%). The majority of people closely related to a victim of violence had faced multiple types of adversity in their life; 60.0% experiencing three or more adversities, compared with 28.8% of people not related to a victim of violence. Although experience of violence is highly gendered, the pattern of elevated rates of direct victimization among the relatives of assault victims was evident both in men and women.

Mental health and suicidality in relatives of assault victims

Relatives of assault victims were about four times more likely than non-relatives to report feeling unsafe in their neighbourhood in the daytime (8.2% vs 2.1%). They were around twice as likely to have depression or an anxiety disorder (31.7% vs 16.3%), to screen positive for post-traumatic stress disorder (PTSD, 8.4% vs 4.2%), and to report in the past year having had suicidal thoughts (10.9% vs 4.7%), self-harmed (4.1% vs 1.6%), or having made a suicide attempt (1.9% vs 0.6%).

Again, similar patterns of association between being a relative of a serious assault victim and each outcome were evident in both men and women. That is, both in men and women, all the examined adversity indicators and mental health and suicidality outcomes were more prevalent in relatives than non-relatives, with no significant interactions with gender found.

<TABLE 2 HERE>

Table 3 presents the odds of each outcome being present in relatives of victims compared with people not related to an assault victim (the reference group). As well as unadjusted odds ratios, three adjusted models are presented for each of the six outcome variables (feeling unsafe, depression and anxiety disorders, positive PTSD screen, and past-year self-harm, suicidal thoughts, and suicide attempt).

In the first set of modelled regressions, with adjustment just for demographic, socioeconomic and area-level factors, the odds were attenuated slightly but remained statistically significant for all six outcomes. That is, even accounting for differences by gender, age, marital or cohabitation status, housing tenure, and area-level deprivation, victims' relatives were more likely than the rest of the population to experience all the adverse mental health outcomes examined.

In the second set of modelled regressions, further adjustment accounted for the fact that relatives of victims also experienced higher rates of direct victimization themselves, as well as socioeconomic and demographic differences. When also adjusting for relatives' own experiences of serious assault, sexual violence (rape and other non-consensual sexual contact), and physical violence from a partner, their odds of having depression or an anxiety disorder were attenuated, but at 1.42 times higher than non-relatives (95% confidence interval (CI) 1.03-1.97, p=0.033) the association remained significant. Their adjusted odds of feeling unsafe in the daytime in the area where they lived were 3.44 (1.82-6.50, p<0.001) times higher than in people not related to assault victims. The adjusted odds ratios for suicidal thoughts (1.56, 0.96-2.52, p=0.073), suicide attempt (1.57, 0.67-3.66, p=0.294), and non-suicidal self-harm (1.49, 0.65-3.41, p=0.341) in the past year appeared elevated, but there was no longer a statistically significant difference between those related to an assault victim and those who were not, when participants' own direct experiences of violence were controlled for. Adjustment for direct experience of victimization also explained relatives' higher rates of screening positive for PTSD (1.29, 0.87-1.91, p=0.208).

Finally, a third set of six regression models were run which took account of the fact that the relatives of victims were more likely than the rest of the population to experience a wide array of other types of adversity, both violent victimization and other experiences known to be associated with poor mental health and suicidality, such as relationship breakdown, job loss

and homelessness. While PTSD and suicidality and self-harm outcomes were no longer significant (all with *p*-values greater than 0.1), relatives' odds of feeling unsafe remained highly and significantly elevated (2.36, 1.26-4.44, *p*=0.008) compared with the rest of the population.

<TABLE 3 HERE>

Discussion

This analysis shows that being the close relative of a victim of serious assault is not uncommon in England, especially among people living in social housing and more deprived neighbourhoods. We found that relatives of victims had worse mental health and were more likely to self-harm and experience suicidality compared with people not related to an assault victim. Socioeconomic factors – including being more likely to live in areas with a higher reported crime rate – explained some, but not all, of this association. While their own direct experiences of violence and abuse explained most of their elevated rates of post-traumatic stress and suicidality, even when accounting for such experiences close relatives of victims were more likely to experience depression and anxiety disorders than the rest of the population. Therefore, while relatives often experienced violence themselves directly, this did not fully explain their worse mental health. This suggests that the assault of one person often has knock-on effects on the mental health of others in the family. The strongest potential impact to emerge was that of fear: having a relative who had been a victim of violence had a substantial and enduring association with how safe people felt.

A key contribution of this analysis is in showing that relatives of victims were much more likely than the rest of the population to have been direct victims themselves of assault, sexual violence, and violence from a partner themselves, and were more likely to live in a

context of multiple adversity. Their own direct experiences of victimisation accounted for much of their worse mental health. In public health, person-centred research on poly-victimization has demonstrated the importance of differentiating between those who experience one type of victimization and those who experience multiple types, either consecutively or as co-occurring (Finkelhor, Ormerod and Turn, 2007). However, as Lee et al. (2022) point out, there is some variation as to how poly-victimization has been conceptualized and operationalized, specifically, what constitutes 'multiple victimization' - whether within different settings, by different perpetrators, and/or cumulatively. Although not taking a person-centred analytic approach, our analysis suggests that further research drawing on insight from the poly-victimisation field should consider the cumulative effects of both direct and indirect victimization. This analysis has demonstrated that, relatives of victims have worse mental health outcomes, explained in part by being more likely to be a direct victim themselves. The interaction between direct and indirect victimization, especially within the context of multiple adversities and shared violence risk factors, therefore, requires further person-centred investigation. This analysis has further shown the importance of nuanced investigation of a range of mental health outcomes. While elevated prevalence of suicidality, self-harm and post-traumatic stress were largely explained by direct victimization and a context of multiple adversity, feelings of fear and lack of safety persisted.

Implications for policy and practice

Situating this analysis within the wider social and political context of violence, the results presented here have several implications for policy makers and practitioners invested in providing services to direct victims and their relatives.

For health and victim support services, practitioners and advocates need to be aware that the relatives of victims of violence are more likely to live with financial strain and have often been victims themselves, and thus that relatives may already have been experiencing

stress and heightened vulnerability in a context of reduced resources. The additional distress experienced by relatives may be especially likely to manifest in feelings of fear (limiting the extent to which they may feel able to engage in support activities outside the home) as well as in feelings of anxiety and depression. Support services may need to adapt to reflect this potential poly-victimization and context of multiple adversity. While as a group, relatives were more likely to experience signs of PTSD and suicidality, our results indicate that these particular symptoms may result more from their greater direct experience of victimization and multiple adversity. Such evidence is key to estimating the scale of demand for and better targeting and adapting services to support the needs of families.

For policy makers, the analyses here demonstrate that violence is associated with enduring adverse outcomes for indirect victims. Economic estimates of the costs of violence should therefore count not just the harm caused to the quality of life of direct victims, but also of indirect victims, where further costs of treatment, recovery, and impacts on productivity can be factored in. In the UK, a new Victims and Prisoners Bill provides some advance towards this more inclusive definition of victimization (Ministry of Justice, 2020; Ministry of Justice, 2024). However, these provisions are aims largely for relatives who have been bereaved, rather than those affected by non-fatal violence, and a narrow legal definition of victims is still employed. Future developments of victim policy should also recognise the potential impacts of violence on the mental health of the relatives of victims of non-fatal violence.

Limitations and implications for future research

There are several limitations of the current study which prevent a more nuanced analysis of indirect victims' experiences of violence and adversity, and which are important to highlight for developing future research in the area.

First, the dataset does not allow us to discern the nature of the relationship between direct and indirect victims, other than the relative's self-identification as a 'close relation'. Relatives may be vulnerable to cumulative adversity and exposure to violence over time: it may be that direct victims and their relatives live in the same high-crime neighbourhood or household (for example, in a context of domestic violence). This cross-sectional dataset did not allow us to establish chronology – such as whether the relative or the victim they were related to had experienced violence first, or if they were co-victims of the same perpetrator or another household member even as part of the same attack. These cross-sectional data present major limitations to understanding temporality and testing causal direction. Further research is needed to untangle the overlapping and intersecting experiences of multiple victimization and adversity, including overlaps with perpetration and understanding whether participants might work in an occupation where they may be at elevated risk of vicarious trauma. Person-centred analytical approaches, as used in the poly-victimisation field, should be applied in such work.

Second, the data cannot fully elucidate the mechanisms underlying the elevated rates of fear, anxiety, depression and suicidality in relatives of victims other than to highlight the key role of a context of multiple adversity in attenuating these associations. As discussed earlier, relatives' higher odds of poor mental health may have resulted from having witnessed the violent incident (Øverlien and Hydén, 2009), from being harmed by violence they were not a direct target of, or because they experienced an increased burden of care responsibilities after the assault to support their relatives' recovery (Cook, 2021). Indeed, our analyses do show that the relatives of victims of violence were far more likely than the rest of the population to have caring responsibilities. The mechanisms by which relatives are likely to experience higher odds of fear, anxiety, depression and suicidality needs further research, including research taking a more person-centred approach.

Although a high-quality, national probability sample, the number of participants to report knowing that they were the close relative of a serious assault victim (n=345) was relatively small for robust analysis by ethnic group and of intersectional inequalities. Data collection in the UK involving probability samples that boost the number of participants from a wide range of ethnic groups is urgently needed. Further consideration of gender identity was also not possible as participants were binary coded in the survey as either men or women, improved data collection is needed to allow for more nuanced analysis of gender. As a household sample, people living during the fieldwork period in a refuge, prison or other institutional setting, or who were homeless, were out of scope of the study. The data were collected in 2014-2015 and while they remain the most recent available on this topic in England, it should be noted that the population will have changed somewhat over time, for example become somewhat more ethnically diverse. It is also possible that the COVID-19 context has influenced the nature of the association between mental health and being related to a victim of violence, especially given changes in physical contact and service access (Pierce et al., 2021).

Furthermore, the data provide little nuance regarding the nature, timing and context of the assault, any repetition, and legal or other outcomes. The survey responses are based upon participants' reports of serious assault and, therefore, relies on subjective interpretations of what constitutes *serious* assault and relied on the assault having been disclosed to (or witnessed by) the relative. It is possible that participants will more readily report on physical incidents of violence, perhaps those occurring in public places (Cook and Walklate, 2022), than patterns of coercive and controlling behaviour involving acts of non-physical assault (Myhill and Kelly, 2021). Reporting bias is also possible; relatives of victims of violence may be more likely to disclose their own adverse experiences in a survey than those not related to a victim of violence. Whether victims are more or less likely to disclose certain types of violence to a relative, and

to a certain relation, is uncertain - and potentially gendered (see Fisher et al., 2003, in relation to victims' disclosure of sexual assault). While the current study did not find a statistically significant difference in the likelihood of women and men describing themselves as the relative of a victim of violence, further research, including improved data collection and person-centred analytic approaches, is needed to understand gendered patterns in the types of violence disclosed and the gender of the direct victim and other intersectional variations.

Conclusion

This study represents an advance in understanding of the mental health and circumstances for relatives of victims of violence, a group rarely considered previously but likely to face substantial unmet need (Huang, 2018). Previous research has tended to be qualitative, providing depth in understanding of experience but unable to quantify prevalence or strength of associations, or to make comparisons with the rest of the population. Few surveys have asked the questions that enable indirect victimization to be identified. Crime surveys, in particular, tend to focus on individualised and isolated incidents of direct victimisation, and miss experiences of indirect victimisation, perpetration, and the context of cumulative health and socioeconomic adversities, including vicarious trauma in occupational settings, with impacts on resilience and coping. Multiple forms of interpersonal violence can co-occur (Finkelhor, Ormerod and Turner, 2007; Turner, Finkelhor & Henley, 2021), be compounded by other forms of adversity, and extend beyond the harms experienced by primary actors. Future research could broaden the concept of poly-victimization to encompass both direct and indirect victimization and interactions between the two.

Questions that enable the identification of close relatives - and other potential indirect victims of violence - are especially needed on cohort and other studies using a longitudinal design, to enable the disentangling of causality and effect in the context of multiple adversity to avoid reliance on cross-sectional studies. Further, studies need to collect data that allow for

investigation into the mechanisms that explain the elevated rates of fear, anxiety, and depression in the relatives of victims of violence. In particular, the extent to which this is mediated by factors associated with the violent incident (such as the trauma of witnessing the event) and factors associated with its aftermath (such as increased care burden). While the evidence presented here reinforces the need for victim support services to be resourced to serve a wider remit and population, information on mechanisms is needed to improve the tailoring of intervention design and the location of services. Furthermore, in court assessments of the emotional toll of violence and in economic costings of its societal and individual impact, these results indicate that 'impacts' need to be counted broadly and should include both primary and secondary victims. Health and social services are already advised to routinely enquire into patients' direct experiences of victimization, these results indicate that enquiry could be extended to whether others in the family have been exposed to violence and whether this has had spill over effects on the patient and other family members.

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Tables

Table 1 Demographic and socioeconomic characteristics of close relatives of assault victims, compared with the rest of the population

		Not a close relative		Close relative		All adults [a]		
		n	Weighted %	n	Weighted %	N	Weighted %	*p*-value[b]
	Total:	7174	95.5	345	4.5	7519	100	
Characteristics								
Gender	Men	2927	49.1	123	43.8	3050	48.9	0.099
	Women	4247	50.9	222	56.2	4469	51.1	
Age group	16-34	1507	30.9	84	33.4	1591	31.0	0.024
	35-54	2345	33.4	122	35.3	2467	33.5	
	55-74	2287	25.5	115	26.2	2402	25.6	
	75 or over	1035	10.2	24	5.1	1059	10.0	
Ethnicity – two groups	White British	6083	80.5	300	84.2	6383	80.7	0.273
	Other groups (combined)	1084	19.5	44	15.8	1128	19.3	
Ethnicity – five groups	White British	6083	84.2	300	84.2	6383	80.7	0.273
	White Other	409	6.7	16	6.1	425	6.7	
	Black/Black British	185	3.0	12	4.6	197	3.1	
	Asian/Asian British	348	7.1	7	2.5	355	6.9	
	Mixed, Multiple, Other	142	2.6	9	2.6	151	2.6	
Marital/ cohabitation status	Married/cohabiting	3963	61.9	163	58.6	4126	61.7	0.281
	Single	1495	24.2	86	26.5	1581	24.3	
	Divorced/separated/widowed	1716	13.9	96	14.9	1812	13.9	
Caring responsibilities	Mainly for a relative	1246	17.6	76	23.5	1322	17.9	0.029
	Mainly for a non-relative	234	2.6	12	3.3	246	2.7	
	Not a carer	5694	79.7	257	73.1	5951	73.1	
Economic activity	Employed	3812	59.6	182	59.4	3994	59.6	0.956
	Unemployed	204	3.3	14	4.3	218	3.4	
	Other	3158	37.1	149	36.3	3307	37.0	

Housing tenure	Owner occupied	4738	64.5	182	52.3	4920	64.0	<0.001
	Social renter	1180	15.6	88	24.0	1268	16.0	
	Private or other	1229	19.9	74	23.7	1303	20.1	
Neighbourhood deprivation [c]	Least deprived areas	1506	20.1	45	12.8	1551	19.8	0.006
	2nd	1483	20.3	64	18.0	1547	20.2	
	3rd	1480	20.1	80	19.2	1560	20.1	
	4th	1375	19.9	73	22.9	1448	20.0	
	Most deprived areas	1330	19.6	83	27.1	1413	19.9	

[a] Adults aged 16 and over living in households in England, Adult Psychiatric Morbidity Survey 2014.

[b] p-value for the association between each characteristic and being the close relative of a serious assault victim.

[c] Quintiles based on ranking of area-level English Index of Multiple Deprivation scores.

Table 2. Prevalence of direct victimisation, feeling unsafe, and mental disorder, self-harm and suicidality by whether a close relative of an assault victim and gender of participant

	Men			Women			Total			
	Not a close relative	Close relative	Total	Not a close relative	Close relative	Total	Not a close relative	Close relative	Total	*p*-value [a]
Direct lifetime experience of:	%	%	%	%	%	%	%	%	%	
Serious assault	6.1	36.2	7.3	4.8	23.5	5.7	5.4	29.1	6.5	<0.001
Physical intimate partner violence (IPV)	9.0	19.4	9.4	17.6	41.2	18.8	13.4	32.0	14.2	<0.001
Sexual violence	1.9	4.5	2.0	8.7	15.8	9.1	5.3	11.1	5.6	<0.001
Number of general adversity types ever experienced:										
None	23.4	6.9	22.8	29.1	8.9	28.1	26.3	8.0	25.5	
One or two	43.9	32.2	43.5	45.8	32.2	45.2	44.9	32.2	44.3	<0.001
Three or four	23.2	23.9	23.2	17.9	29.1	18.4	20.5	26.8	20.8	
Five or more	9.4	37.0	10.5	7.1	29.8	8.3	8.3	32.9	9.4	
Mental health and wellbeing outcomes										
Feel unsafe in local area in the day	1.8	9.2	2.1	2.5	7.4	2.7	2.1	8.2	2.4	<0.001
Common mental disorder (CMD) in past week	12.5	28.9	13.2	19.9	33.9	20.7	16.3	31.7	17.0	<0.001
Screen positive for post-traumatic stress disorder (PTSD) in past week	3.4	10.5	3.7	5.0	6.9	5.1	4.2	8.4	4.4	<0.001
Non-suicidal self-harm in past year	1.3	3.4	1.4	2.0	4.6	2.1	1.6	4.1	1.8	0.005
Suicidal thoughts in past year	4.8	12.8	5.1	4.6	9.3	4.9	4.7	10.9	5.0	<0.001
Suicide attempt in past year	0.5	1.8	0.6	0.6	1.9	0.8	0.6	1.9	0.7	<0.001

[a] *p*-values for difference between close relatives of assault victims and people not closely related to an assault victim. Multiple adversity test based on binary-coded derived variable comparing 0-2 with 3+ adversities. Interaction with gender tested for all variables, and all non-significant with p-values greater than 0.1.

Table 3. Being the close relative of a serious assault victim as a risk factor for feeling unsafe, and mental disorder, self-harm and suicidality outcomes

	Unadjusted odds ratios (OR)				**1: Each model adjusted for demographics, socioeconomics [a]**				**2: Each model further adjusted being direct victim of violence [b]**				**3: Each model further adjusted for range of other adversities [c]**			
Outcomes	**OR**	Lower CI[d]	Upper CI	*p*-value	**aOR**	Lower CI	Upper CI	*p*-value	**aOR**	Lower CI	Upper CI	*p*-value	**aOR**	Lower CI	Upper CI	*p*-value
1. Feel unsafe in local area	**4.07**	2.40	6.89	<0.001	**3.39**	1.93	5.95	<0.001	**3.44**	1.82	6.50	<0.001	**2.36**	1.26	4.44	0.008
2. CMD in past week	**2.40**	1.79	3.21	<0.001	**2.19**	1.62	2.95	<0.001	**1.42**	1.03	1.97	0.033	**1.37**	0.99	1.90	0.060
3. PTSD positive	**2.43**	1.69	3.49	<0.001	**2.19**	1.50	3.21	<0.001	**1.29**	0.87	1.91	0.208	**1.34**	0.88	2.05	0.177
4. Self-harm in past year	**2.54**	1.35	4.80	0.004	**2.33**	1.21	4.48	0.012	**1.49**	0.65	3.41	0.341	**1.11**	0.54	2.26	0.784
5. Suicidal thoughts in past year	**2.42**	1.59	3.67	<0.001	**2.27**	1.46	3.54	<0.001	**1.56**	0.96	2.52	0.073	**1.36**	0.85	2.19	0.200
6. Suicide attempt in past year	**3.10**	1.26	7.64	0.014	**2.87**	1.13	7.31	0.027	**1.57**	0.67	3.66	0.294	**1.36**	0.54	3.46	0.515

[a] Each of the six models (one for each mental health outcome) includes adjustment for gender, age, marital status, tenure, area-level deprivation.

[b] Each of the six models includes adjustment for gender, age, marital status, tenure, area-level deprivation, and whether the participant had been a direct victim of serious assault, sexual violence, or physical partner violence.

[c] Each of the six models includes adjustment for gender, age, marital status, tenure, area-level deprivation, and number of types of adversity participant had experienced (including sexual violence, violence at work, violence at home, bullying, serious illness or injury, separation or relationship breakdown, redundancy, major financial crisis, victim of theft, bullying, expulsion, ran away from home, homelessness).

[d] 95% confidence interval (CI)

Highlights

- Many people in England were closely related to a victim of serious assault
- Relatives of victims tended to face multiple adversities and poor mental health
- Their own direct experiences of violence explained their higher rate of suicidality
- Being related to a victim independently increased the risk of feeling unsafe
- Economic costings and policy should take account of indirect victims of violence

Funding, ethics and data availability

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Ethics approval: The original survey was approved by the West London National Research Ethics Committee 14/LO/0411, RIT0985, 139324. These secondary analyses were reviewed and approved by City, University of London Research Ethics Committee, ETH20210299. Approval has therefore been obtained by the appropriate ethics committees and the research has been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

Data availability: The APMS dataset is lodged with the UK Data Service archive. Permission to use the dataset for this analysis was obtained from NHS Digital. Requests for further use should be made to the Data Access Request Service at NHS Digital [https://digital.nhs.uk/services/data-access-request-service-dars].