

Self-harm and suicide in perpetrators of domestic abuse with mental illness: observational studies in mental health services and the English general population

Vishal Bhavsar(1,2), Marilia Calcia(1,3), Jyoti Sanyal(3), Louise M Howard(1), Sian Oram(1), Hitesh Shetty(3), Angus Roberts(3), Rob Stewart(2,3)

1. King's College London, Section of Women's Mental Health, London, United Kingdom, 2. South London and Maudsley NHS Foundation Trust, Southwark Community Forensic Service, London, United Kingdom, 3. South London and Maudsley NHS Foundation Trust, London, United Kingdom, 4. King's College London, Department of Psychological Medicine, London, United Kingdom

Funding: This work was supported by an NIHR Advanced Fellowship (NIHR 302243).

Background: Domestic abuse (DA) is an important cause of morbidity and mortality. Use of health services for mental health and substance use disorders may provide a window of opportunity to reduce perpetration of DA. There is mixed evidence on the association of DA perpetration with suicide and with suicidal behaviours, which might be relevant for suicide prevention strategies and targeting interventions to reduce suicide risk. We examined:

- The association of perpetration of intimate partner violence(IPV), an important form of DA, with suicidality in an English general population survey
- The association of DA perpetration with admission with self-harm and suicide mortality in mental health service users in Southeast London based on a case series ascertained by natural language processing(NLP) and manual validation, and
- A prospective study of suicide mortality in mental health service users ascertained as perpetrating DA by NLP only.

Methods: In the Adult Psychiatric Morbidity Survey(APMS) 2014, survey weighted logistic regressions estimated associations between IPV perpetration and suicide attempt, suicidal ideation, and self-harm. Associations were estimated for men and women separately. In the South London and Maudsley NHS Foundation Trust Clinical Interactive Search(CRIS) electronic health record database, we used two natural language processing(NLP) algorithms and manual validation to ascertain DA perpetration from clinical text(n=612), sampling controls(n=3035) matched for age and estimating age and gender adjusted associations of DA perpetration status with sociodemographic and clinical risk factors including any self-harm admission(drawn from English hospital episode statistics) and suicide, drawn from data linkage with the Office for National Statistics(figure 1). Finally, NLP algorithms were applied to the first year of available clinical data in CRIS, and survival analysis used to assess association of DA perpetration with time to suicide mortality in men and women separately, accounting for potential confounders and other causes of mortality.

Results: In APMS 2014, lifetime IPV perpetration was strongly associated with past-year suicide attempt, suicidal ideation, and self-harm. Estimates were substantially attenuated with adjustment for non-IPV life adversities, hazardous alcohol use, drug use, and IPV victimisation - only the association with lifetime suicide attempt in women remained significant. In a manually validated psychiatric case series of DA perpetrators compared to controls, adjusted associations of DA perpetration were found with male gender, psychotic disorders, substance use disorders, self-harm, head injury, and general mortality. In a cohort study there were 334 suicide deaths occurring in a sample of 134,724 women and 742 suicide deaths occurring in a sample of 127,939 men who accessed mental health services from 2007-2023, associations with DA perpetration were smaller and not statistically significant.

IPV perpetration behaviour	Suicidality outcome		Model 1	Model 2	Model 3	Model 4
Lifetime IPV perpetration	Suicide attempt (past-year)	Men	3.6(1.0-13.2)	2.1(0.5-8.7)	1.5(0.4-6.0)	1.3(0.3-5.6)
		Women	4.2(1.9-9.4)	2.8(1.1-6.6)	2.3(0.9-5.6)	1.9(0.7-4.8) ^a
	Suicide attempt (lifetime)	Men	2.6(1.5-4.5)	1.5(0.8-2.8)	1.3(0.7-2.4)	0.9(0.5-1.8)
		Women	3.5(2.5-4.8)	2.5(1.8-3.6)	2.4(1.7-3.4)	1.6(1.1-2.3)^b
	Suicidal ideation (past-year)	Men	2.7(1.5-4.9)	1.9(1.0-3.6)	1.5(0.8-3.0)	1.3(0.6-2.7)
		Women	2.6(1.7-4.1)	2.0(1.3-3.2)	1.8(1.1-2.8)	1.5(0.9-2.4) ^c
Non-suicidal self-harm (past year)	Men	4.9(1.5-15.2)	2.8(0.9-9.2)	2.3(0.7-7.6)	1.9(0.5-6.6)	
	Women	3.3(1.8-6.0)	2.2(1.2-4.1)	1.9(1.0-3.5)	1.5(0.7-3.1) ^d	
Number of distinct IPV perpetration behaviours	Suicide attempt (past-year)	Men	2.6(1.4-4.9)	2.0(1.1-3.7)	1.0(0.5-2.0)	0.9(0.4-1.9)
		Women	1.8(1.3-2.6)	1.4(1.0-2.1)	1.4(0.9-2.2)	1.3(0.8-2.0)
	Suicide attempt (lifetime)	Men	1.8(1.3-2.3)	1.3(0.9-1.8)	1.1(0.8-1.6)	0.9(0.6-1.4)
		Women	1.9(1.6-2.2)	1.6(1.3-1.9)	1.5(1.2-1.8)	1.3(1.0-1.5)
	Suicidal ideation (past-year)	Men	2.1(1.6-2.8)	1.7(1.2-2.4)	1.3(0.9-2.0)	1.2(0.8-1.9)
		Women	1.7(1.4-2.1)	1.5(1.2-1.8)	1.3(1.1-1.7)	1.2(1.0-1.5)
Non-suicidal self-harm (past year)	Men	2.2(1.2-3.8)	1.6(0.8-3.0)	1.6(0.8-3.3)	1.5(0.7-3.0)	
	Women	1.8(1.4-2.4)	1.5(1.1-2.0)	1.4(1.0-1.9)	1.3(0.9-1.8)	

Table 1. Associations (odds ratios- ORs- with 95% confidence intervals in parentheses) of IPV perpetration behaviours with suicide attempt, suicide ideation, and non-suicidal self-harm in men and women respondents to APMS 2014(England). All models based on 6462 records with complete data on modelled variables. Model 1: adjusted for age- ethnicity- marital status- tenure- and area deprivation. Model 2: adjusted for model 1 variables- and also for other life adversities. Model 3: adjusted for model 2 variables- and also for hazardous alcohol use- and drug use in the past year. Model 4: adjusted for model 3 variables and also for experiencing IPV in the lifetime. Bold text indicates statistical significance.

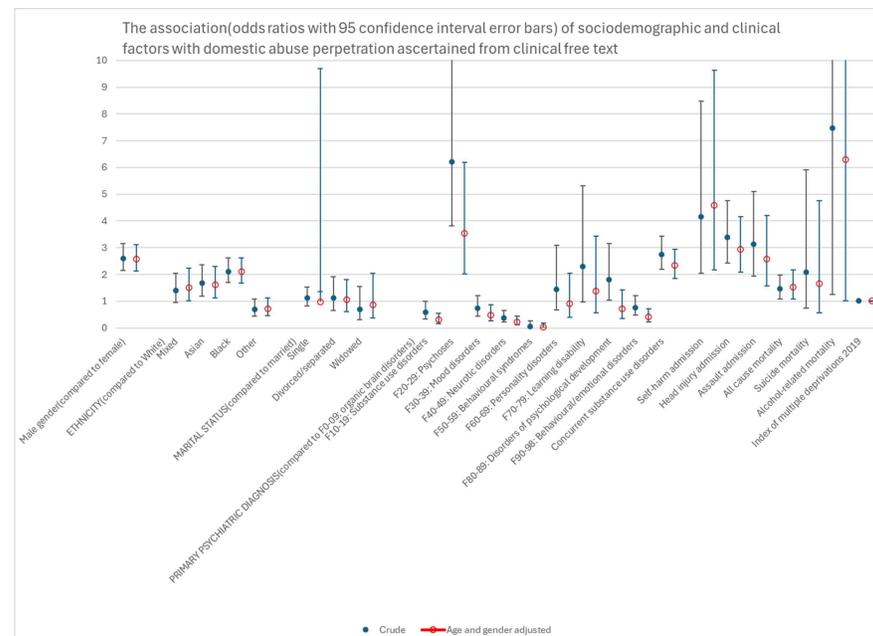


Figure 1. Associations of DA perpetration with sociodemographic and clinical factors in mental health service users at South London and Maudsley NHS Foundation Trust

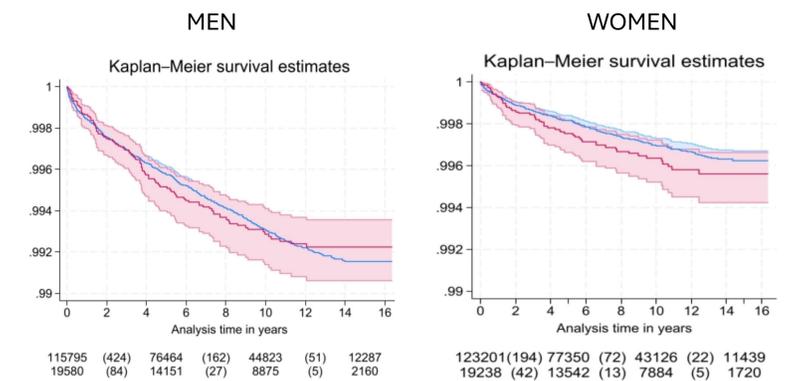


Figure 2. The association of DA perpetration ascertained by NLP in the first year of contact with mental health services at South London and Maudsley NHS Foundation Trust with suicide mortality, as Kaplan Meier plots of survival against analysis time. Risk tables present number at risk at the start of observation and at five yearly intervals, with numbers dying by suicide in brackets at each timepoint.

Conclusions: Self-reported perpetration of IPV, an important form of DA is associated with self-harm, suicide attempt, and suicidal ideation in men and women in the English general household population, however this association is strongly attenuated on adjustment for life adversities, alcohol/drug misuse, and exposure to IPV, especially in men. In analysis of a small case series of mental health service users with DA perpetration, ascertained by NLP and manual validation, associations were found with a range of sociodemographic and clinical risk factors, including self-harm and admission and suicide mortality. In a larger study, DA perpetration ascertained by NLP based on the first year of free text data was not associated with suicide mortality. Future work should consider whether DA perpetration is associated with self-harm admission in people using mental health services, and should investigate the factors which shape suicidal behaviour in people perpetrating DA.

Implications: IPV/DA perpetration may signal elevated risk of suicide and self-harm among people in contact with mental health services, but this risk is rarely incorporated into routine assessment or prevention strategies. Recognising perpetration alongside victimisation could improve identification of patients experiencing acute distress, entrapment, or escalating crisis, enabling more targeted safety planning and intervention. Integrating domestic abuse considerations into suicide prevention practice may therefore strengthen opportunities to reduce both violence and suicide-related harm in clinical settings.