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Problem gambling and suicidality in England: secondary analysis of a representative cross-sectional survey

H. Wardle [a, *], A. John [b], S. Dymond [c, d], S. McManus [e, f]

[a] London School of Hygiene and Tropical Medicine, 15-17 Tavistock Place, London, WC1H 9SH, UK
[b] Swansea University Medical School, Singleton Campus, Swansea, SA2 8PP, UK
[c] Department of Psychology, Swansea University, Singleton Campus, Swansea SA2 8PP, UK
[d] Department of Psychology, Reykjavík University, Menntavegur 1, Nauthólsvík, 101 Reykjavík, Iceland
[e] National Centre for Social Research, 35 Northampton Square, London, EC1V 0AX, UK
[f] School of Health Sciences, City University, Northampton Square, EC1V 0HB, UK

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ABSTRACT

Objectives: Problem gamblers in treatment are known to be at high risk for suicidality, but few studies have examined if this is evident in community samples. Evidence is mixed on the extent to which an association between problem gambling and suicidality may be explained by psychiatric comorbidity. We tested whether they are associated after adjustment for co-occurring mental disorders and other factors.
Study design: Secondary analysis of the Adult Psychiatric Morbidity Survey 2007, a cross-sectional national probability sample survey of 7403 adults living in households in England.
Methods: Rates of suicidality in problem gamblers and the rest of the population were compared. A series of logistic regression models assessed the impact of adjustment on the relationship between problem gambling and suicidality.
Results: Past year suicidality was reported in 19.2% of problem gamblers, compared with 4.4% in the rest of the population. Their unadjusted odds ratios (OR) of suicidality were 5.3 times higher. Odds attenuated but remained significant when depression and anxiety disorders, substance dependences, attention-deficit/hyperactivity disorder, and other factors were accounted for (adjusted OR = 2.9, 95% confidence interval = 1. 1, 8.1 $P = 0.023$).
Conclusions: Problem gamblers are a high-risk group for suicidality. This should be recognised in individual suicide prevention plans and local and national suicide prevention strategies. While some of this relationship is explained by other factors, a significant and substantial association between problem gambling and suicidality remains.

Introduction

The scale and nature of gambling provisions in Great Britain, as elsewhere, have evolved rapidly in the last decade, with the advent and expansion of online gambling and a more permissive legislative environment.[1] In Great Britain, online gambling is now the largest of gambling sectors and products such as online sports betting have seen sustained growth.[2] New products, such as in-play betting, where customers can bet on quick speed events within sports matches, have developed, and these changes have increased concern about the potential for harms from gambling. These concerns are heightened for young people, where participation in online sports betting, for example, has risen rapidly.[3] The harms from gambling are wide ranging, effecting people's resources, relationships and health. Gambling harms can range in severity, and a critical concern is the potential relationship between gambling behaviours and suicidality.[1]

Problem gamblers who seek treatment have long been recognised as a high-risk group for suicidal ideation and behaviours.[4,5] These associations have been replicated among treatment populations in various jurisdictions, including Spain, France, Britain, Sweden and America.[6–11]

* Corresponding author.
E-mail address: heather.wardle@lshtm.ac.uk (H. Wardle).

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While the factors that underpin these associations are poorly understood, some studies note a history of depression or anxiety disorder as a risk factor for suicidality among gamblers seeking treatment,[6,10,7,12] pointing to a range of mechanisms that might explain this relationship. Very few studies have examined whether suicidality was related to gambling behaviour or not. One study which did so found that 25% of those with suicidal feelings attributed this to gambling. The authors concluded that this evidence was consistent with the '*common factor model of aetiology in which the suicidality of gambling is related to prior mental health disorders*'.[13]

However, others such as Ronzitti et al. [9] showed the odds of current suicidal ideation among treatment seekers increased with problem gambling severity scores, even after depression, anxiety and substance misuse were adjusted for. Carr et al. [11] further highlighted familial discord, social conflict and financial problems as other factors which confer particular risk for suicidality among problem gamblers in treatment.

The evidence base looking at the relationship between suicidality and problem gambling disproportionately relies on treatment samples. Whilst informative, only a small proportion of problem gamblers seek formal help for their gambling problems,[14] and there are systematic barriers which prevent certain groups seeking help.[15] In some jurisdictions, treatment provision is sparse, meaning some may not be able access treatment. It is therefore unclear the extent to which findings based on treatment populations are generalisable to problem gamblers within the general community. Furthermore, these treatment-sample studies have provided conflicting evidence about the mediating role of other mental health disorders, with some finding that the relationship is explained by other co-occurring mental health disorders and others finding that the relationship between suicidality and problem gambling persists even when this is taken into account.

Very few studies have examined the relationship between suicidality and problem gambling among the general population and none based in the United Kingdom (UK). Using data from the US National Epidemiological Survey of Alcohol and Related Conditions, Moghaddam et al.[16] found elevated odds of lifetime suicidal ideation and suicide attempts among problem gamblers when demographic and socio-economic factors were considered. They did not adjust for other mental health issues in their analyses. Data from the Canadian Community Health Survey demonstrated that the odds of experiencing past year suicidal ideation increased with problem gambling severity and that high levels of alcohol consumption further exacerbated this relationship.[17] Correspondingly, examination of the same data found higher odds of past year suicide attempts among problem gamblers once depression, mental health care, age, sex, education and income were controlled for.[18] Yet, conversely a regional study in Edmonton, Canada, found that the relationship between problem gambling and suicide attempts attenuated once other mental health disorders were controlled for, leading the authors to conclude that the association was due to a common factor of mental ill health.[19]

These are the few studies to have examined the relationship between problem gambling and suicidality in the general population, and notably all are based in North America. They generally show an association between problem gambling and suicidality, though the extent to which this is explained by other psychiatric comorbidities is unclear. The aim of this article is to extend knowledge about suicidality among problem gamblers living in the community by exploiting a previously unused (and non-North American) data source: the English Adult Psychiatric Morbidity Survey 2007 for this purpose. Analyses test the association between past year suicidality and past year problem gambling when accounting for demographic and socio-economic factors, as well as a wide range of potential psychiatric comorbidities, including depression and anxiety disorders, drug and alcohol dependence and attention-deficit hyperactivity disorder (ADHD). All of these have known associations with both problem gambling and suicidality, and therefore, it is important to test the impact they have on this relationship.[20,21]

Methods

Data

Analyses used data gathered for the Adult Psychiatric Morbidity Survey (APMS), which collected information on a range of specific mental disorders and in 2007 (for the first and only time to date) included measurement of problem gambling. The APMS is a representative cross-sectional survey of the population aged 16 years and older living in private households in England. A random probability sample was drawn from the small user Postcode Address File, and one adult at each household was randomly selected to take part. Data were collected with both face-to-face interviews and through confidential computer-assisted self-interviewing. The response rate was 57%. Full survey design and procedures are published elsewhere.[22] The data set is available through the UK Data Service archive (10.5255/UKDA−SN−6379-2).

Measures

Problem gambling

Participants who had spent money gambling in the past year completed a ten-item problem gambling screen in the self-completion section of the interview, based on the fourth edition of the Diagnostic and Statistical Manual (DSM-IV).[23] Endorsed DSM-IV criteria were summed to generate a score (0−10). Those who had not gambled in the past year were scored zero. The DSM-IV recommends that people screen positive for pathological gambling if they meet five or more of the diagnostic criteria. Consistent with the approach adopted from the British Gambling Prevalence Survey 1999 and British Gambling Prevalence Survey 2007, a score of three or more was used to indicate 'problem gambling'.[24]

Suicidal thoughts and attempts

Participants were asked in the face-to-face section of the interview: 'Have you ever thought of taking your life, even though you would not actually do it?' and 'Have you ever made an attempt to take your life, by taking an overdose of tablets or in some other way?' Endorsement was followed with a question on when this last occurred, thus identifying those who had thought about suicide or attempted suicide in the past year.

Demographics

Age, sex, ethnicity, marital status and educational attainment were established using standardised questions. Because of small base sizes, ethnicity was combined into four categories: white/white British, black/black British, South Asian and mixed/other.

Socio-economics

Participants' economic activity in the past seven days was classified as either employed, unemployed or economically inactive for other reasons, such as illness. Equivalised household income was computed by adjusting total household income by the number and ages of people living in the household with the distribution quintiled for analysis. Problem debt was indicated if participants had gas, electricity or other fuel disconnected in the past year because of inability to pay, and/or being 'seriously behind' in paying

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any utilities bills, mortgage repayments, council tax, child support or maintenance or other credit card/loan payments. Local area-level deprivation was measured using the English Index of Multiple Deprivation scores matched at the 'output area' and quintiled for analysis.

General health

General health was self-reported using a five-point scale ranging from excellent to poor.

Psychiatric comorbidities

Common mental disorders (CMDs) were assessed to the International Classification of Disease[25] tenth edition diagnostic criteria using the Clinical Interview Schedule – Revised (CIS-R). The CIS-R is an interviewer-administered structured schedule covering the presence of six types of depression and anxiety disorders in the week before interview. Its outputs include a continuous scale that reflects overall severity, a score of 12 or more indicating presence of CMDs to diagnostic criteria.[26] Past year alcohol dependence was screened using the Alcohol Use Disorders Identification Test.[27] A score of 8–15 indicated hazardous alcohol use, while 16 or more indicated potential harmful use and dependence. For those reporting past year use of cannabis, amphetamines, crack, cocaine, ecstasy, tranquillisers, opiates or volatile substances, questions were asked about the level of use, sense of dependence, inability to abstain, increased tolerance and withdrawal symptoms. Endorsement of any of these signs in the past year was used to indicate possible drug dependence. ADHD was screened for with the adult ADHD Self-Report Scale.[28,29] A score of four or more indicates a level of symptoms sufficient to warrant clinical assessment for ADHD.[30]

Analytic strategy

Multivariable binary logistic regression analyses were conducted with past year suicidal ideation/attempts entered as the dependent variable and problem gambling as the independent variable to examine their association. Because of small base sizes for past suicidal attempts this, was combined with past year suicidal ideation in the regression model. To investigate how the association was affected by the inclusion of different controls, different blocks of variables were added sequentially to a series of regression models.

All variables included in the models were categorical. Missing data were minimal and therefore excluded, except for income where data were missing for 1531 cases and coded as a dummy category. Diagnostic checks on multicollinearity were conducted by calculating the variance inflation factors (VIFs) of all independent variables, and all had VIF values of less than 2.[31] Analyses were performed using the complex survey function in Stata, v15, to adjust for clustered and stratified survey design. All estimates were weighted to adjust for non-response and selection probabilities. Analyses used weighted data and controlled for complex survey design; true (unweighted) bases are presented.

Results

Interviews were conducted with 7403 adults, of whom 41 (0.7%) were identified as problem gamblers, 172 (2.5%) as at risk of problem gambling and 6728 (96.8%) had not gambled in the past year or reported no signs of problem gambling.

Problem gamblers had higher rates of both past year suicidal ideation (19.2%, 95% confidence interval [CI] = 8.8, 36.9) and suicide attempts (4.7%, 95% CI = 1.0, 19.6) than those with no signs of problem gambling (4.1% [95% CI = 3.6, 4.7] and 0.6% [95% CI = 0.4, 0.8], respectively).

In unadjusted regression analysis, the odds ratio (OR) of past year suicidal ideation or suicide attempts was 5.3 (95% CI = 2.1, 13.4; $P < 0.001$) among problem gamblers compared with the rest of the population. The OR attenuated but remained significant as each block of covariates was added to the model. In the fully adjusted model, which took into account demographics, socioeconomics, general health, depression and anxiety disorders, possible substance dependence and ADHD, the OR of past year suicidal ideation or suicide attempts was 2.9 among problem gamblers (95% CI = 1.1, 8.1; $P = 0.023$), refer to Table 1.

Discussion

Findings show a strong association between current problem gambling and suicidality among a representative sample of adults in England. This association is partially but not fully attenuated by controlling for psychiatric comorbidities, including depression and anxiety disorders and – crucially given their strong associations with both problem gambling and suicidality – substance dependence and ADHD. Our findings replicate and extend Newman and Thompson's analysis[18] nationally representative data from Canada, by taking more mental health conditions into account than they did. Similar to that study, causal relationships could not be inferred from these cross-sectional data but the persistence of the relationship once analysis adjusted for other confounders suggests that there may be multiple mechanisms underpinning this association. For some gamblers, there may be a common underlying factor of mental ill health, as suggested by the attenuation of the relationship in the fully adjusted model. Despite this, a strong relationship remained between current problem gambling and suicidal ideation/attempts suggesting that psychiatric comorbidity does not explain the whole relationship and that other mechanisms may exist. This could include the experience of financial stress, relationship discord and other factors related specifically to gambling. There is a need to better understand these mechanisms. Accounts from those with lived experience emphasise the cumulative and mutually reinforcing nature of harms, especially relating to debt, stress, anxiety, feelings of isolation and impact on family life, which contribute to some people becoming suicidal.

In a UK context, these results support evidence gathered among those seeking treatment for problem gambling. Around one-third of people seeking residential treatment for gambling problems have suicidal thoughts,[8] while suicidal ideation was higher among those with higher levels of problem gambling severity attending a London-based treatment clinic.[9] This pattern persisted once substance misuse and depression were considered. Our results show, for the first time, that these relationships also exist among problem gamblers living in the community, of which the overwhelming majority have not sought help from any counselling or treatment services for any mental health condition,[32] and that this relationship persists once other comorbid conditions are accounted for.

These findings indicate that anyone involved in providing services to or working with problem gamblers should be aware of their heightened risk of suicidality. Across Great Britain (in specific geographic locations), a charitable treatment network supports problem gamblers. Their treatment model focuses on counselling

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Table 1
Adjusted odds ratios for suicide attempt and/or ideation in the past year.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
DSM-IV problem gambling status	$P < 0.001$	$P < 0.001$	$P < 0.001$	$P = 0.002$	$P = 0.025$	$P = 0.023$
Not a problem gambler	1	1	1	1	1	1
Problem gambler	6.1 (2.3, 16.2)	5.5 (2.2, 14.0)	4.7 (1.8, 12.7)	3.6 (1.2, 11.1)	3.3 (1.2, 9.1)	2.9 (1.1, 8.1)
Sex	**	**	**	**	*	*
Male	1	1	1	1	1	1
Female	1.6 (1.2, 2.2)	1.6 (1.2, 2.2)	1.6 (1.2, 2.2)	1.9 (1.4, 2.6)	1.4 (1.0, 2.0)	1.5 (1.1, 2.1)
Age in years	**	**	**	**	**	**
16-24	1	1	1	1	1	1
25-34	0.7 (0.4, 1.2)	0.9 (0.5, 1.6)	0.8 (0.4, 1.3)	0.7 (0.4, 1.3)	0.6 (0.3, 1.1)	0.6 (0.3, 1.2)
35-44	1.2 (0.8, 1.9)	1.6 (1.0, 2.6)	1.3 (0.8, 2.1)	1.3 (0.8, 2.2)	1.2 (0.7, 2.0)	1.2 (0.7, 2.2)
45-54	1.0 (0.6, 1.6)	1.5 (0.8, 2.6)	1.0 (0.6, 1.8)	1.2 (0.7, 2.2)	0.9 (0.5, 1.8)	1.0 (0.5, 1.9)
55-64	0.5 (0.3, 0.9)	0.5 (0.3, 1.0)	0.4 (0.2, 0.7)	0.4 (0.2, 0.8)	0.4 (0.2, 0.9)	0.5 (0.2, 1.0)
65-74	0.5 (0.3, 0.9)	0.4 (0.2, 0.7)	0.2 (0.1, 0.5)	0.3 (0.2, 0.6)	0.4 (0.2, 0.9)	0.5 (0.2, 1.0)
75+	0.4 (0.2, 0.8)	0.3 (0.1, 0.6)	0.2 (0.1, 0.4)	0.2 (0.1, 0.5)	0.4 (0.2, 0.9)	0.4 (0.2, 0.9)
Marital status	**	**	**	*	*	*
Married	1	1	1	1	1	1
Cohabiting	0.9 (0.5, 1.5)	0.7 (0.4, 1.3)	0.7 (0.4, 1.2)	0.7 (0.4, 1.2)	0.6 (0.3, 1.1)	0.5 (0.3, 1.0)
Single	2.1 (1.5, 3.0)	1.8 (1.3, 2.5)	1.6 (1.1, 2.4)	1.5 (1.0, 2.20)	1.4 (0.9, 2.2)	1.4 (0.9, 2.1)
Widowed	1.9 (1.2, 3.0)	1.5 (0.9. 2.4)	1.5 (0.9, 2.4)	1.5 (0.9, 2.4)	1.3 (0.8, 2.2)	1.2 (0.7, 2.1)
Divorced	2.0 (1.3, 3.0)	1.3 (0.8, 2.0)	1.2 (0.8, 1.9)	1.0 (0.6, 1.8)	0.9 (0.6, 1.5)	0.9 (0.5, 1.5)
Separated	3.3 (2.0, 5.3)	2.3 (1.3, 4.0)	2.2 (1.2, 3.9)	2.1 (1.2, 3.9)	2.0 (1.1, 3.7)	2.0 (1.1, 3.8)
Ethnic group		*				
White/white British	1	1	1	1	1	1
Black/black British	0.8 (0.3, 1.9)	0.6 (0.3, 1.4)	0.6 (0.3, 1.5)	0.7 (0.3, 1.7)	0.6 (0.3, 1.4)	0.6 (0.3, 1.4)
South Asian	0.5 (0.2, 0.9)	0.4 (0.2, 0.8)	0.4 (0.2, 0.8)	0.5 (0.2, 1.0)	0.5 (0.2, 1.1)	0.5 (0.2, 1.2)
Mixed/other	1.5 (0.7, 3.1)	1.1 (0.5, 2.2)	1.0 (0.5, 2.2)	1.2 (0.5, 2.4)	1.2 (0.5, 2.7)	1.2 (0.5, 2.6)
Index of Multiple Deprivation quintiles						
Most deprived		1	1	1	1	1
2nd		1.1 (0.7, 1.7)	1.0 (0.6, 1.6)	1.0 (0.6, 1.6)	1.0 (0.6, 1.7)	1.0 (0.5, 1.7)
3rd		1.5 (0.9, 2.3)	1.3 (0.8, 2.2)	1.3 (0.8, 2.1)	1.2 (0.7, 2.0)	1.2 (0.7, 2.00)
4th		1.0 (0.6, 1.6)	0.9 (0.6, 1.6)	0.9 (0.5, 1.5)	0.8 (0.5, 1.5)	0.8 (0.5, 1.5)
Least deprived		1.6 (1.0, 2.5)	1.5 (0.9, 2.4)	1.4 (0.8, 2.3)	1.3 (0.7, 2.2)	1.3 (0.7, 2.3)
Employment status		**	**	**		
In paid employment		1	1	1	1	1
Unemployed		2.7 (1.3, 5.7)	2.4 (1.2, 4.9)	2.1 (1.0, 4.5)	1.6 (0.7, 3.7)	1.6 (0.7, 3.7)
Other economically inactive		2.2 (1.6, 2.2)	2.0 (1.4, 2.9)	2.1 (1.4, 3.0)	1.6 (1.1, 2.4)	1.4 (1.0, 2.2)
Highest level of educational attainment						
Degree or higher		1	1	1	1	1
A levels or equivalent		0.7 (0.4, 1.2)	0.7 (0.4, 1.2)	0.7 (0.4, 1.2)	0.6 (0.3, 1.0)	0.6 (0.3, 1.0)
GCSEs or equivalent		1.1 (0.7, 1.6)	1.0 (0.7, 1.4)	1.0 (0.7, 1.5)	0.9 (0.6, 1.3)	0.9 (0.6, 1.3)
Other/none		1.2 (0.8, 1.9)	1.1 (0.7, 1.7)	1.0 (0.7, 1.6)	0.9 (0.6, 1.4)	0.9 (0.6, 1.5)
Equivalised household income quintiles						
Lowest		1	1	1	1	1
2nd		1.0 (0.6, 1.8)	1.0 (0.6, 1.8)	1.1 (0.6, 1.9)	1.2 (0.6, 2.2)	1.3 (0.7, 2.3)
3rd		1.5 (0.8, 2.7)	1.3 (0.7, 2.4)	1.4 (0.8, 2.5)	1.4 (0.8, 2.6)	1.5 (0.8, 2.7)
4th		1.2 (0.7, 2.2)	1.1 (0.6, 2.0)	1.1 (0.6, 2.1)	1.1 (0.6, 2.1)	1.1 (0.6, 2.1)
Highest		1.2 (0.6, 2.2)	1.1 (0.6, 2.0)	1.1 (0.6, 2.1)	1.2 (0.6, 2.3)	1.1 (0.6, 2.2)
Refused/not known		1.1 (0.6, 1.9)	1.0 (0.5, 1.7)	0.9 (0.5, 1.7)	1.0 (0.5, 1.9)	1.0 (0.5, 1.8)
Problem debt in past year		**	*	*		
No		1	1	1	1	1
Yes		2.2 (1.5, 3.1)	1.9 (1.3, 3.7)	1.7 (1.2, 2.5)	1.1 (0.8, 1.7)	1.1 (0.8, 1.7)
Self-reported general health status			**	**	**	**
Excellent/very good/good			1	1	1	1
Fair/poor			3.3 (2.4, 4.5)	3.0 (2.2,4.2)	1.8 (1.2, 2.6)	1.7 (1.2, 2.5)
Alcohol dependence screen				**	*	
AUDIT score <8				1	1	1
AUDIT score 8-15				1.2 (0.8, 1.7)	1.0 (0.7, 1.6)	1.0 (0.7, 1.6)
AUDIT score 16+				4.2 (2.3. 7.6)	2.2 (1.2, 4.1)	2.0 (1.0, 3.6)
Drug dependence screen				**	*	*
Present				1	1	1
Not present				0.5 (0.3, 0.8)	0.5 (0.2, 0.9)	0.5 (0.2, 0.9)
Common mental disorder					**	**
Not present (CIS-R <12)					1	1
Present (CIS-R 12+)					12.1 (8.7, 16.8)	10.0 (7.0, 14.3)
ADHD screen						**
Not present (ASRS 0–3)						1
Present (ASRS 4+)						2.3 (1.6, 3,3)

* Variable significant at $P < 0.05$; ** Variable significant at $P < 0.01$.
Model 1: adjusted for demographics; model 2: model 1 + socioeconomics; model 3: model 2 + general health; model 4: model 3 + substance dependence; model 5: model 4 + common mental disorders; model 6: model 5 + ADHD screen. 95% confidence intervals are shown in brackets after the odds ratio.
CIS-R, the Clinical Interview Schedule – Revised; ADHD, attention-deficit hyperactivity disorder; ASRS; ADHD Self-Report Scale; AUDIT, Alcohol Use Disorders Identification Test.

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services, where organisations are only funded to deal specifically with gambling behaviours. The heightened risk of suicidality may complicate treatment pathways for problem gamblers and this should be recognised and reflected in treatment approaches and the funding mechanisms for it.

It is also essential to prevent people from developing problems in the first place. As Wardle et al.[1] have argued, this requires a government-owned and well-resourced national prevention strategy to be developed, which focuses on the multifactorial nature of harms and combines universal prevention activities, such as restrictions on products, with those targeted at vulnerable groups. Adopting this public health approach for prevention of gambling harms mirrors efforts in tackling suicide and suicidal behaviours, and recognises the causes involve a complex interplay of individual, social and environmental factors. As such, no single organisation can address these factors; a coordinated cross-sectoral approach is required.

There are limitations to this study. These data were collected in 2007. The gambling environment in Britain has changed significantly since then, with gambling becoming more widely available and more prominently marketed and advertised.[1] For example, online gambling is now the largest growth sector in Great Britain and increasingly popular among young men but was in its infancy at the time that the survey was conducted. These data were also collected before the 2008 financial crisis[33] and subsequent policies of austerity.[34] The prevalence of self-harm and suicidality has changed over time,[35] with notable increases among younger people. However, these data uniquely combine information on problem gambling and suicidality in a high-quality community-based sample and allow controlling for coexisting conditions and social circumstances. It is hoped that gambling questions will be included in the forthcoming 2021 APMS. This would provide an excellent opportunity to revisit the findings observed here and examine the extent to which this relationship persists or has changed in the intervening period. In this way, these analyses provide important baseline insight upon which to examine more recent trends when data become available. Similar to most studies of the relationship between gambling and suicidality, the survey was cross-sectional and did not establish temporal sequencing in problem gambling and suicidality. However, problem gambling and suicidality were both measured in the past year, meaning that unlike some studies,[16] we are confident that the two were experienced contemporaneously. Similarly, data were based on self-report with attendant issues, though questions about gambling and substance dependence were administered by self-completion to reduce reporting bias. Finally, the number of problem gamblers in the sample was small.

In conclusion, problem gamblers should be considered a high-risk group for the experience of suicidality, and this should be included within both local and national suicide prevention plans. It currently is not. Those working with problem gamblers should ask about suicidal behaviours, and appropriate safety plans should be developed. Questions about gambling should also be included in assessment of those with suicidal behaviours. In particular, gambling regulators and the gambling industry itself should recognise the specific vulnerability of problem gamblers to suicidality and seek to develop support, referral and prevention strategies for this. In many cases, it is the employees of the gambling industry (for example, those working in customer services) who are at the front line of dealing with problem gamblers. They need to know about this heightened vulnerability and have clear procedures and specialist training about this issue.

Author statements

Ethical approval

Ethical approval for this project was given by the London School of Hygiene and Tropic Medicines' Ethical Review Committee (Ref:15960).

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Competing interest

H.W. reports serving as the Deputy Chair of the Advisory Board for Safer Gambling, an independent group that provides advice on gambling policy and research to the Gambling Commission and is renumerated by them. She reports working on contracts funded by GambleAware, a national charity mandated by government to commission research into gambling in Great Britain. Funds for GambleAware are raised by contributions from the industry, though decisions about what research to fund are made by the Gambling Commission. H.W. reports running a research consultancy named Heather Wardle Research Ltd. She reports not providing or have provided consultancy or any other services for the industry. She reports providing evidence at the House of Lords Select Committee enquiry into the social and economic impact of gambling as an unpaid expert witness in summer 2019. A.J. serves as the chair person for the National Advisory Group to Welsh Government on Suicide and Self-harm prevention and advises ONS on their suicide bulletins. She reports serving as a Trustee of the Mental Health Foundation. Other than the funding of this original research by GambleAware, the other authors have no other interests to declare.

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