Research report

Exposure to, and searching for, information about suicide and self-harm on the Internet: Prevalence and predictors in a population based cohort of young adults

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ABSTRACT

Background: There is concern over the potential impact of the Internet on self-harm and suicidal behaviour, particularly in young people. However, little is known about the prevalence and patterns of suicide/self-harm related Internet use in the general population.

Methods: Cross sectional study of 3946 of the 8525 participants in the Avon Longitudinal Study of Parents and Children (ALSPAC) who were sent a self-report questionnaire including questions on suicide/self-harm related Internet use and self-harm history at age 21 years.

Results: Suicide/self-harm related Internet use was reported by 22.5% (886/3946) of participants; 11.9% (470/3946) had come across sites/chatrooms discussing self-harm or suicide, 8.2% (323/3946) had searched for information about self-harm, 7.5% (296/3946) had searched for information about suicide and 9.1% (357/3946) had used the Internet to discuss self-harm or suicidal feelings. Suicide/self-harm related Internet use was particularly prevalent amongst those who had harmed with suicidal intent (70%, 174/248), and was strongly associated with the presence of suicidal thoughts, suicidal plans, and history of self-harm. Sites offering help, advice, or support were accessed by a larger proportion of the sample (8.2%, 323/3946) than sites offering information on how to hurt or kill yourself (3.1%, 123/3946). Most individuals (81%) who had accessed these potentially harmful sites had also accessed help sites.

Limitations: (i) There were differences between questionnaire responders and non-responders which could lead to selection bias and (ii) the data were cross-sectional, and we cannot conclude that associations are causal.

Conclusions: Suicide/self-harm related Internet use is common amongst young adults, particularly amongst those with suicidal thoughts and behaviour. Both harmful and helpful sites were accessed, highlighting that the Internet presents potential risks but also offers opportunities for suicide prevention.

1. Introduction

The potential impact of the Internet on self-harm and suicidal behaviour has been highlighted both as a public health concern and as an opportunity for prevention (Boyce, 2010), but little is known about the prevalence and patterns of suicide/self-harm (S/Sh) related Internet use in the general population. The Internet can provide a supportive environment in which to seek information and advice about self-harm/suicidal feelings and can help to reduce feelings of loneliness and isolation (Baker and Fortune, 2008; Baker and Lewis, 2013; Eichenberg, 2008; Harris and Roberts, 2013; Jones et al., 2011; Shaw and Gant, 2002; Whitlock et al., 2006). However, there is also concern that exposure to online S/Sh-related content may increase suicide risk amongst vulnerable individuals (Baker and Lewis, 2013; Harris and Roberts, 2013; Lewis and Baker, 2011; Lewis et al., 2012; Whitlock et al., 2006). Websites that encourage or facilitate suicide and sites containing technical information on suicide methods are easily accessed online (Biddle et al., 2008; Recupero et al., 2008; Sakarya et al., 2013) and S/Sh-related Internet use had been reported both in coroners' records and by survivors of suicide attempts (Becker et al., 2004; Biddle et al., 2012; Gunnell et al., 2012; Prior, 2004). There is also concern that the ease at which information is shared

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online may contribute to the uptake of new suicide methods (Gunnell et al., 2014).

Despite these concerns, empirical data on S/Sh-related Internet use in the general population is lacking. Existing studies have typically analysed the content of forum posts, or conducted e-surveys with individuals responding to online adverts (Baker and Lewis, 2013; Eichenberg, 2008; Harris et al., 2009; Jones et al., 2011; Whitlock et al., 2006). For example, Harris et al. (2009) investigated Internet use amongst a sample of 290 adults who responded to an online survey and were considered to be at risk of suicide. Those who had used the Internet for suicide-related purposes were more likely to be unemployed, to live alone, to report psychiatric disorder and to have lower levels of education. A range of different sites were accessed including forums, suicide prevention sites, sites encouraging suicide, and suicide pact sites. However, the findings were based on data from a self-selecting high-risk sample and may not generalise to the wider population. Mitchell et al. (2014) investigated exposure to websites that encourage self-harm or suicide in a telephone survey of over 1500 Internet-using adolescents. Access to websites that encouraged self-harm or suicide was reported by 1% and was strongly associated with suicidal thoughts. The study did not ask about actual self-harm behaviours or investigate access to other sites such as help sites. In a sample of over 3500 school pupils, O'Connor et al. (2014) found that 18% of those who had self-harmed indicated the Internet or social networking sites influenced their decision to engage in self-harm.

Knowledge of S/Sh-related Internet use in the general population is important in order to gain a better understanding of the potential contribution of the Internet to suicide and self-harm behaviours, and to inform research, policy, and the development of online suicide prevention strategies. The aim of the present study was to investigate S/Sh-related Internet use amongst young adults in the community. Throughout the paper, we use the term self-harm to refer to individuals who have harmed with or without suicidal intent.

2. Methods

2.1. Sample

The Avon Longitudinal Study of Parents and Children (ALSPAC) is an ongoing population-based birth cohort study examining influences on health and development across the life-course. The ALSPAC core enroled sample consists of 14,541 pregnant women resident in the former county of Avon in South West England (United Kingdom), with expected delivery dates between 1 April 1991 and 31 December 1992 (Boyd et al., 2013). Of the 14,062 live births, 13,798 were singletons/first-born of twins and were alive at one year of age. Participants have been followed-up regularly since recruitment through questionnaires and research clinics (see study website: http://www.bristol.ac.uk/alspac which includes a fully searchable data-dictionary of available data http://www.bris.ac.uk/alspac/researchers/data-access/data-dictionary). Ethical approval for the study was obtained from the ALSPAC Law and Ethics committee and local research ethics committees. Written informed consent was obtained after the procedure(s) had been fully explained.

Questions on S/Sh-related Internet use and history of self-harm were included as part of a broader self-completion questionnaire, sent to study participants when they were aged 21 years (mean age 20.9 years). The questionnaire was sent to 8525 participants, of whom 4110 (48.2%) responded and 3946 (46.3%) provided data on their S/Sh-related Internet use and previous self-harm. Those who returned the questionnaire were more likely than non-respondents to be female, white, have lower birth order, a mother with higher education (assessed during pregnancy), and a higher parental social class (assessed during pregnancy). There was little evidence to suggest differences in mental health (assessed at age 18 years) (Supplementary Table 1).

2.2. Suicide/self-harm-related Internet use

Participants were asked four questions about their Internet use: (i) "A number of sites and chatrooms on the Internet discuss self-harm and suicide. Have you ever come across any of these sites?" (ii) "Have you ever looked for information about self-harm using a search engine (Google, Yahoo etc.)?", (iii) "Have you ever looked for information about suicide using a search engine (Google, Yahoo etc.)?" and (iv) "Have you ever used the Internet to discuss self-harm or suicidal feelings with others (e.g. social networking sites, chatrooms, message boards, help sites)?". Participants were asked not to include searches that were done only for an assignment or in relation to helping a friend/family member. Participants who responded positively to one or more of these four questions were classified as having S/Sh-related Internet use. The term S/Sh-related Internet use is used throughout the paper for simplicity, however, we recognise that this refers to a variety of different types of Internet use.

Participants who indicated that they had come across Internet sites that discuss self-harm or suicide were asked to select which sites they had read from a checklist (response options included the following: news reports about people who have hurt or killed themselves/personal accounts of people who have hurt themselves/general information about self-harm or suicide/sites dedicated to those who self-harm/sites offering advice, help, or support regarding self-harm or suicidal feelings/sites giving information about how to hurt or kill yourself). The paper focuses on the latter two response options, which we refer to as "helpful" and "potentially harmful" sites.

2.3. Self-harm and suicidal thoughts

The self-harm questions asked at age 21 years were based on those used in the Child and Adolescent Self-harm in Europe (CASE) study (Madge et al., 2008). Participants who responded positively to the item "have you ever hurt yourself on purpose in any way (e.g. by taking an overdose of pills or by cutting yourself)?" were classified as having a history of self-harm. A number of additional questions were then asked regarding the recency of self-harm, past year frequency, motivations for self-harm on the most recent occasion, lifetime history of suicidal self-harm and help-seeking. Participants were also asked about suicidal thoughts and plans.

2.3.1. Suicidal self-harm
Participants were classified as having harmed with suicidal intent if (i) they selected "I wanted to die" as a response option to the question "Do any of the following reasons help to explain why you hurt yourself on that (i.e. the most recent) occasion?" or (ii) they responded "yes" to the question "On any of the occasions when you have hurt yourself on purpose, have you ever seriously wanted to kill yourself?".

2.3.2. Suicidal thoughts and plans
lifetime history of suicidal thoughts and plans were assessed with the questions "have you ever thought of killing yourself, even if you would not really do it" and "have you ever made plans to kill yourself".