Abstract

Objective: To describe the types of content available to people searching online for suicide methods

Method: A series of suicide and suicide method-related searches were conducted through Google, Yahoo, Bing and Ask search engines

Results: Most sites provided information on suicide methods and included discussion of suicide methods between users. Explicit encouragement of suicide was rare. However, dismissive or hostile responses to individuals expressing suicidal feelings were common.

Conclusions: Information on suicide methods is easily found online. Mental health organisations may need to direct more efforts towards educating and training the public on how to appropriately respond to suicidal people

Introduction

On the Internet, information is available on almost any topic and is easily located and accessible via online search engines. This information is also often unmoderated, which has prompted concerns over its potential effects on users. Research surrounding the issue of the impact of the Internet on suicide has often debated the potential benefits of anti-suicide or suicide prevention websites and the potential dangers of websites that might encourage or facilitate suicide ("pro-suicide") (Aitken 2009; Luxton, June, and Fairall 2012; Recupero, Harms, and Noble 2008; Thompson 1999; Westerlund 2011). In order to gauge the potential risks of the Internet to people who feel suicidal, previous work has examined the online availability of these so called "pro-suicide" websites. Recupero, Harms, and Noble (2008) conducted a series of online searches in August and September 2006 using four suicide-related search terms ("suicide", "how to commit suicide", "suicide methods", "how to kill yourself") and five different search engines. The first 30 hits for each search were then coded as pro (pro-suicide bias or slant), anti (anti-suicide or suicide prevention bias or slant), neutral (bias unclear or contained both pro- and anti-suicide material), not a suicide-specific site, or error (site would not load). Of 373 unique webpages returned in their search, the majority were either neutral (30.8%) or anti-suicide (29.2%). Only 11% of unique webpages were coded as pro-suicide. The authors concluded that while pro-suicide content could be easily located and accessed, it was in the minority of all suicide-related content available online. The extent of pro-suicide content could, however, have been underestimated, given that webpages containing a mix of both anti- and pro-suicide content were coded as neutral.

Although it is important to investigate the availability of pro-suicide material online relative to other types of suicide content, it is also important to be aware of the types of content available to someone specifically conducting searches for harmful material. On the Internet, information about suicide methods, detailed instructions on how to die by suicide, and in some cases, materials for suicide methods, can be readily available (Becker et al. 2004; Recupero, Harms, and Noble 2008). An awareness of the type of the information available online to vulnerable users may be helpful in the development of suicide prevention programs, as well as for clinicians in their treatment of those experiencing suicidal ideations.

Biddle et al. (2008) conducted a series of searches in May 2007 using a variety of terms relating to suicide methods, such as "most effective methods of suicide" and "how to commit suicide", through four search engines: Google, Yahoo, MSN, and Ask. They retrieved the first 10 hits from each search and sorted them into one of 14 categories. Categories included "Dedicated suicide site – pro-suicide; encouraging, promoting or facilitating suicide", "Against suicide site" and "Prevention or support site". Out of 480 total hits, 90 (18.8%) were coded as dedicated to suicide. Half of the dedicated suicide sites were coded as encouraging, promoting or facilitating suicide and 43 described methods without encouraging suicide. Forty four (9%) information sites were identified, with 24 of these sites providing factual information about suicide methods. Though the top three most frequently retrieved websites were coded as pro-suicide, the majority of websites examined were anti-suicide websites ($n = 59$), prevention or support sites ($n = 62$), and academic or policy sites ($n = 70$).

Compared to Recupero et al.'s (2008) work, where websites were only coded as pro-suicide, anti-suicide, or neutral, Biddle et al. (2008) used a wider range of categories to sort webpages and provided valuable information about the types of websites that an individual searching for suicide methods would be likely to find. However, there may have also been some overlap between the categories used by Biddle et al. (2008). For example, a website can convey both pro-suicide and anti-suicide attitudes, or can be both a dedicated suicide website and a website that is against suicide. Descriptions such as "facilitating" suicide contain some ambiguity, as providing information on methods might be considered facilitation, even if suicide is not explicitly encouraged or promoted. The use of distinctive categories may oversimplify suicide-related websites, a criticism which has been raised by several authors with regards to the existing work on pro-suicide and anti-suicide websites (Niezen 2013; Till and Niederkrotenthaler 2014; Baker and Fortune 2008).

Rather than grouping websites into individual categories, it is preferable to have a system with a set of characteristics against which each website is coded. This approach to coding websites can both avoid the problem of overlap and provide more detailed and accurate descriptions of websites. The aim of the present study was to therefore conduct an up-to-date investigation of the types of content available to an individual searching online for suicide methods, using a more detailed coding system than used previously.

Method

Replicating the search strategy used by Biddle et al. (2008), a search was conducted on 22nd September 2014 using Google, Yahoo, Bing (formerly MSN) and Ask search engines. Twelve search terms were used: "suicide", "suicide methods", "suicide sure methods",

"most effective methods of suicide", "methods of suicide", "ways to commit suicide", "how to commit suicide", "how to kill yourself", "easy suicide methods", "best suicide methods", "pain-free suicide" and "quick suicide". The present study was conducted within Australia and no content filters were used to conduct the searches.

The first 10 hits were retrieved from each search. For the present study, hits for different webpages from the same website were collapsed under the parent site and ranked to arrive at the top 10 most frequently occurring websites (Table 1). Entire websites were subsequently coded if the content was created by the same authors or organisations (i.e., the coders clicked through and viewed multiple pages of the website). In cases where the content was created by different people and/or concerned different topics (e.g., Yahoo Answers, Wikipedia), individual webpages were coded, rather than the parent website (i.e., the coders did not click through or view further pages of the website). Where comments were available on webpages, only the first 50 displayed were included in coding.

TABLE 1 HERE

A new coding frame was created, based on the categories in Biddle et al.'s (2008) study, and hits were independently coded by two researchers on eight characteristics: suicide-specific website, professional (website created by mental health organisation aimed at preventing suicide or providing mental health support), user-generated (website content is created by various users rather than one person or organisation), orientation towards suicide, information on suicide methods (provides name of methods or

instructions of methods), scientific information (provides scientific or factual information relating to suicide), interactive (presence of solicitation or discussion of suicide methods between users), and help resources (provides links or contact information to external professional help resources).

Copies of each site or page to be coded were saved using the Mozilla Firefox extension "Scrapbook". For the purposes of coding, blogs were treated as individual websites. For the present study, definitions of the terms pro-suicide and anti-suicide were based on the existing literature (Westerlund 2011; Alao et al. 2006; Becker et al. 2004; Recupero, Harms, and Noble 2008; Aitken 2009; Thompson 1999). However, given potential ambiguity in terms that have been used to describe pro-suicide websites (e.g., facilitation of suicide), we defined pro-suicide orientations as "explicitly encouraging suicide or discouraging help-seeking" and anti-suicide orientations as "explicitly discouraging suicide and encouraging help-seeking". Webpages that contained both neutral and pro-suicide content were coded as pro, while webpages containing both neutral and anti-suicide content were coded as anti. Webpages where comments provided information on methods in response to a request for methods were coded as neutral if the orientation was not otherwise apparent. The two sets of ratings were subsequently compared and coding disagreements were discussed between the two researchers until a consensus could be reached.

Results

In total, 38 hits (five websites and 33 individual webpages) were coded. A summary of the coding distribution in each of the eight domains is shown in Table 2. The percentage of

agreement between the two coders averaged across the eight coding domains was 91%.

The majority of websites were not suicide-specific and were based on user-generated

content rather than content created by a single person or organisation. Almost all of the

webpages provided information on real suicide methods, whether the tone was serious or

partly joking. Only two pages did not include any information on suicide methods. Slightly

over half of the webpages featured users with suicidal intentions soliciting or discussing

suicide methods. Three webpages included users seeking information about suicide

methods, but claiming that it was for research purposes (e.g., writing a book). Twelve pages

did not feature any discussion of suicide methods between users, though some of these

were due to the fact that sites did not allow users to communicate with each other at all

(e.g., Wikipedia). No websites by mental health organisations were identified and most

pages did not provide scientific information relating to suicide or contact information or

links to help resources.

TABLE 2 HERE

Pro-suicide vs. Anti-suicide

No webpages were identified as predominantly encouraging or promoting suicide.

One webpage was found to have approximately equal amounts of pro-and anti-suicide

content. All other pages were split between neutrally oriented and discouraging suicide or

promoting help-seeking. On pages where users were able to interact with one another,

several users provided information on suicide methods to others, but also appeared to

exhibit neutral or anti-suicide attitudes. Relevant quotes, collected by a single researcher,

are provided below to demonstrate the complex attitudes displayed towards suicide that

were found among websites.

After providing information on the quickest methods of suicide, one user stated:

"*Now with the above said, just about any problem can be worked out, but death is permanent.*

After you've thought it over think it over again and be sure that you KNOW this is what you

want to do, because you can always commit suicide later. You don't want your final thoughts

to be, oh wait, I could have tried..." Another user also provided several reasons for living in

their blog post of suicide methods, but ultimately stated that the decision was up to the

individual: "*You can be any one but believe me there is nobody on this whole earth like you*

and won't be ever. You are a precious soul. A soul born to help others. There are several things

you can do with this life not just ending it abruptly. Still If you really want to commit suicide,

Go on...I won`t stop. But before that just drop me a (sic) E-mail." One person provided

information on methods but also specified that they were not encouraging it: "*I'm simply*

suggesting a method, not telling you to actually do it. But if I wanted to kill myself, that's what

I'd do."

At times, while comments were discouraging of suicide, they were also hostile in

tone. Users' negative attitudes towards suicide were reflected in their comments towards

individuals expressing suicidal thoughts: "*...don't comit (sic) suicide it's stupid and you only*

cause yourself more harm than good.", "*Your (sic) pathetic, I know for a fact my lifes worse*

than yours and I continue on but you have made your mind to take the cowards way out when

there's always other options in life." "*Your (sic) being so stupid…Your (sic) being so selfish. My dad killed him self (sic) and that has hurt me in more ways than when he was alive and abusive… Be strong prove yourself in this world that you can take whatever is thrown at you.*"

Not only did such users voice their disapproval of suicide, but they also minimised the problems of others. One Yahoo Answers user wrote of their suicidal intentions within the context of relationship problems with their boyfriend and parents, to which another replied: "*Ridiculous reason for wanting to end your life, grow up.*" A comment on another page read: *"remember others have it worse than you and killing yourself will create problems."*

One individual suggested that the ability to read information about suicide methods actually had a therapeutic effect: *"…I'm really surprised though, b/c I googled 'how to commit suicide' and I opened the first link I saw, which was this one, and it probably had to be the best article I ever read, when I was this down in the past! I went from seriously wanting to die, then read this page and it distracted my mind, just enough to forget about suicide, even though I was reading about it. There seemed to be "problems" in every mode of suicide that has been done… It was almost comical in a non-patronizing way, and I have to give kudos to the author of this! Thank you very much! I feel like in some small way, you helped me…*"

Discussion

The present study has described the types of content that a person conducting online searches relating to suicide methods would be likely to encounter. Compared to an earlier study by Biddle and colleagues (Biddle et al. 2008), where they found that the top three most frequently occurring websites were pro-suicide, no pages were identified as

solely pro-suicide in the present investigation. Furthermore, only two of their top 10 websites (Wikipedia, suicidemethods.net) were returned in the current search. The differences in findings could be due to some differences in methodology, such as the searches having been conducted within different countries. Websites such as Google and Yahoo redirect users to their country's website by default and consequently, results will be ranked differently due to differences in the user base. Additionally, websites may have simply become unavailable or less popular over time. There may have also been changes in website content or differences in the way that pages were ranked and coded. For example, suicidemethods.net was classified as pro-suicide by Biddle et al. (Biddle et al. 2008), but was coded as neutral in the present study.

Nevertheless, it was found that information on suicide methods could be easily located and accessed. Suicide methods were not only provided on information pages such as Wikipedia and blog posts, but were also shared and discussed between Internet users. Accessing such information could be a potential factor in increasing suicide risk, given that both availability of suicide means (Yip et al. 2012) and media exposure to suicide-related material are risk factors (Liu et al. 2007). As such, even in the absence of explicit encouragement of suicide, the online availability of information on methods may pose a significant risk to vulnerable users. However, the ability to go online and freely discuss issues that would not normally be tolerated offline can also be a major attraction of the Internet for some (Baker and Fortune 2008). As one user commented, reading a blog post about suicide methods that was "non-patronizing" served a positive purpose and may have actually prevented suicidal behaviours.

Although the potential effects of online suicide-related content have typically been discussed in terms of the dangers of pro-suicide material and the benefits of websites aimed at preventing suicide and providing support (Aitken 2009; Luxton, June, and Fairall 2012; Recupero, Harms, and Noble 2008; Thompson 1999; Westerlund 2011), the definition of pro-suicide has varied, having been used to describe websites that emphasise the individual right to choose (Durkee et al. 2011; Westerlund 2011), discourage professional help-seeking, promote suicide as an acceptable means to cope, or encourage suicidal behaviours (Durkee et al. 2011). At times, "pro-suicide" has not been defined at all (Aitken 2009; Recupero, Harms, and Noble 2008).

The lack of clear definition of what constitutes pro-suicide material, as well as the findings of the present study that sites tend to have mixed content, support arguments that such a dichotomy oversimplifies the nature of suicide-related content available online (Niezen 2013). The heterogeneity of definitions of "pro-suicide", "anti-suicide" and "neutral" classifications in existing studies of search engine results was also discussed by Till and Niederkrotenthaler (2014). In their search engine analysis, they instead attempted to identify potentially harmful (details of suicide method) or protective (portrays suicide as complex) characteristics of websites, which were primarily based on recommendations for suicide reporting in the traditional media. Providing details on suicide methods was the most common harmful characteristics found from suicide method-related searches. The present study has shown, however, that potentially harmful characteristics of websites, such as providing information on suicide methods, could be associated with positive experiences, and that complex interactions occur between users online.

On the one hand, some individuals provided information on methods but also offered supportive comments to continue living. On the other hand, some comments were coded as anti-suicide but were also inflammatory in nature. They attacked or insulted people expressing suicidal thoughts or minimised their problems, which could have increased negative feelings and adversely impacted these individuals. Such behaviour is against the recommendations of mental health first aid guidelines for suicidal ideation and behaviour, which outline the importance of responding to people expressing suicidal thoughts in an understanding, empathic and calm manner (Ross, Kelly, and Jorm 2014).

Overall, it was a positive finding that, even when specifically searching for suicide methods, users would be unlikely to encounter material explicitly encouraging or promoting suicide. However, the lack of sensitivity exhibited in some comments, despite being discouraging of suicide, was concerning. It suggests the need for greater education of the wider community about the nature and complexity of mental health problems, and to teach community members how best to respond to individuals in a suicidal crisis. Public education involves aims to improve the understanding of the causes and risk factors of mental illness and suicidal behaviour (Mann et al. 2005), A review found that strategies aiming to educate and raise awareness about suicide and depression in the general public can have positive effects of people's knowledge and awareness of mental health issues (Dumesnil and Verger 2009). A systematic review of suicide prevention strategies also concluded that gatekeeper training was one of the most promising (Mann et al. 2005). Mental Health First Aid is a training program that is specifically designed to equip individuals with the tools to assist those experiencing mental health problems. It is administered in-person by a trained instructor in a variety of communities and workplaces,

and teaches individuals how to recognise the signs and symptoms of mental health problems, as well as how to provide help and how to find professional help. Course participants receive a manual that describes educational and scientific information relating to mental illness (including common myths and misunderstandings) and the steps of providing mental health first aid. Evaluations of the program have shown evidence of increasing knowledge about mental illness, decreasing social distance from individuals experiencing mental health problems, improving helping behaviour and increasing people's confidence to help others (Kitchener and Jorm 2008).

There were some limitations. As with many search engine studies, the search terms used were pre-selected by researchers, rather than examining actual searches conducted by people searching online for methods. Multiple webpages for a single site were collapsed under the parent site for the purposes of ranking, despite some pages only having a single hit, suggesting that users may be unlikely to find or access that particular page. Only webpages accessible through search engines were included. There may be a number of websites that are not found within the first few pages of a search, but are accessed through other means such as through links provided on websites or by other Internet users. Further, as the study was conducted within Australia and only viewed English-language webpages, the findings may lack generalisability. Nevertheless, by coding all hits within eight areas, this study has provided a detailed description of the types of content and webpages that can be accessed through online searches for suicide methods. It has also shown the complex nature of this content, which should be taken into consideration when examining the effects of suicide-related content on vulnerable individuals.

Conclusions and implications

Internet users are able to easily locate information on suicide methods online, but will not necessarily be exposed to content encouraging or promoting suicide. Few websites were identified as suicide-specific, demonstrating the pervasiveness of suicide content online and the difficulties that controlling or prohibiting such content would entail. Clinicians and developers of suicide prevention strategies need to be aware of what is available online, but should not oversimplify suicide-related websites by classifying them into categories of pro-suicide and anti-suicide. Future research should consider investigating whether the online availability of suicide methods alone poses a significant risk to individuals and how negative or hostile interactions can impact users.

References

Aitken, Amanda. 2009. "Suicide and the internet." *Bereavement Care* no. 28 (2):40-41.

Alao, A. O;, M; Soderberg, E. L; Pohl, and A. L Alao. 2006. "Cybersuicide: Review of the role of the Internet on suicide." *Cyberpsychology and Behavior* no. 9 (4):489-493.

Baker, D;, and S Fortune. 2008. "Understanding self-harm and suicide websites: A qualitative interview study of young adult website users." *Crisis* no. 29 (3):118-122.

Becker, K. , M; Mayer, M; Nagenborg, M; El-Faddagh, and M. H Schmidt. 2004. "Parasuicide online: Can suicide websites trigger suicidal behaviour in predisposed adolescents?" *Nordic Journal of Psychiatry* no. 58 (111-114).

Biddle, L;, J Donovan, K; Hawton, N; Kapur, and D; Gunnell. 2008. "Suicide and the Internet." *BMJ* no. 336:800-802.

Dumesnil, Hélène, and Pierre Verger. 2009. "Public awareness campaigns about depression and suicide: a review." *Psychiatric Services* no. 60 (9):1203-1213.

Durkee, T; , G Hadlaczky, M Westerlund, and V Carli. 2011. "Internet pathways in suicidality: A review of the evidence." *International Journal of Environmental Research and Public Health* no. 8:3938-3952.

Kitchener, Betty A, and Anthony F Jorm. 2008. "Mental Health First Aid: an international programme for early intervention." *Early intervention in psychiatry* no. 2 (1):55-61.

Liu, Ka Y, Annette Beautrais, Eric Caine, Kathy Chan, Anne Chao, Yeates Conwell, Chikin Law, Dominic Lee, Pichiang Li, and Paul Yip. 2007. "Charcoal burning suicides in Hong Kong and urban Taiwan: an illustration of the impact of a novel suicide method on overall regional rates." *Journal of Epidemiology and Community Health* no. 61 (3):248-253.

Luxton, D. D; , J. D; June, and J. M Fairall. 2012. "Social media and suicide: A public health perspective." *American Journal of Public Health* no. 102 (2):S195-S200.

Mann, J John, Alan Apter, Jose Bertolote, Annette Beautrais, Dianne Currier, Ann Haas, Ulrich Hegerl, Jouko Lonnqvist, Kevin Malone, and Andrej Marusic. 2005. "Suicide prevention strategies: a systematic review." *JAMA* no. 294 (16):2064-2074.

Niezen, Ronald. 2013. "Internet suicide: Communities of affirmation and the lethality of communication." *Transcult Psychiatry* no. 50 (2):303-322.

Recupero, P. R;, S. E; Harms, and J. M Noble. 2008. "Googling suicide: Surfing for suicide information on the Internet." *Journal of Clinical Psychiatry* no. 69 (6):878-888.

Ross, Anna M, Claire M Kelly, and Anthony F Jorm. 2014. "Re-development of mental health first aid guidelines for suicidal ideation and behaviour: a Delphi study." *BMC Psychiatry* no. 14 (1):241.

Thompson, Susan. 1999. "The Internet and its potential influence on suicide." *Psychiatric Bulletin* no. 23 (8):449-451.

Till, Benedikt, and Thomas Niederkrotenthaler. 2014. "Surfing for suicide methods and help: content analysis of websites retrieved with search engines in Austria and the United States." *J Clin Psychiatry* no. 75 (8):886-892.

Westerlund, M. 2011. "The production of pro-suicide content on the internet: A counter-discourse activity." *New Media and Society* no. 14 (5):764-780.

Yip, Paul SF, Eric Caine, Saman Yousuf, Shu-Sen Chang, Kevin Chien-Chang Wu, and Ying-Yeh Chen. 2012. "Means restriction for suicide prevention." *The Lancet* no. 379 (9834):2393-2399.

Author/s:
Mok, K; Ross, AM; Jorm, AF; Pirkis, J

Title:
An Analysis of the Content and Availability of Information on Suicide Methods Online

Date:
2016-01-01

Citation:
Mok, K., Ross, A. M., Jorm, A. F. & Pirkis, J. (2016). An Analysis of the Content and
Availability of Information on Suicide Methods Online. JOURNAL OF CONSUMER HEALTH
ON THE INTERNET, 20 (1-2), pp.41-51. https://doi.org/10.1080/15398285.2016.1167579.

Persistent Link:
http://hdl.handle.net/11343/123541

File Description:
Accepted version