SUICIDE AND THE INTERNET

Recent reports of suicide by young people have highlighted the possible influence of internet sites. **Lucy Biddle and colleagues** investigate what a web search is likely to find

Media reporting of suicide and its fictional portrayal on television are known to influence suicidal behaviour, particularly the choice of method used.[1-3] Indeed, epidemics of suicides using particular methods have occurred after media portrayal of their use.[3-5] As some methods of suicide are more likely to cause death than others,[6] such influences may affect the outcome of suicide attempts and national suicide rates.[7]

The influence of the internet on suicidal behaviour is less well understood, although it is an increasingly popular source of information, especially for people confronting embarrassing issues such as mental illness, and concerns have been raised about the existence of sites that promote suicide.[8] [9] Some people report being encouraged to use suicide as a problem solving strategy by suicide web forums[8] and cases of cybersuicide—attempted or completed suicide influenced by the internet—have been published in the popular and academic press.[9-12] Suicide sites are also claimed to have facilitated suicide pacts among strangers who have met and then planned their suicide through the internet.[11]

Despite recent controversy, no one knows how easy it is to find sites relating to suicide on the internet and what sort of information they contain. Recent studies of internet search behaviour suggest that most people use search engines, that queries are broad—mostly composed of a few words and rarely including Boolean operators or phrase searches—and that users rarely look beyond the first page of results.[13] [14] We searched the internet in May 2007 for sites providing instructions and information about methods of suicide using the four most popular search engines (Google, Yahoo, MSN, and Ask[15]) and 12 simple search terms (see box).

What searches find

We analysed the first 10 sites from each search, giving a total of 480 hits. Altogether 240 different sites were identified. Just under a fifth of hits (90) were for dedicated suicide sites (see table 1 on bmj.com). Half of these were judged to be encouraging, promoting, or facilitating suicide; 43 contained personal or other accounts of suicide methods, providing information and discussing pros and cons but without direct encouragement; and two sites portrayed suicide or self harm in fashionable terms. A further 44 (9%) hits were sites or pages that provided information about suicide methods in a purely factual (24), partly joking (12), or completely joking (8) fashion. Twelve hits were chat rooms or discussion boards that talked about methods of suicide.

Sites focusing on suicide prevention or offering support and sites forbidding or discouraging suicide accounted for 62 (13%) and 59 (12%) hits respectively.

The nature of sites retrieved with the four search engines varied. Google and Yahoo retrieved the highest number of dedicated suicide sites (Google 29, Yahoo 24, MSN 16, ASK 21), whereas MSN had the highest number of prevention or support sites (21), academic or policy sites (27), and irrelevant or unavailable hits (31).

Sites providing factual information about suicide, pro-suicide sites, and chat rooms discussing general issues relating to suicide occurred most often within the first few hits of a search and thus are more likely to be accessed. Dedicated suicide sites and sites giving factual information about suicide had the highest proportion of number one ranks across searches (25% and 27%, respectively,

Soon gives advice on prevention and support, including reasons not to kill yourself and case studies

TOP 10 RETRIEVED SITES*
Alt Suicide Holiday (ASH) suicide methods file (pro-suicide)
Satan Service (pro-suicide)
Suicide methods.net (pro-suicide)
Wikipedia (information)
Extreme River (against suicide)
Satan Service (page not available)
New Hope Health Clinic (against suicide)
Amazon (advert for book on suicide)
Soon (prevention and support)
23nl people§ (Not relevant to search term)
*See table 2 on bmj.com for additional detail.

of all first ranked sites). Addresses that were not available or relevant to the search term were the third most likely to be top ranked. This is partly because of eight references to a withdrawn Satan Service page.

The box above shows the 10 most frequently occurring sites found in our searches. The three most frequently occurring sites were all pro-suicide. Alt Suicide Holiday (ASH), whose material on methods of suicide was accessed using 10 different web addresses, appeared in half of all our 48 searches. Wikipedia was the fourth most frequently occurring site. The top four sites provided not only information but also evaluation of methods of suicide. This included, for instance, detailed information about speed, certainty, and the likely amount of pain associated with a method.

Just under half of the 480 web pages visited provided some information about methods of suicide. Almost all dedicated suicide and factual information sites provided such information but, notably, a fifth (21%) of support or prevention sites, over half (55%) of academic or policy sites, and all news reports of suicides also provided information about methods. A quarter of the hits provided more detailed evaluation of methods, most of which were dedicated suicide sites or other information sites. Chat rooms and discussion boards also regularly provided information about methods. A third of the hits referenced hanging.

This research shows it is very easy to obtain detailed technical information about methods

DATA RETRIEVAL AND ANALYSIS

Search strategy

We sought to replicate the results of a typical search that might be undertaken by a person seeking information about methods of suicide. We conducted searches using the four most popular UK search engines and 12 broad search terms—a total of 48 searches. The terms entered were those likely to be used by distressed individuals, determined partly from interview data collected in an ongoing qualitative study of near-fatal suicide attempts and by using search suggestions provided by the engines upon entering terms such as "suicide." The terms used were:
(a) suicide; (b) suicide methods; (c) suicide sure methods; (d) most effective methods of suicide; (e) methods of suicide; (f) ways to commit suicide; (g) how to commit suicide; (h) how to kill yourself; (i) easy suicide methods; (j) best suicide methods; (k) pain-free suicide, and (l) quick suicide. The entire web (not just UK sites) was searched.
The terms were entered into each search engine in turn and we examined the first 10 hits retrieved by each search. In total 480 hits were reviewed.

Analysis

LB and DG independently categorised each hit into one of 14 groups using a coding frame that was developed and refined iteratively in the early stages of the internet searching until it could be applied consistently:
- Dedicated suicide site— Pro-suicide; encouraging, promoting, or facilitating suicide
- Dedicated suicide site— Describing methods but not encouraging suicide
- Dedicated suicide site—Portraying suicide in fashionable terms
- Information site—Providing factual information about suicide methods
- Information site—Partly joking or tongue in cheek information but suggestive of real methods
- Information site with completely joking information—Most or all methods described not real
- Against suicide site
- Prevention or support site
- Academic or policy site
- Page not found or not relevant to search term
- News reports of individual suicides
- Chat rooms focused on suicide methods
- Chat rooms discussing various general issues relating to suicide
- Miscellaneous sites: reporting on topical issues relating to suicide.

They repeated their coding of the 12 searches (120 hits) deriving from the first search engine using the finalised coding frame to ensure that the coding of these was consistent with those coded later. A basic content analysis of all hits was also performed to note whether the sites provided information about suicide methods; included reference to hanging since this is an increasingly used method of suicide; and contained links to other suicide[16] related sites.

Coding disagreements between LB and DG that could not be resolved were referred to a third researcher (JD), who analysed those blinded to the codes assigned to them by LB and DG. In most cases this resolved the disagreement but where a decision still could not be made LB, DG, and JD jointly visited the site and discussed the rationale for their coding until agreement was reached.

When all the sites had been coded, the frequency of each category of site across all searches and using particular search terms and engines was counted. A rank was assigned to the hits in each search: 1 to the first site listed, 2 to the second site listed, and so on up to 10. This provided an indication of the prominence of each hit and thus the likelihood of it being accessed by a user. As the distributions of the ranks for many sites were skewed we calculated the median rank for each type of site. Further coding was used to identify duplicate hits across searches. These were defined as instances where the same or linked web pages from a single site were retrieved. The 10 sites most frequently retrieved were then identified and their median rank and content tabulated. Simple summary statistics were calculated using Stata version 10.

Altogether 480 web addresses ("hits") and 240 different sites (taking account of duplicates) were retrieved, visited, and reviewed. LB and DG agreed on the coding of 89% of hits.

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of suicide, not just from the suicide sites that have caused recent concerns but also from information sites such as Wikipedia. Although dedicated suicide sites were the three most frequently occurring web pages, the searches retrieved an almost equal number of sites aimed at preventing suicide. Some of these seem to have used website optimisation methods to ensure their site is preferentially sourced by people seeking information about suicide methods.

Other influences

Information on methods is not the only way that the internet can contribute to suicidal behaviour. Contributors to chat rooms may exert peer pressure to commit suicide, idolise those who have completed suicide, and facilitate suicide pacts.[17] Such discussion may lessen any doubts or fears of people who are uncertain about suicide. Pierre Baume and colleagues observed that people posting notes concerning suicide on the web are often initially ambivalent but that their resolve strengthens as others encourage them and backing out or seeking help becomes more difficult.
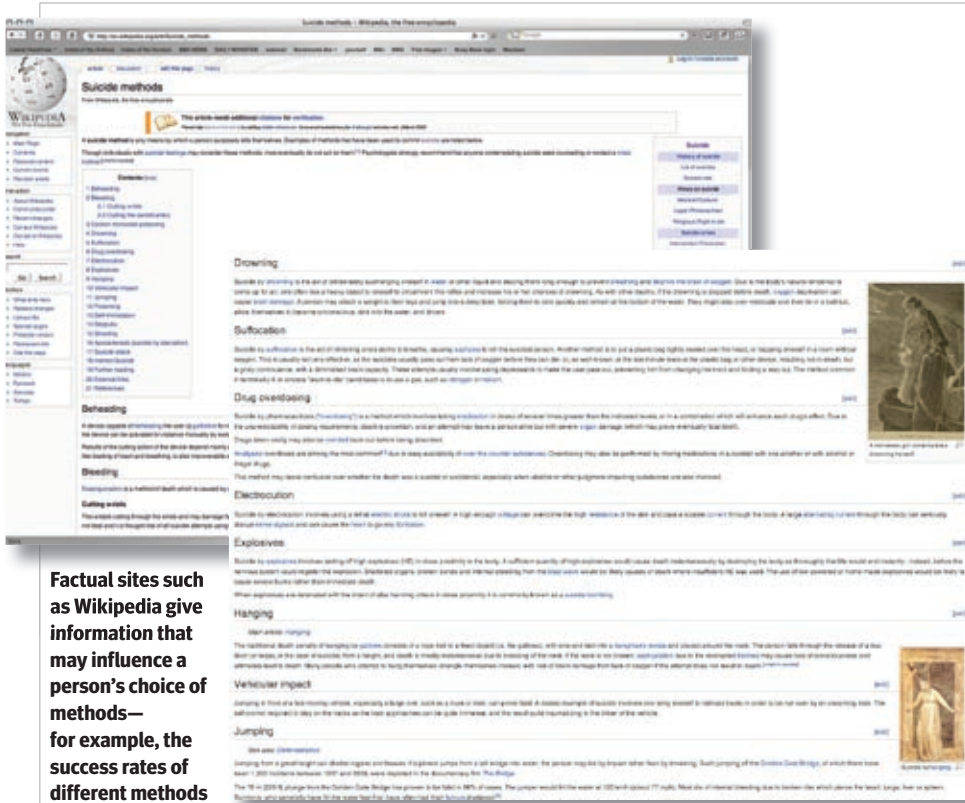
The internet may also have beneficial

Some people report being encouraged to use suicide as a problem solving strategy by suicide web forums

Alt Suicide Holiday (ASH) gives details of specific suicide methods, including hanging, and has notes on lethal doses of poisons and their effects as well as the certainty of the method

Factual sites such as Wikipedia give information that may influence a person's choice of methods—for example, the success rates of different methods

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effects on suicide. Some sites advise people where to seek help and provide information and links to sources of help. Such sites also allow people to express and share their distress and so may have a positive function. Several websites provide information, screening questionnaires, advice, and encouragement about seeking help and treatment. Internet based interventions have been used to help cope with depression, and supportive message boards and web rings exist to allow people to share coping strategies, normalise experiences, and empower people who self harm by enabling them to tell their stories and reach out to others.[18]

In England rates of suicide among young (15-34 year old) men and women, the age groups who make most use of the internet, have been declining since the mid-1990s, a time when use of the internet has expanded rapidly.[19] So cases of internet induced suicide may be offset by potential beneficial effects or other suicide prevention activities.

Controlling access

Any attempt to regulate suicide promotion needs to strike a balance between freedom of expression and public protection and the global nature of the internet.[20 21] The main approaches to reducing potential harm from suicide sites include self regulation by internet service providers and use of filtering software by parents to block sites from susceptible youngsters. The main organisation monitoring internet content in the United Kingdom, the industry sponsored Internet Watch Foundation (www.iwf.org.uk), does not include suicide sites within its remit and would only do so if the sites were illegal. Such a legislative approach to the problem has been taken in Australia, where since 2006 it has been illegal to use the internet to promote the idea or provide practical details concerning suicide, and internet service providers in countries such as Japan and Korea have attempted to block specific sites. Another strategy is to help support sites to appear further up the ranking in searches using suicide related terms.

Clearly, attempts are being made to clean up the web—for example, links to the pro-suicide Satan Service site were often unavailable. However, efforts to remove some of the most detailed technical descriptions of methods seem to be easily circumvented since several sites provide access to almost identical files on suicide methods and site authors can add simple disclaimers that they are not promoting suicide. The differing content identified with the four search engines indicates that it is possible to influence what searches retrieve. It may be more fruitful for service providers to pursue website optimisation strategies to maximise the likelihood that suicidal people access helpful rather than potentially harmful sites in times of crisis.

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