



Suicide Prevention by Internet and Media Based Mental Health Promotion

Deliverable 6.2

Web survey of Internet Resources related to Mental Health



Executive
Agency for
Health and
Consumers

Web Survey Report

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Introduction

Internet is the main communication platform in the world today, with more than two billion users (1). In Europe, the vast majority of citizens are online daily to carry out different communication and information activities, and new applications and uses are constantly developed. The internet is not a pretend-world, it is a world populated by real people with different social and cultural backgrounds. In its virtual social environment, people meet, exchange thoughts, feelings and experiences; and just like in the physical world, the actions people take on the internet affect their own and other people's lives (2). Therefore, it is a very important task to develop internet-based preventive strategies and resources for people suffering from mental ill health and individuals at risk for suicidal acts.

In a random sample of over 3.000 American adults, it was found that 58 per cent of the internet users reported searching for health information for themselves (3). If this figure is representative of the rest of the globe, there are approximately 1.2 billion internet users that search health related information (4). One important question for health promotion is *what* these information seekers find and, perhaps even more crucially, *how* these users seek for information. In order to assess whether a web-based intervention has practical significance for public health, it might not be enough to assess whether that intervention has statistical significance. An intervention with a high statistical effect size will be of little practical use if those who seek it cannot find it. For mental health promotion and suicide prevention it seems to be of great importance to identify what strategies people suffering from mental ill health use to search the internet, in order to increase the probability that they find the appropriate web-based interventions.

Internet can provide good and cost-effective opportunities for mental health promotion and suicide prevention, due to its availability and reach (5, 6, 7, 8, 9). It can promote a non-stigmatizing and open environment for help-seeking individuals. The topic of mental health can be discussed openly, which may contribute to de-stigmatization and furthers mental health promotion. The possibility for users to remain anonymous has also shown to increase people's willingness to communicate about problematic life circumstances (10, 11).

Preferably, the preventive resources on the internet should be developed using dialogical communication between the mental health expertise and help-seeking individuals. People appreciate this type of communication: eight of the top ten most visited websites in the world are in fact aimed at dialogical communication and social networking. Websites with dialogical opportunities allow users to describe their mental problems and get specific feedback and help. Also, individuals with similar problems can share experiences and form support groups to help each other.

Another important task in developing internet based preventive strategies is to target

specific age groups; the recommended coping strategies must be tailored to a particular group's way of communicating and interact.

Aim

The primary goal of this report is to describe an overview of the preventive websites that users are likely to find when seeking suicide-related information on the web, in the languages covered by the participating centers in the different countries. The working assumption in this report is that most users use Google as their primary search engine when seeking information online. It has been argued that search engines like Google can be seen as meta-sources for information on various topics, and that search results on a certain topic may be representative of internet content at large: "Google search volumes reflect a large proportion of all available internet search data on the chosen term, thereby capturing a vast amount of information" (12).

This report is one of the core activities of WP5, together with the systematic review on internet-based mental health interventions. The findings will help us to improve the design and implementation of the SUPREME intervention website, and also serve as a basis for the guidelines, prepared in WP 8, aimed at other actors.

Procedure

The first thirty hits on the Google search engine were examined for four different keywords related to mental ill health. This procedure was executed in the languages of all participating centers, and additionally a search was made for Google's international site in English (google.com). A sample of 30 hits per search term, 120 search hits per center, totaling 960 hits, was examined. Adverts, images and videos, RSS etcetera, within the search lists were not coded, as they are not part of the actual search results.

Since search lists change over time, the searches in all centers were executed at a pre-specified time period: March 21-25, 2011. The coding procedures were completed at a later time period through revisiting saved search lists.

Each center used the Google URL that corresponds to the country where the center is located (e.g. www.google.hu for Hungary). The search terms have been selected in the following way: First, a large number of suicide-related terms were identified through thorough discussions and by the use of a focus group: Secondly, these search terms were analyzed with Google Trends (13). Google Trends is an online service that shows how often different search terms are entered into the Google search engine, in different time periods, and in various regions of the world. The search terms were analyzed in Google Trends to establish their frequency in searches. Terms with extremely low use-frequencies were then excluded. Finally, the overtime usage-frequency of each remaining term was correlated to the overtime usage-frequency for the term "suicide". The terms with the highest correlations were identified ($r = 0.6-0.9$; $p < 0.01$):

1. Suicide
2. Depression
3. Anxiety
4. Stress

The analysis suggests that people who make searches on the term “suicide” in the Google search engine are also likely to search the terms “depression”, “anxiety”, and “stress”. In turn, websites (including web-based mental health related interventions) covering these topics are likely to be more salient and thus more often accessed by users.

The above search terms were then translated to the languages represented by each of the centers.

A detailed description of the searches and coding procedures that were conducted at the participating centers, and a description of the examined variables and categories, are attached in Appendix 1.

Results

Due to complications in the coding procedure, the coding for four of the 960 search hits was incomplete. However, this should not affect the overall results of the study.

Content

In total, the results show that 40.8 per cent of the websites were coded as having *direct preventive* content, although large differences were found between the countries (Table 1). For example, the proportion of preventive websites for the UK was 69.2 per cent, while the proportion for Spain was 10.8 per cent (Table 1). While preventive websites are relatively frequent in all countries included in this report, they are more likely to appear as search hits relating to depression, anxiety and stress compared to suicide. There are 42.4% fewer direct preventive websites for suicide (63) than for depression (107), anxiety (116) and stress (106). Websites with pro-suicide content were found in four countries and were a relatively small proportion of their total search hits: Sweden (0.8%), Italy (2.5%), Spain (3.3%) and Estonia (5.0%).

Table 1: The distribution of website content amongst the participating centers. Frequency (and %) are presented.

Country	Preventive Content	Technical Content	News Content	Pro-Suicide Content	None Of The Above
International	62 (51.7%)	49 (40.8%)	1 (0.8%)	0 (0%)	8 (6.7%)
Sweden	45 (37.5%)	41 (34.2%)	25 (20.8%)	1 (0.8%)	8 (6.7%)
UK	83 (69.2%)	16 (13.3%)	7 (5.8%)	0 (0%)	14 (11.7%)
Hungary	43 (35.8%)	37 (30.8%)	9 (7.5%)	0 (0%)	31 (25.8%)
Spain	13 (10.8%)	62 (51.7%)	28 (23.3%)	4 (3.3%)	13 (10.8%)
Estonia	22 (18.3%)	49 (40.8%)	10 (8.3%)	6 (5.0%)	33 (27.5%)
Lithuania	51 (42.5%)	22 (18.3%)	23 (19.2%)	0 (0%)	24 (20.0%)
Italy	73 (60.8%)	25 (20.8%)	7 (5.8%)	3 (2.5%)	12 (10.0%)
Total (960)	392 (40.8%)	301 (31.4%)	110 (11.5%)	14 (1.5 %)	143 (14.9%)

Senders

In regards to the senders behind the preventive websites, it is *corporations* that represent the largest share, 33.2% in total (Table 2). This result is fairly representative for all search terms with the exception of suicide, where *non-governmental organizations* (NGO's) are the most prevalent senders (Table 2).

Examining the different search terms in relation to senders, the results show that preventive websites on depression and anxiety are predominantly produced by *corporations* (44.9% and 38.8% respectively), while preventive websites on Suicide and Stress are mostly produced by *NGO's* (44.4% and 34.3% respectively) (Table 2).

Table 2: The preventive websites: the relative distribution of senders amongst the four different search terms (and the relative distribution of search terms within the sender).

Sender	Suicide	Depression	Anxiety	Stress	Total
Governmental	15.9% (17.2 %)	13.1% (24.1%)	16.4% (32.8%)	14.3% (33.2%)	14.8%
NGO's	44.4% (24.8%)	19.6% (18.6%)	24.1% (24.8%)	34.3% (31.9%)	28.9%
Corporations	12.7% (6.2%)	44.9% (36.9%)	38.8% (34.6%)	27.6% (22.3%)	33.2%
Private sender	23.8% (19.5%)	18.7% (26.0%)	20.7% (31.2%)	17.1% (23.4%)	19.7%
None of the above	3.2% (15.4%)	3.7% (30.8%)	0% (0%)	6.7% (53.8%)	3.3%
Total	16.1%	27.4%	29.7%	26.9%	100%

Form of communication

Overall, the most common form of communication on the preventive websites was *monological* and *semi-dialogical* (80.9 per cent) (Table 3). Thus, dialogical communication is present in one-fifth of the websites. There are relatively large differences between the countries in terms of form of communication. For example, the proportion of *dialogical* communication on Spanish preventive websites is 46.2 per cent, and 32.6 per cent on Hungarian websites, while there is no *dialogic* communication at all on Swedish preventive websites (Table 3).

Table 3: The preventive websites: Each URL is presented for how many of the 120 examined websites that were preventive (after the URL's respectively), and the distribution of the different forms of communication for those websites. Frequencies (and %) are presented here.

URL (number of which of the 120 sites that are preventive)	Monological communication	Semi-dialogical communication	Dialogical communication
International (62)	16 (25.8%)	31 (50.0%)	15 (24.2%)
Sweden (45)	22 (48.9%)	23 (51.1%)	0 (0%)
UK (83)	28 (33.7%)	40 (48.2%)	15 (18.1%)
Hungary (43)	14 (32.6%)	15 (34.9%)	14 (32.6%)
Spain (13)	0 (0%)	7 (53.8%)	6 (46.2%)
Estonia (22)	12 (54.5%)	3 (13.6%)	7 (31.8%)
Lithuania (51)	29 (56.9%)	17 (33.3%)	5 (9.8%)
Italy (72)	17 (23.6%)	42 (58.3%)	13 (18.1%)
Total (391)	138 (35.3%)	178 (45.5%)	75 (19.2%)

Notably, there are no *governmental* preventive websites using a *dialogical* form of communication for the search terms suicide and stress (Table 4).

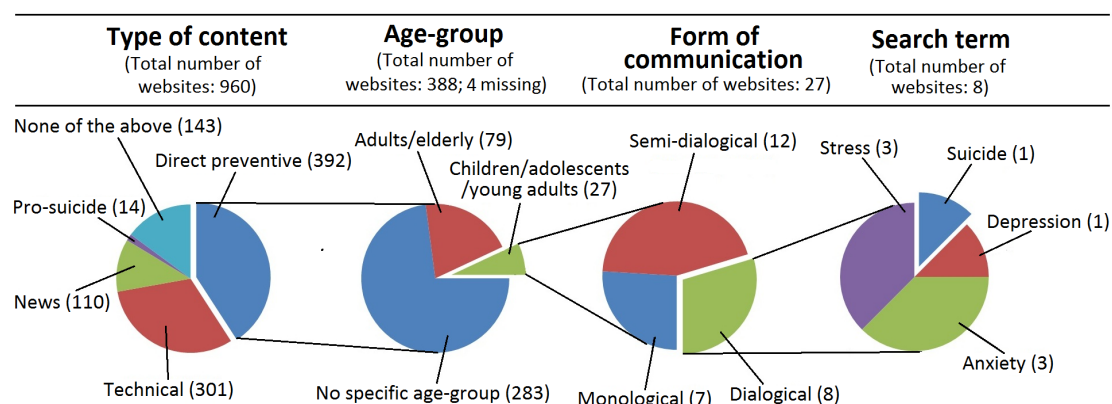
Table 4: The preventive websites with governmental senders: The distribution of the different types of communication is presented for each search term. Frequencies (and %) are presented here.

Search term	Monological communication	Semi-dialogical communication	Dialogical communication	Total
Suicide	2 (20.0%)	8 (80.0%)	0 (0%)	10
Depression	3 (21.4%)	9 (64.3%)	2 (14.3%)	14
Anxiety	4 (21.1%)	10 (52.6%)	5 (26.3%)	19
Stress	5 (33.3%)	10 (66.7%)	0 (0%)	15
total	14 (24.1%)	37 (63.8%)	7 (12.1%)	58 (100%)

Age-group

Whilst 72.9% of the preventive websites were not aimed towards a specific age group, 20.1% had *adults/ elderly* as their target age-group, and only 6.9% were coded as being specifically aimed towards *children/ adolescents/ young adults* (Figure 1). In other words, from the total sample of 960 websites there were only 27 direct preventive websites aimed at young people (i.e. 2.8%), and only eight of these used a dialogical form of communication (0.83%) (Figure 1). Furthermore, only one of these eight websites (a private sender) treated the subject of suicide (corresponding to 0.1% of the total), while the other seven treated the subject of depression (1), anxiety (3) and stress (3) (Figure 1).

Figure 1: Illustrating the four different coding categories. Each category is represented by a corresponding pie chart. Counting from the left, the three first charts has one piece selected (divided by a gap) which the next chart describes in terms of that category. As the figure shows, there is only one out of the 960 websites that (A) has preventive content, (B) is specifically aimed towards young people, (C) uses a dialogical form of communication, and (D) specifically treats the subject of suicide.



Discussion and conclusion

Although this study shows that there are relatively many preventive websites in total, the differences between the participating countries are significant (Table 1). For example, internet users in the UK and Italy have access to many more preventive websites than Spanish and Estonian internet users. Also of importance, preventive websites concerning suicide are considerably less frequent than preventive websites on depression, anxiety, and stress. This can be explained in part by the fact that it is corporations that are behind a large proportion of the preventive websites on depression, anxiety, and stress, while web sites on suicide prevention to greater extent are run by NGO's, private senders and governmental bodies (Table 2). It is probable that there are no clear economic incentives for a corporation to operate a suicide preventive website.

The analysis also shows that websites with pro-suicide content are relatively few in 2011. While previous studies have demonstrated a proportionately higher share of pro-suicide web pages (14, 15, 16), one can assume that these sites are not as frequently listed at the top of the search lists anymore.

Only one-fifth of the preventive websites use dialogical communication (Table 3), and less than seven per cent of them are targeted at youth (Figure 1). Concerning suicide, there is only one preventive website aimed at young people that have dialogical opportunities (Figure 1). Furthermore, there are no preventive websites on suicide or stress using a dialogical communication form run by governmental bodies (Table 4). This lack of existing mental health related web sites with dialogical communication opportunities, along with the knowledge of their possible effectiveness suggested by the scientific literature, demands a course of action aimed at solving this issue.

In summary, it is of great importance to develop and launch effective preventive websites, especially ones that are aimed at young people and using dialogical communication. This would expand the possibilities for many who suffer from mental ill health to get support and treatment.

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Appendix 1

Coding

Step 1. Copy the address of the website and paste it under column B (URL) of the Excel 'Coding schedule'.

Step 2. Encode the variable 'Type of content' in column C by choosing only one of the categories below. If the website fits into several categories, select the one that represents it most.

1. Direct preventive content: if the search hit contains communication and information with a clear intention to help people and prevent mental ill health or suicide. The website is meant to be read by and give advice to people who are in distress.
2. Technical content: the website provides technical (such as scientific) information on the subject, e.g. research results conferences, suicide prevention strategies. The website is NOT directly targeted at people who are in distress.
3. News content: News article on the subject. Websites should be included in this category only if the purpose of the content is to inform the public about a specific suicide-related event(s).
4. Pro-suicide content: information and communication that clearly advocates or tolerates actions and behavior related to suicide, depression, anxiety, or self-harm, such as web pages that glorify suicide and/or have information and evaluations of suicide methods, or the equivalent in terms of self-harm. Websites that do not directly advocate suicide but facilitate suicidal behaviour in any way (for instance through listing methods) should be included in this category.
5. None of the above, specify why this website has no relevance to suicide in the excel file. For example "XY commits political suicide" or "Cell suicide in cancer research"

If variable 1 ('Type of content') in Step 2. has received a category 1 (Preventive content) coding, then continue to Step 3. However if variable 1 ("Type of content") received no category 1 coding (but instead a 2,3,4 and/or 5) then select the next search word and start over again.

Eg. 1. www.healthy-mind.net type of content: 1 (Preventive content)- Proceed to Step 3.

Eg. 2. www.supreme-project.org type of content: 2 (Technical content)- select the next search word and start over.

Eg. 3. www.cnn.com type of content: 3 (News content)- select the next search word and start over.

Step 3. Sender (where does the content/search hit come from?)

1. Governmental or supra-governmental bodies: public agencies, universities, institutions/ministries, the state, counties, municipalities etc. For example, national ministries of health and welfare, DG-sanco, WHO etc
2. Non-government organizations (NGO:s): such as church foundations and volunteer organizations.

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3. Corporations: e.g. pharmaceutical companies.
 4. Private senders: These senders do not represent any authority, organization or company, for example communities, blog sites, chat channels etc.
 5. None of the above - specify

Step 4. Form of communication (opportunity for feedback)

1. Monological communication (no feedback): Different types of uni-directional texts. No real possibility for visitors to ask questions or get any feedback. A 'simple' information site.
2. Semi-dialogical communication (some opportunity for feedback): Some opportunities for visitors to ask questions and get feedback, e.g. a number to a Hotline or e-mail address.
3. Dialogical communication (considerable opportunity for feedback): Considerable opportunities for visitors to ask questions and get feedback in form of e-mail, phone, forum, chat channel etc.
4. Other form of communication- specify

Step 5. Age group

1. The website is aimed specifically at children / adolescents / young adults.
2. The website is aimed specifically at adults / elderly.
3. The website doesn't appear to be aimed at any specific age group.