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Self-Presentation on the Web: Agencies Serving Abused and Assaulted Women

Abstract

Objectives. We examined the content and usability of the Web sites of agencies serving women victims of violence.

Methods. We entered the names of a systematic 10% sample of 3774 agencies listed in 2 national directories into a search engine. We took (in April 2012) and analyzed screenshots of the 261 resulting home pages and the readability of 193 home and first-level pages.

Results. Victims (94%) and donors (68%) were the primary intended audiences. About one half used social media and one third provided cues to action. Almost all (96.4%) of the Web pages were rated “fairly difficult” to “very confusing” to read, and 81.4% required more than a ninth-grade education to understand.

Conclusions. The service and marketing functions were met fairly well by the agency home pages, but usability (particularly readability and offer of a mobile version) and efforts to increase user safety could be improved. Internet technologies are an essential platform for public health. They are particularly useful for reaching people with stigmatized health conditions because of the anonymity allowed. The one third of agencies that lack a Web site will not reach the substantial portion of the population that uses the Internet to find health information and other resources.

Disciplines

Health Communication | Health Information Technology | Health Services Research | Other Public Health | Public Health Education and Promotion | Social Media | Women's Health

Comments

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Self-presentation on the web: Agencies serving abused and assaulted women

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Abstract

Objectives. Internet technologies are an essential platform for public health. They are particularly useful for reaching people with stigmatized health conditions because of the anonymity allowed. This study examined the content and usability of websites of agencies serving women victims of violence.

Methods. The names of a systematic 10% sample of 3,774 agencies listed in two national directories were entered into a search engine. We analyzed screenshots of the 261 resulting homepages and the readability of 193 home- and first-level pages.

Results. Victims (94%) and donors (68%) were the primary intended audiences. About one-half used social media and one-third provided cues to action. Almost all (96.4%) of the webpages were rated “fairly difficult” to “very confusing” to read, and 81.4% required more than a 9th grade education to understand.

Discussion. The service and marketing functions were met fairly well by the agency homepages but usability (particularly, readability and offering a mobile version) and efforts to increase user safety could be improved. The one-third of agencies that lack a website will not reach the substantial portion of the population that uses the Internet to find health and other resources.

Internet use is nearly ubiquitous in the U.S., particularly among adolescents.¹⁻² A great majority of online adults and teens use social media such as Facebook, Twitter, and Pinterest.²⁻³ Thus, public health agencies can use multiple online platforms to make and keep their work accessible to the public.

A growing number of studies record the prevalence, promises, and problems of online health resources. Some have analyzed website content in order to document function and usability.⁴⁻⁹ Others have focused on users and concluded that the Internet is a particularly effective way to reach people with stigmatized health problems (e.g., depression, herpes, urinary incontinence) because of the anonymity it allows; the Internet is their preferred source of information.¹⁰ In this study, we focus on agencies serving women victims of violence, specifically sexual assault and intimate partner violence. We chose violence against women because, like other conditions with multiple negative health outcomes, it is a stigmatized phenomenon despite its high prevalence in the population.¹¹ In addition, the delivery of violence prevention information via the Internet is particularly important to young people because first incidents of intimate partner violence and sexual assault occur relatively early in life (about 70% of first assaults occur by age 24)¹¹ and young people are more likely than older persons to use the Internet.¹⁻²

Prior studies about websites specific to violence against women are few, include little about sexual violence, and do not analyze the websites themselves.¹²⁻¹⁶ The sole exception examined 172 police department websites for domestic violence survivors and reached two conclusions: the posted information was insufficient, and the design was focused on the perspective of the website creator rather than that of the end-user.¹⁷

We examined the service and marketing functions as well as the usability of websites of

261 agencies that serve women victims of violence. In studying the content, we assessed whether the information provided addressed benefits, barriers, and other constructs of the widely-used Health Belief Model,¹⁸ which are of particular relevance to such victims because they potentially provide a “preferred path of action.”¹⁹

METHODS

To obtain a representative sample, we drew a 10% systematic random sample of the organizations and programs listed in the most recent version of two national directories: the *National Directory of Domestic Violence Programs*,²⁰ which lists 1,999 domestic violence programs, and the *Directory of Sexual Assault Centers in the United States*,²² which lists 1,805 sexual assault centers and tribal coalitions. A random number between 1 and 10 was picked to serve as the starting point in each directory and every 10th organization thereafter was selected. The name of each of the resulting 382 organizations was entered into the Google search engine, the search engine of choice of 83% of search users.²² An organization was deemed to have no website when the search of its name yielded no matching link on the first two pages of Google result. (Users tend to consider only the results on the first page or even focus on the first few hits that they can see without scrolling down the page.²³) When the search for a local organization yielded a website belonging to its national parental organization (n=4), the local organization was considered not to have a website.

A total of 261 websites were identified. Because many websites are edited regularly, and to ensure a fixed time frame (April 17-20, 2012), we took and analyzed a screenshot of each homepage.

To examine the functions, emphases, and usability of each homepage, we developed three sets of variables: 1) characteristics related to service and marketing functions; 2) content,

based on the Health Belief Model, to assess perceived severity, susceptibility, benefits, barriers, and cues to action; and 3) usability, based on the Research-Based Web Design and Usability Guidelines²⁴ and several usability studies²⁵⁻²⁸ to document navigability, interactivity, etc. A draft of the codebook was sent to two domestic violence and two sexual assault organizations for comments; all responded and modifications were made accordingly.

A set of 34 websites was randomly drawn from the unselected organizations for use in training two coders. Three training sessions totaling 20 hours were administered during two weeks, after which coders double coded 30 homepages randomly selected from the sample. All items reached satisfactory level of agreement: simple agreement averaged 98% (range=87-100) and Cohen's Kappa averaged 0.96 (range=0.71-1.00).

In addition, we assessed the readability (i.e., the ease with which text can be read and understood) of the home and first-level subpages of a 10% random sample of the study sample. (First-level subpages are the pages that can be accessed by clicking the tabs on the homepage navigation bar. When the navigation bar triggered a drawdown menu [i.e., was not clickable], the first item on the menu was clicked and data were collected about the resulting webpage.) A total of 193 webpages were identified and assessed using an automated webpage readability tool.²⁹

Webpages were categorized based on their level and content: homepage; about us; get help; knowledge; news, events; contact us; give help; and other, which consisted predominantly of content for educators, researchers, and policy makers. The readability of each webpage was assessed via the Gunning Fog Index³⁰ and the Flesch Reading Ease.³¹ Gunning Fog Index calculates the number of years of schooling needed to be able to understand the content; 7 to 8 is considered an ideal score. The Flesch Reading Ease yields a score from 0 to 100 (most to least difficult to understand); a score below 50 is considered difficult. In addition, the number of

words on each webpage was recorded.

RESULTS

Of the 382 agencies sampled, websites were located for 261 (68.3%). Although drawn from two different program-specific directories, as shown in Table 1, the modal website was devoted to both types of services, suggesting that the distinction between the two types of agencies is not clear-cut, at least not in their online presence. Given the overlap and the lack of substantive differences in preliminary analyses, we analyzed the websites as one group.

The vast majority (94%) of the homepages were directed toward victims, with all serving women. (See Table 2.) Some sub-populations of victims were given special attention. For example, children were named on 54%, male victims on 15%, and members of the LGBTQ community on 8% of the homepages. Donors were the second most common intended audience (68%), followed by potential workers (62%), educators and researchers (33%), and allies for change (e.g., families and friends) (30%). Services were a prominent feature of the homepages (82%) and ranged from shelter (44%) to court and hospital accompaniment (9%).

Marketing functions also were prominent, being noted on 99% of the homepages. Branding efforts were observed on 94% and announcements were noted on 81%, most often about agency events (67%) and agency news (26%). Only one quarter of the homepages acknowledged the agencies' funders or funding sources, and only 1% had a link to a funder's website. More than two-thirds had a donation button or provided a wish list of resources they wanted to have donated.

The concept of benefit, that is, the benefit of visiting the agency's website or using their services, was noted on over half (52%) of the homepages. (Data not tabled.) Primary and secondary prevention were featured more often than rehabilitation (39% and 25% vs. 19%).

Potential barriers to taking action included individual- and agency-level considerations: 16% noted that Internet use can be monitored by an abuser and 1% mentioned agency funding problems. Concepts from the Health Belief Model framework in addition to benefits and barriers included severity, operationalized as harm associated with violence, which was observed on 21% of the homepages, with physical harm and emotional stress each mentioned on 10%, death, sexual harm, and isolation each mentioned on 8%, and economic loss noted on 4%. About one-fifth (21%) included content emphasizing susceptibility, that is, the likelihood of experiencing sexual assault or domestic violence, with 15% conveying risk via statistical information and 7% via a factual example. One-third (33%) included cues to action, defined as a stimulus necessary to trigger the decision-making process. The modal cue to action was a general encouragement to take action (25%). A few used a risk calculation survey (8%) or listed signs of high risk (5%) to encourage immediate action taking.

The first usability factor we examined was language. (See Table 3.) All but one homepage displayed information in English; 23% had a Spanish-language version. In addition, 6% had a translation button that enables users to view the page in any language supported by the translation engine (usually Google translate). These options are important given the language diversity of the U.S.

Although a navigation bar was nearly universal (95%), other common website navigation tools were far less common. A search mechanism was available on fewer than one-quarter and a site map was available on fewer than one-sixth of the homepages.

The use of multimedia was common (80%) and included photographs (77%) and, to a lesser extent, video (12%). Only 3% of the homepages offered a

(i.e., the font, font size, etc. can be changed by the viewer) with 1% offering a mobile

version. A static format has implications, which will be discussed later, for usability by visually-impaired persons and those who access the website from a mobile device.

One-third of the homepages offered an escape button, that is, a quick exit option. With one click, the escape button redirects the user to a different website (usually google.com), and, thus, provides protection for victims who don't want others to know they are visiting a domestic violence or sexual assault website.

The telephone seems to be agencies' preferred method of being contacted given that many provided phone numbers, sometimes multiple phone numbers; however, 13% did not provide any phone number on their homepage. A hotline or emergency number was listed on over two thirds of the homepages, of which nearly three fourths were described as 24/7 and one fourth were explicitly described as toll-free. About one in ten of the websites provided a TTY/TDD number to serve hearing-impaired individuals.

About half made use of social media, with Facebook being the most mentioned. Nearly half of the websites pointed viewers to their Facebook page and encouraged them to become a fan of the agency. The use of social tools (RSS feeds) and online help mechanisms was far less common (7% and 3%, respectively).

The word count and readability of 193 webpages (26 homepages and 167 first-level subpages) were assessed. As shown in Table 4, some webpages were brief (e.g., "contact us" pages) whereas others were long (e.g., pages for "frequently asked questions"). The number of words per page ranged from 25 to 5,147, with a mean of 502 ($SD=518.79$). MANOVA documented few statistical differences by type of webpage; substantively, the types differed little in word count and readability.

The individual webpages were difficult to read (data not tabled). Almost all (96.4%) of

the webpages were in the “fairly difficult” to “very confusing” range as assessed by the Flesch Reading Ease scale. None were “standard” and only 3.6% were “easy.” In addition, 81.4% of the 193 webpages required 9 or more years of schooling to be able to understand the content.

DISCUSSION

Like many under-resourced public health efforts, domestic violence programs and sexual assault service agencies often lack sufficient funding to deliver services in the most accessible way.^{12,13} In this context, Internet technologies provide one promising solution to meet both agency and population needs.

Organizations use websites to provide information on available services and to enhance agency visibility. Although these underlying principles overlap in practice, we describe them here as two distinct functions.

Service

Information about services predominated on the homepages. Nearly every homepage was oriented toward victims and many agencies listed who they serve, what services they provide, and how to reach the agency, typically via a hotline. Aside from telephone numbers, two thirds of the homepages did not include any cues to action. As with health cautions (e.g., “Seek immediate medical attention if you are experiencing any of the following symptoms...”), instructions urging action may be of use, albeit perhaps controversial in a field serving women who have experienced controlling behavior on the part of the abuser. Some cues to action included supportive statements (e.g., “If you or anyone you know is in need of our services, please contact us immediately. We can help”), which may temper the directive nature of the cue.

Many websites in a variety of domains invite users’ online interaction, some of which precludes user anonymity. Our findings indicate that almost two thirds of the homepages offered

interaction tools, usually social media, by which viewers could share information, communicate with the organization staff, or start conversation with other viewers. Buttons for online help or to leave a comment were rare; 97% did not have such options. As website interactivity becomes commonplace, agencies need to adapt their websites and services to stay current.

Content related to severity and susceptibility was less salient, which might be appropriate if victims are the intended audience; they already know about and have experienced the violence. But some, including current and potential victims as well as the general public, may have limited knowledge about risk. Such knowledge is especially important for primary prevention because those who are aware of severity and susceptibility may be more likely to consider domestic violence and sexual assault as issues of personal relevance. In other words, the homepages must address a spectrum of persons – those who are just browsing, those who are contemplating action, and those who are ready to take action.³²

However, regardless of whether a website user is simply gathering information or seeking immediate services, Internet use can be monitored by others (i.e., abusers). Reminders of the possibility were uncommon. About one third of the homepages had an “Escape” or “Quick Exit” button but many provided it without any rationale. Both an escape button and a warning that their online use can be monitored by abusers – and perhaps explicit instructions about how to delete one’s search history – should be displayed prominently on the homepage. Concerns about batterers’ use of the Internet and wireless technologies to control and harass their partners were raised in 2002 by a long-established leader in innovative violence-related education, research, and Internet publishing³³ and expanded upon by others.³⁴ Unfortunately, the concerns remain largely unaddressed by agencies a decade later.

Agencies that do not have a website at all, one third of those in our sample, may be so

under-resourced that they lack the ability to mount and maintain a website and/or to respond to the additional service requests that an online presence might generate. Alternatively, they may believe that the risks associated with the Internet are too great. The primary risk, as we see it, however, is that agencies without websites will become irrelevant, particularly to young people, who have the highest risk of sexual assault and intimate partner violence.¹¹

Marketing

Websites also serve a marketing function, which usually carries a goal of fund raising, brand building, soliciting volunteers and resources, and building loyalty to the organization. Marketing is an important function for the establishment and maintenance of a successful agency.

Our findings indicate that agencies serving abused and assaulted women are aware of and promote the marketing function of their websites. Over two-thirds of the websites included content related to donors and, by including a donate button, made it easy for potential donors to take action. Some also included a wish list, that is, a list of specific items, goods, or services that would benefit the agency.

However, some improvements could be made for better serving the marketing function. Posting more information about severity and susceptibility on homepages may attract more donations. Moreover, social media could increase the visibility of the organization or attract more donations.

In addition, credibility is compromised when, as was the case with one-fifth of the homepages, agencies don't display a logo or provide a mission statement. Providing a clear logo and mission statement on the homepages is not only a matter of brand building, but also a matter of public trust, which, in turn, can affect donations that can help the agency fulfill its mission.

Usability

The desktop computer is fast becoming obsolete for Internet users, many of whom use a mobile device to access the Internet.^{35,36} Over half use a cellphone to access the Internet,³⁷ which has substantially narrowed the digital divide.³⁸ In addition, mobile devices may be perceived as more intimate than PCs. However, websites designed for viewing on a desktop computer do not necessarily lend themselves to viewing on a mobile device. Small text, difficulty viewing and accessing multimedia components, a distorted template and structure, and substantial download time often result. Such inconveniences can be discouraging, which runs counter to the purpose of having material online. A homepage is the logical place to post information about the availability of a mobile version but 99% of the agency homepages reviewed did not include such information. That does not necessarily mean that an agency does not have a mobile version, but homepages do not bring such information to the attention of users. This is important because the trend is toward smartphones – smartphone shipments surpassed PC shipments in the fourth quarter of 2010³⁹ – and agencies are encouraged to provide a mobile version of their website to enhance usability.

The websites were built for educated users. On average, viewers need to have 10-11 years of education to be able to understand the websites, which is comparable to the readability level of *Time*, *Newsweek* or the *Wall Street Journal* and substantially higher than the ideal score (7 to 8 years). Websites serve a large range of audiences, so it is understandable that some content (e.g., the research page, which may be of interest to educators and policy makers) is harder to read. However, to reach those with limited literacy skills as well as well-educated viewers, webpages that are clearly focused on serving victims (e.g., the “get help” page) should be easy to understand. To be more specific, websites are encouraged to use short sentences and words with less than three syllables on victim-oriented content in order to maximize readability.

The websites also were built for those who speak English. Although about one in twenty homepages provided a translation button, more than one in five persons in the U.S. speaks a language other than English at home.⁴⁰ Agencies can easily and inexpensively expand the number and kind of people they reach by connecting viewers to free and widely-available online translation engines. This action is particularly important for agencies in linguistically diverse locales and that provide services in multiple languages.

And, finally, agencies may want to give consideration to the search terms that are used to reach their websites and online social networks. This is necessary because online communication requires active information seeking. For example, a Google search on the word “rape” yielded over 196,000,000 results. Among the 13 search results on the first page of results, only 4 were organizations or networks that serve victims. Other results included Wikipedia’s and others’ definitions of rape as well as YouTube postings of gang rapes. These results may distress someone who is seeking services for an assault. A search on “rape crisis” yielded a much higher percentage of service agencies. However, it is not clear whether users would include “crisis” in their initial search(es). As a result, agencies serving abused and assaulted women should determine how to increase their rank and presence in online searches. A better understanding of the actual (versus assumed) search terms will help public health agencies enhance their online presence.

Future Research

The present investigation, among the first to systematically describe the websites of domestic violence and sexual assault organizations, has certain limitations. The content analysis captured information presented on homepages but additional information may be posted on pages “deeper” in the website. This can be seen as a limitation of our research in that analysis of

all pages may have yielded more complete information about an agency or as a limitation of the website designs in that users could not tell from the homepage who the agency serves.

We chose to code the websites by hand, in part, because this study is, to our knowledge, the first to content analyze the websites of agencies serving abused and assaulted women and we wanted to develop first-hand knowledge of the content structure. Future content analysis research may benefit from the use of automated (i.e., computer-assisted) coding because it is a relatively low-cost way to analyze large samples of webpages. Future research also may want to consider checking whether the links provided on the pages actually worked; broken web links can inadvertently discourage a viewer. The present study described how agencies present themselves on the Internet. A logical next step is investigation into, as we are beginning, the use of the websites.⁴¹

Conclusion

The Internet has become an essential component in the navigation of everyday life. Websites and social networking services have changed the way people obtain information and how they connect with one another. In creating a systematic depiction of the Internet presence and online information quality of U.S. domestic violence and sexual assault organizations, we learned that one third of the agencies do not have a website and that the usability of the existing websites can be improved in several ways. For these and other public health oriented agencies to stay relevant, online information accessibility is essential.

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Table 1 - Services Provided by Directory Type, Websites of 382 Agencies Serving Abused and Assaulted Women, %

	Directory source		Total (n=382)
	Domestic violence (n=200)	Sexual assault (n=182)	
Apparent Service			
No website	29	35	32
Both domestic violence and sexual assault	33	40	36
Domestic violence only	33	3	19
Sexual assault only	1	14	7
Other	5	9	7

Table 2 - Intended Audience, Service and Marketing Characteristics, 261 Website Homepages, %

Intended audience	%	Services	%	Marketing	%
Victims/survivors	94	Shelter	44	Credentialing	94
Women	94	Knowledge	36	Logo	80
Children	54	Legal advice	33	Mission statement	79
Elderly	11	Counseling	31	Announcements	81
Men	15	Safety tips/plan	22	Agency events	67
Other ^a	14	Prevention education	20	News	66
Donors	68	Financial assistance	10	Agency	26
Potential workers	62	Accompaniment	9	General	14
Employees	30			Funder acknowledgment	26
Volunteers	49			Donations	
Educators & researchers	33			Donate button	65
Allies for change	30			Needed resources list	18
Policy makers	18				
Potential abusers	6				

^a LGBTQ: 8%; African Americans: 7%; Hispanics: 6%; Immigrants: 6%; Military affiliates: 2%.

^b Family and friends, for example

Table 3 - Usability Characteristics, 261 Websites, %

Category	%	Category	%
Language		Interactivity ^b	
English	100	Contact information	98
Spanish	23	Telephone number	87
Translation button ^a	6	Hotline	68
Navigation		Main line	23
Navigation bar	95	TTY/TDD	9
Site map	15	Contact-us button	70
Search mechanism	24	E-mail address	30
Internal hyperlink(s)	18	Fax number	25
External hyperlink(s)	21	Social media	53
Escape button	32	Facebook	47
Display		Twitter	23
Multimedia	80	E-mail list	21
Photographs	77	Other ^c	17
Video	12	Social tools ^d	7
Changeable display	3	Online (realtime) chat support	3
Mobile version	1	Leave comment option	3

^a Enables users to view content in another language

^b Interaction tools to communicate with agency staff, viewers, etc.

^c Blog: 9%; YouTube: 8%; Flickr: 2%; Google plus: 2%

^d RSS feed: 7%; Badges: 0%; Widgets: 0%

Table 4 – Readability by Content Type, 193 Webpages

Webpage type	No. words mean (sd)	Reading ease ¹	Education required (yrs)
Contact us (n=15)	256.0 (212.4)	50.3	9.6
News, events (n=22)	556.8 (1134.5)	47.0	9.9
Knowledge (n=46)	613.0 (513.8)	47.8	10.3
Homepage (n=19)	510.6 (307.9)	46.4	10.6
Give help (n=25)	468.5 (285.1)	46.3	10.6
Get help (n=24)	575.5 (412.0)	49.0	11.0
About us (n=19)	458.1 (264.2)	46.7	11.5
Other (n=16)	313.9 (153.0)	41.1	11.6
Total	501.6(518.8)	47.0	10.6

¹30-50 = difficult