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Are Disease Awareness Links on Prescription Drug Websites Misleading? A Randomized Study

Helen W. Sullivan¹, Amie C. O'Donoghue¹, Douglas J. Rupert², Jessica Fitts Willoughby³,
Jacqueline B. Amoozegar², Kathryn J. Aikin¹

¹U.S. Food and Drug Administration

²RTI International

³Washington State University

Abstract

We sought to determine whether links from branded prescription drug websites to websites containing disease information mislead participants about drug benefits, and whether non-sponsorship disclosures diminish this potential effect. We randomly assigned online panelists with depression (N=1,071) to view a fictitious prescription drug website that had: (1) no link to a disease information website (control), (2) a link with no disclosure, (3) a link with a simple non-sponsorship disclosure, or (4) a link with a detailed non-sponsorship disclosure. If participants in the link conditions did not click the link, they were returned to the drug website and encouraged to click it. All participants then completed an online questionnaire assessing recall, perceptions, and intentions. Few participants (12%) clicked the link without prompting; 67% did so when prompted. Compared with control participants, participants in link conditions were more likely to confuse disease information with drug benefits, and to recall fewer true drug benefits. Disclosures did not diminish these effects, and exposure to disease information did not affect other perceptions or intentions. Consumers seem to confuse information on disease websites with information on branded prescription drug websites. Disclosures may not adequately help consumers to distinguish between the two types of information.

Keywords

prescription drug; advertising; Internet; disease awareness; direct-to-consumer

Direct-to-consumer (DTC) advertising of prescription drugs has been linked to diagnostic and prescribing behavior, including increased diagnosis of advertised health conditions, increased prescribing of brand-name medications, and more frequent use of expensive drugs (Gilbody, Wilson, & Watt, 2005; Mintzes, 2012; Niederdeppe, Byrne, Avery, & Cantor, 2013). Online DTC marketing has become increasingly common, with pharmaceutical companies spending \$202 million on online drug promotion in 2010 (Kornfield, Donohue, Berndt, & Alexander, 2013). This reflects a 648% increase in spending on online marketing since 2001, compared to relatively modest increases of 9% and 41% on television and print

advertising, respectively (Kornfield et al., 2013). Branded prescription drug websites in particular, are widespread (Liang & Mackey, 2011; Sheehan, 2007).

At the same time, consumers are increasingly turning online for health information. The Internet is often the first source consulted when consumers seek health and medication information (Hesse, Moser, & Rutten, 2010), and a recent survey of U.S. adults found that 12% visit pharmaceutical company websites for information regarding their healthcare needs (Makovsky PR, 2016). Unlike print and television ads, branded drug websites have the ability to include interactive features—such as testimonials, symptom checklists, and links to additional disease information—that are intended to engage consumers and spark interest in advertised medications (Southwell & Rupert, 2016). Many branded drug websites have links to information about the advertised medical condition (i.e., disease awareness information; Huh & Shin, 2015), with a recent content analysis of 88 prescription drug websites finding that two-thirds contained such links (Kang & An, 2013).

Disease awareness information serves an important public health function, educating consumers about a disease's causes and symptoms and potentially fostering richer dialogue between patients and healthcare providers. Research has demonstrated that consumers think disease awareness information is more informative and less blatantly persuasive than branded prescription drug promotion, and consumers are more likely to intend to seek information and treatment after viewing disease awareness information than after viewing branded prescription drug promotion (Lee-Wingate & Xie, 2010; Mendonca, McCaffrey, Banahan, Bentley, & Yang, 2011; Rollins, King, Zinkhan, & Perri, 2010). Therefore, the U.S. Food and Drug Administration (FDA) encourages pharmaceutical companies to provide consumers with disease awareness information (Behrman, 2005). However, disease awareness information that has been included in prescription drug ads can be confused with information about the drug itself (Aikin, Sullivan, & Betts, 2016). For example, if an advertisement for a prescription drug that treats depression appears alongside information that alcohol and drug abuse is one negative consequence of depression, consumers may improperly infer that the drug will prevent alcohol and drug abuse even if this has not been demonstrated in clinical studies. Thus, disease awareness information has the potential to mislead consumers about the benefits of prescription drugs when it is located within or in proximity to prescription drug ads.

One explanation for such confusion can be found in research on conversational norms. Just as individuals expect conversational partners to provide information that is relevant to the current discussion (Slugoski & Wilson, 1998), consumers may expect all information associated with an ad to be specific to the advertised product. Moreover, research on advertising shows that people readily make inferences from stated information in ads, extrapolating beyond the stated words in the ad to form additional conclusions (Burke, DeSarbo, Oliver, & Robertson, 1988; Harris, Pounds, Maiorelle, & Mermis, 1993). For example, consumers may see the sentence “Drug X works better” and infer that the drug works better than all the other drugs in its class. Research has shown that it is difficult to train people not to do this (Bruno & Harris, 1980).

If people are in the cognitive habit of making inferences even when associations are not clearly stated, they are even more likely to infer a product leads to certain outcomes when an ad is presented along with stated information about those outcomes. One study found that consumers confuse disease awareness information with prescription drug information in print ads, but that differentiating disease awareness information from prescription drug information (using different color schemes and design layouts) may help decrease this confusion (Aikin et al., 2016). For instance, participants who saw an ad for a drug treating chronic obstructive pulmonary disease (COPD) were more likely to confuse information about the consequences of COPD with the benefits of the drug when information was integrated rather than separated.

Differentiating disease awareness information and prescription drug information may be even more complicated online. Studies examining whether people recognize and use a website's source when evaluating the website's credibility are mixed. When asked, most consumers say they do (Dutta-Bergman, 2003; Hansen, Derry, Resnick, & Richardson, 2003). However, some observational studies found that participants do not notice the source (Eysenbach & Köhler, 2002), and experimental research is mixed on whether the source does (Eastin, 2001; Greer, 2003) or does not influence credibility assessments (Bates, Romina, Ahmed, & Hopson, 2006). If consumers do notice website sources, they may be more likely to distinguish information on separate disease awareness and prescription drug websites. If they do not notice the source, they may be more likely to confuse information on the disease awareness and prescription drug websites.

In 2009, FDA held a public hearing to discuss the promotion of medical products on the Internet and in social media (Food and Drug Administration, 2009). Among other topics, participants discussed whether and when information provided by third parties (such as disease awareness websites) should be considered independent of the company marketing the product. In response, several pharmaceutical company representatives at the hearing stated that links to third-party disease awareness websites provide important information for consumers and suggested that disclosures could adequately alert consumers that third-party websites contain information independent of the medical product. In particular, several companies stated that a disclosure or "pop-up" screen could indicate to consumers that a link would take them to an external website. Although we are unaware of any research on this specific type of disclosure, there are studies on disclosures that provide other details about the information source (i.e., conflict of interest and funding statements). Some studies find that these disclosures have an effect (Kesselheim et al., 2012; Schroter, Morris, Chaudhry, Smith, & Barratt, 2004) whereas others do not (du Vaure, Boutron, Perrodeau, & Ravaud, 2014; Silverman et al., 2010). Researchers have encouraged testing disclosures before they are implemented (Andrews, 2011; Kozup, Taylor, Capella, & Kees, 2012), thus warranting research on whether a disclosure affects individuals' ability to separate the disease awareness and prescription drug information.

Large gaps in the literature regarding disease awareness information and its implementation on pharmaceutical websites make it important to examine how disease information can be communicated online without misleading consumers about drug benefits. The objective of this study was to determine how participants interpret a link from a branded prescription

drug website that takes them to a website containing disease awareness information, and whether the presence of a disclosure affects this interpretation. Specifically:

1. We hypothesized that participants who viewed a branded drug website and a linked disease awareness website, compared with those who viewed only the branded drug website, would be more likely to conflate disease awareness information with drug benefit information and, therefore, perceive the drug as more effective.
2. We hypothesized that this effect would be diminished by a disclosure, such that participants who viewed the disease awareness website without any disclosure, compared with those who viewed the same website with one of two disclosures, would be less likely to interpret the disease awareness information correctly and would perceive the drug as more effective.
3. We explored whether the disclosure's level of detail affected these outcomes.

Methods

Design

We implemented a randomized, controlled study exposing participants to a branded website for a fictitious prescription drug indicated to treat major depressive disorder (*Ellistaq*; Figure 1). Participants were randomly assigned to one of four experimental conditions: control, no disclosure, simple disclosure, and detailed disclosure. In the control condition, the drug website did not include a link to a disease awareness website. In the three treatment conditions, the drug website homepage included a link to a fictitious disease awareness website that contained information about the consequences of untreated depression (Figure 2). When participants clicked the link, either no disclosure or one of two disclosures appeared before they were directed to the disease awareness website (Figure 3). To increase the likelihood that participants would read the disclosure, we incorporated a five-second delay and displayed a loading symbol after participants clicked on the link. Two buttons—"OK" and "Cancel"—appeared below the disclosure, requiring participants to click a button and acknowledge that they saw the disclosure. Participants who selected "OK" were directed to the disease awareness website. Participants who selected "Cancel" returned to the drug website homepage.

The simple disclosure stated that the participant was leaving the *Ellistaq* website and entering an external website. The detailed disclosure provided this same information plus notification that the external website was not sponsored by the pharmaceutical company.

Participants

We recruited participants from GfK's KnowledgePanel, a nationally representative online consumer panel of U.S. adults (DiSogra, Cobb, Chan, & Dennis, 2011; GfK Custom Research, 2013). We invited 2,797 adult panelists who were pre-screened for depression to participate, and 1,951 responded to the invitation. To be eligible, participants confirmed that they had been medically diagnosed with depression (reported by 100% of sample) and reported either that they still had depression (86%) or that they had taken medication for

depression in the past 12 months (14%). We analyzed data for 1,071 participants who were eligible, provided informed consent, and were able to view the drug website. See Table 1 for participant characteristics.

Procedure

Prior to the main study, we conducted a pretest with 175 participants randomized to the three treatment conditions (no disclosure, simple disclosure, and detailed disclosure). When pretest participants were instructed to explore the drug website, only 8% of participants clicked on the disease awareness link. Therefore, we made the link more noticeable by placing it within a colored box and locating it on the left sidebar, and we instructed participants in the main study to review the drug website carefully, including clicking on any links, watching any videos, and carefully reading the information on the homepage.

Participants were then able to view the drug website for as long as desired. Participants in the treatment conditions who clicked on the disease awareness link and participants in the control condition then proceeded to the questionnaire. Participants who did not click on the link were returned to the drug website and specifically instructed to click on the disease awareness link. They were again able to view the websites for as long as desired. After viewing the drug website a second time, participants proceeded to the questionnaire (regardless of whether they clicked the disease awareness link).

Measures

Website viewing.—We measured website viewing behavior by tracking whether participants clicked on the disease awareness link on their first visit, second visit, or not at all.

Benefit recall.—Participants listed the benefits of Ellistaq in an open-ended text box. Two raters coded the responses (inter-rater reliability = .91) to create two recall measures: the number of accurate benefits listed (true benefit recall; range of 0 to 4 true benefits listed; e.g., relieves symptoms of major depressive disorder) and the number of disease awareness concepts incorrectly listed as drug benefits (false benefit recall; range of 0 to 4 false benefits listed; e.g., prevents or decreases alcohol and drug abuse).

Benefit recognition.—Participants saw statements about Ellistaq and indicated whether each statement was mentioned on the drug website as a benefit of taking Ellistaq. Four of these statements were benefits of taking Ellistaq (e.g., “Ellistaq is approved to treat major depressive disorder”). Four statements were disease awareness concepts designed to test whether participants incorrectly attributed disease awareness information to the drug. These statements were: “Ellistaq can prevent memory loss,” “Ellistaq can reduce the chance of alcohol and drug abuse among patients with depression,” “Ellistaq helps improve concentration and the ability to follow medical recommendations,” and “Ellistaq can help prevent the poor physical health caused by depression.” We created two measures: the number of accurate benefits recognized (true benefit recognition, 0-4) and the number of false benefits recognized (false benefit recognition, 0-4).

Perceived efficacy.—First, participants reported for how many people out of 100 they thought the drug would work (perceived efficacy likelihood). Because this variable was not normally distributed, we transformed the variable by squaring the data. Second, participants reported on a 6-point scale how effective the drug would be if it did help a person's depression (1 = *would help depression very little*, 6 = *would help depression a lot*, perceived efficacy magnitude). Third, we asked participants to rate the drug on a 7-point scale considering all of the drug's risks and benefits (1 = *risks outweigh benefits*, 7 = *benefits outweigh risks*; risk-benefit assessment).

Behavioral intentions.—Participants reported how likely they were to perform three behaviors related to physician interaction: talk to their doctor about the drug, ask their doctor for a sample of the drug, and ask their doctor to prescribe the drug (1 = *very unlikely*, 5 = *very likely*). We combined these three items into one measure of intention for physician interaction ($\alpha = .93$). Participants also reported how likely they were to perform three behaviors related to online information searching: look for information about the drug on medical websites, look for information online about people's experience with the drug, and print information from the drug website (1 = *very unlikely*, 5 = *very likely*). We combined these three items into one measure of intention to search online ($\alpha = .90$).

Additional measures.—Participants reported how severe their depression was, how long ago they were diagnosed, and whether they were taking a prescription drug for depression. We measured health literacy (Chew et al., 2008), web navigation skills (Novak, Hoffman, & Yung, 2000), and demographic variables of age, sex, race, ethnicity, and educational level. For exploratory purposes, we also asked questions about risk perceptions, risk recall, drug attitudes, perceptions of the drug website, and intentions to join online communities and click website links. These measures are not discussed here, but information can be obtained from the authors.

Analyses

We tested whether there were differences in website viewing behavior by experimental condition and demographic and health characteristics using χ^2 tests and logistic regressions. To test our hypotheses related to the other outcome measures, we conducted three sets of analyses. In the first set, we included data from all participants. In the second set, we excluded participants in the three treatment conditions who never visited the disease awareness website (i.e., noncompliant participants). The results did not change between the first and second sets of analyses. In the third set, we excluded noncompliant participants and participants who visited the disease awareness website only after prompting. In the third set of analyses, some results no longer reached significance. Therefore, we report the first set of analyses in this paper and note when findings lost significance in the third set of analyses.

We examined generalized linear models with two planned comparisons to test the hypotheses outlined above (control vs. disease awareness website conditions; no disclosure vs. disclosure conditions). If the main effect was significant at $p < .05$, we conducted pairwise comparisons to determine which conditions were significantly different from one another. For the planned comparisons and pairwise comparisons, we used a Bonferroni-

adjusted p-value of $p < .006$ (.05/8). Because some variables were not normally distributed, we re-conducted the analyses with data from all participants using dichotomized or Box-Cox transformed variables. The pattern of results was the same; therefore, we report the analyses with the untransformed variables (except for perceived efficacy likelihood). We used weighted data in all analyses to account for nonresponse, noncoverage, underrepresentation of minority groups, and other types of sampling and survey error.

Results

Website Viewing Behavior

Overall, 12.0% of participants in the treatment conditions clicked the disease awareness link on their first visit (without prompting), 67.1% did so on their second visit (with prompting), and 20.9% never visited the disease awareness website (Table 2). The type of disclosure (no disclosure, simple disclosure, detailed disclosure) did not affect whether or when participants viewed the disease awareness website, $\chi^2(4) = 6.47$, $p = .17$. Participants who viewed the disease awareness website the first time did not differ from those who visited the disease awareness website the second time or those who never visited the website on sex, race/ethnicity, age, severity of depression, time since diagnosis, health literacy, or web navigation skills, $p > .05$.

Education level was associated with website viewing. Participants with a high school education or less were less likely to visit the disease awareness website (71.8%) than were participants with some college education (83.4%; OR = 2.08, $p = .01$) or participants with a college education or more (91.3%; OR = 0.24, $p < .001$). Participants with some college education also were less likely to have visited the disease awareness website than those with a college education or more (OR = 0.48, $p = .03$).

There also was a relationship between prescription drug use and viewing behavior. Although most participants ($n = 773$) were currently taking one or more prescription drugs for depression, some had taken them in the past ($n = 254$) and some had never taken them ($n = 29$). Participants who had taken prescription drugs for depression in the past but were not currently taking them were less likely to visit the disease awareness website (70.8%) than participants who had never taken them (90.4%, OR = 0.53, $p = .04$).

We included education and prescription drug use as covariates in the first set of analyses with significant effects, but they did not alter the underlying results. Consequently, we present the remaining results without covariates.

Misinterpreting Disease Awareness Information as Drug Benefits

Disease awareness website exposure affected false benefit recall, $F(3, 1068) = 12.61$, $p < .001$. When asked to recall the drug's benefits, participants in the control condition listed fewer disease awareness concepts than participants in the treatment conditions, $F(1, 1070) = 32.00$, $p < .001$ (Figure 4), and in fact, no participant in the control condition listed any disease awareness information. Although it is not surprising that control participants did not list information from a website they did not see, some participants in the treatment conditions did list this information as drug benefits and in significantly higher numbers than

the control condition. Specifically, two pairwise comparisons were significant: participants in the control condition listed fewer false benefits than participants in the no disclosure and detailed disclosure conditions, $F(1, 1070) = 16.64, p < .001$ and $F(1, 1070) = 14.49, p < .001$, respectively. The presence and content of a disclosure did not affect the number of false benefits recalled, $ps > .008$.

When we limited our sample in the third set of analyses by excluding noncompliant participants and participants who visited the disease awareness website only after prompting, the comparison between the control condition and the treatment conditions was close to, but failed to reach, the Bonferroni-adjusted significance level, $F(1, 376) = 7.22, p = .008$. The pairwise comparisons between the control condition and the no disclosure and the detailed disclosure conditions were no longer significant, $p = .02$ and $p = .32$, respectively.

Disease awareness website exposure affected false benefit recognition, $F(3, 1068) = 26.73, p < .001$ (Figure 4). When asked to recognize the benefits of the drug, participants in the treatment conditions were more likely than participants in the control condition to incorrectly identify disease awareness concepts as drug benefits, $F(1, 1070) = 79.43, p < .001$. Three pairwise comparisons were significant: participants in the no disclosure, simple disclosure, and detailed disclosure conditions were more likely than participants in the control condition to incorrectly identify disease awareness concepts as drug benefits, $F(1, 1070) = 59.67, p < .001$, $F(1, 1070) = 47.44, p < .001$, and $F(1, 1070) = 41.01, p < .001$, respectively. However, the presence and content of a disclosure did not affect benefit recognition, $ps > .008$. When we limited our sample in the third set of analyses, the pairwise comparisons between the control condition and the simple disclosure and detailed disclosure conditions were no longer significant, $p = .59$ and $p = .13$, respectively.

Correctly Identifying Drug Benefits

Disease awareness website exposure affected true benefit recall, $F(3, 1068) = 2.68, p = .046$ (Figure 5). When asked to recall the drug's benefits, participants in the control condition recalled more true drug benefits than participants in the treatment conditions, $F(1, 1070) = 7.72, p = .006$. True benefit recall did not differ by type of disclosure, and the main effect for true benefit recall was no longer significant when we limited our sample in the third set of analyses, $p = .58$.

Disease awareness website exposure did not affect recognition of true drug benefits, $F(3, 1068) = 0.84, p = .47$. The majority of participants across conditions were able to recognize the drug's true benefits (Figure 5) regardless of whether they viewed a disease awareness site or a disclosure.

Perceived Efficacy and Intentions

Exposure to a disease awareness website and the presence and content of a disclosure did not affect participants' perceived drug efficacy or behavioral intentions, $ps > .05$ (Table 3).

Discussion

This study investigated whether links to disease awareness websites on branded prescription drug websites may mislead consumers about the drug's benefits and whether including a disclosure might mitigate this potential confusion. As hypothesized, we found that participants had difficulty separating the disease awareness information from information specific to the prescription drug. We believe this confusion results from the nuanced differences between information about a disease condition and information about drugs designed to treat that condition. Laypersons are generally not versed in the scientific indications of prescription drugs, so they are unlikely to understand the distinction between medical benefits that a drug has and has not been shown to produce in clinical trials. However, this distinction is important for consumer decision-making. If one drug has been shown to resolve secondary health problems but another has not, consumers need to understand the difference between these drugs' indications. This is especially true as more medications are eligible for and granted expedited approval based on surrogate clinical endpoints and are marketed to consumers while confirmatory clinical trials are in progress (Johnson et al., 2011; Kesselheim et al, 2015; Sherman et al, 2013). Likewise, if individuals believe an advertised drug can accomplish more than has been clinically demonstrated, they and their healthcare providers may make decisions based on an inaccurate understanding of the drug's risks and benefits. Thus, it is critical to distinguish between a prescription drug's approved indication and more general disease information.

Another important finding of our study was that disclosures were not effective in reducing consumer confusion. Among individuals who saw the disease awareness website, those who viewed disclosures before visiting a disease awareness website did not have more accurate recall or recognition than individuals who saw no disclosure. Why were disclosures not effective? One explanation may be that individuals have difficulty ignoring information—even if told it is irrelevant—when they make judgments. One study found that adding instructions to ignore irrelevant information was not sufficient when individuals made social judgments, such as predicting a student's grade point average or determining a person's guilt (Kemmelmeier, 2004). Instead, only removing the information prevented it from affecting participants' judgments. Similar research has been conducted on the difficulty juries have in following instructions to ignore inadmissible evidence (Lieberman & Arndt, 2000). Given these findings, it is even more likely that individuals would be unable to ignore pieces of information that seem to be related, such as information about a medical condition and information about a prescription drug that treats the condition.

In addition to conflating disease awareness information with drug benefits, consumers who viewed a disease awareness website had difficulty correctly recalling real drug benefits. Participants in the control condition recalled significantly more true benefits than participants in the disease awareness conditions. Because people can typically recall only a few items at a time (Cowan, 2001; Miller, 1956), retaining the disease awareness information may have hindered participants' ability to recall real drug benefits.

As with other studies, we found that this study's recall and recognition findings did not translate into differences in perceptions or behavioral intentions (Aikin, O'Donoghue,

Swasy, & Sullivan, 2011; O'Donoghue et al., 2014). One explanation may be that, although participants could spend as much time as desired on the websites, they viewed the websites within the context of an experimental study at a single time point rather than when they were actively seeking medication information. Likewise, some participants may have been satisfied with their current depression treatment at the time of the survey and, therefore, less invested in evaluating medications. More importantly, actual advertising campaigns often employ multiple ad exposures during a sustained period of time. A single ad exposure may lead to recall and recognition effects but may not be powerful enough to change people's intentions or perceptions.

When individuals who never viewed the disease awareness website and those who viewed it only when prompted were removed from our analyses, some effects were no longer significant. However, most cell sizes were reduced dramatically in these analyses (approximately 30 participants vs. approximately 250 participants), so it is likely that limited statistical power accounts for these findings. It is also possible that participants who viewed the disease awareness website unprompted were different than other participants. Although we saw few demographic differences, other differences among participants could drive these effects, such as a general interest in seeking information, an interest in depression and depression treatment, or an attempt to be a "good subject" (Nichols & Maner, 2008). However, it is important to note that even when limiting the sample to this small subset, the main effects for false benefit recall and false benefit recognition were still significant.

Limitations

An important limitation of the study is that few participants (12%) visited the disease awareness website unprompted, and approximately 20% were noncompliant, never visiting the disease awareness website. This low rate may be because these were study participants; in real-world conditions, individuals visiting branded prescription drugs websites may proactively search for, and be interested in, disease awareness information. It may also be that individuals already diagnosed with depression or individuals who are satisfied with their current treatment are unlikely to search for disease information; individuals searching for information pre-diagnosis, shortly after diagnosis, or when dissatisfied with their current medication may be more likely to view disease awareness websites.

We chose a sample of individuals diagnosed with depression because DTC advertising is frequently targeted at individuals with depression (Medical Marketing and Media, 2013) and because participants with a medical condition may be more motivated to examine a website that discusses their condition. However, it is possible that there are characteristics of this group that would lead them to respond differently than individuals with other medical conditions. Finally, we studied only one website layout. Although we strived to make our website as realistic as possible, other website layouts and hyperlink placements may lead to different results. Future research should replicate the study using other website layouts and other study populations.

Conclusion

Consumers visiting branded prescription drug websites may be unlikely to click links to disease awareness websites. If they do so, however, they are likely to attribute the disease awareness information to the advertised drug, leading to misconceptions about the drug's benefits. The current research suggests that providing a disclosure before linking to a disease awareness website, a solution suggested by industry at FDA's (2009) public hearing, is not sufficient to correct this confusion. These findings should inform FDA's development of policy regarding promotion of medical products on the Internet (Food and Drug Administration, 2009). As a result of this research, renewed focus should be placed on ensuring that online information about medical conditions and prescription drugs is accurately communicated to and understood by consumers. For example, firms should be cautious when considering placing a hyperlink between prescription drug websites and disease information websites, including information contained on general, independent third-party websites (e.g., WebMD, Medline Plus). Our research showed this consideration to be relevant even when presenting disclosures regarding the nature of the linked information. At the same time, physicians should be aware that their patients may have mistaken beliefs about prescription drug benefits, and they should attempt to clarify any misconceptions.

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Home
ELLISTAQ
About ELLISTAQ Patients Taking ELLISTAQ

Looking for Answers? There's Help for Depression.
Ask your doctor about ELLISTAQ.

Learn More
If you want to learn more about depression, you can visit this website for additional information:
Depression-Awareness.com

Do you suffer from depression? ELLISTAQ (cortine) is an antidepressant in a group of drugs called SSRIs (selective serotonin reuptake inhibitors). ELLISTAQ is approved to treat adults suffering from major depressive disorder, generalized anxiety disorder, or panic disorder. It is thought to work by correcting an imbalance of serotonin and norepinephrine in the brain.

What Does ELLISTAQ Do?
ELLISTAQ can help relieve symptoms of depression and anxiety.

What Risks Are Associated with ELLISTAQ?
Antidepressants can increase suicidal thoughts and behaviors in children, teens, and young adults. Suicide is a known risk of depression and some other psychiatric disorders. Call your doctor right away if you have new or worsening depression symptoms, unusual changes in behavior, or thoughts of suicide. Be especially observant within the first few months of treatment or after a change in dose. ELLISTAQ is only approved for adults 18 and older.

Tell your doctor if you are allergic to any drugs; if you have liver disease, kidney disease, epilepsy, or bipolar disorder, or if you have a history of drug abuse or suicidal thoughts.

Use of aspirin, nonsteroidal anti-inflammatory drugs (NSAIDs), or anticoagulants, such as warfarin (Coumadin), may increase the risk of bleeding when combined with SSRIs.

On rare occasions, an SSRI such as ELLISTAQ can cause dangerously high levels of serotonin. This is known as serotonin syndrome. It most often occurs when two medications that raise serotonin are combined. Symptoms of serotonin syndrome include confusion, rapid or irregular heart rate, dilated pupils, fever, and unconsciousness. Seek immediate medical attention if you have any of these symptoms.

Side effects of ELLISTAQ may include drowsiness, insomnia, nausea, decreased sex drive, and cold symptoms such as stuffy nose, sneezing, and sore throat. Drinking alcohol can increase certain side effects of ELLISTAQ. If you stop using ELLISTAQ suddenly, you could experience unpleasant side effects such as dizziness, nausea, and headache. Ask your doctor how to avoid these effects if you stop using this medication.

Who Can Take ELLISTAQ?
ELLISTAQ is approved for adults 18 and older who have depression, anxiety, or panic disorder. ELLISTAQ is not approved for children and adolescents who have these conditions.

KAJ PHARMACEUTICALS
WARWICK, RI

Figure 1.
Drug website homepage

Figure 2.
Disease awareness website

Figure 3.
Disclosures

Figure 4.
Weighted percentage of participants who recalled and recognized false benefits

Figure 5.
Weighted percentage of participants who recalled and recognized true benefits

Table 1

Participant characteristics: weighted number (%)

Self-reported depression diagnosis	1,071 (100%)
Sex	
Male	339 (31.6%)
Female	732 (68.4%)
Race	
White	913 (85.3%)
Black	103 (9.6%)
Other	55 (5.2%)
Ethnicity	
Hispanic	120 (11.2%)
Not Hispanic	951 (88.8%)
Education	
Less than high school	105 (9.8%)
High school degree	409 (38.2%)
Some college	322 (30.1%)
Bachelor's degree or higher	236 (22.0%)
Age	
18-34	215 (20.1%)
35-44	235 (22.0%)
45-54	231 (21.6%)
55-65	237 (22.1%)
65+	153 (14.3%)

Table 2

Weighted number (%) of participants in each condition, by disease awareness website viewing behavior

Viewed disease awareness website	Control	No disclosure	Simple disclosure	Detailed disclosure
On first visit (unprompted)	0 (0%)	33 (11.4%)	32 (11.7%)	28 (12.0%)
On second visit (prompted)	0 (0%)	194 (66.2%)	193 (70.4%)	160 (67.1%)
Never	266 (100.0%)	66 (22.4%)	49 (17.8%)	50 (20.9%)
Total	266	293	274	238

Table 3

Weighted means (standard errors) for perceptions and intentions by condition

	Control	No disclosure	Simple disclosure	Detailed disclosure	Test statistic	p-value
N	266	293	274	238		
Perceived efficacy: likelihood	58.96 (2.05)	57.59 (1.67)	56.42 (2.05)	61.25 (1.67)	$F(3, 1024) = 0.85$	.46
Perceived efficacy: magnitude	4.39 (0.09)	4.38 (0.10)	4.47 (0.08)	4.43 (0.08)	$F(3, 1046) = 0.22$	.88
Benefit-risk assessment	4.34 (0.15)	4.52 (0.12)	4.61 (0.10)	4.34 (0.15)	$F(3, 1040) = 1.39$	.24
Intention: physician interaction	2.29 (0.10)	2.57 (0.10)	2.48 (0.12)	2.60 (0.90)	$F(3, 1048) = 1.86$	.14
Intention: search online	2.40 (0.11)	2.39 (0.10)	2.52 (0.11)	2.36 (0.10)	$F(3, 1052) = 1.35$	.26

Note. This table presents the statistics for the analyses with the full sample. Perceived efficacy likelihood was measured on a scale from 0 (the drug would work for no one) to 100 (the drug would work for everyone). Although a transformation of this variable was used in analyses, the untransformed weighted means are presented here for ease of interpretation. Other variables were measured with the following scales: perceived efficacy magnitude (1 = *would help depression very little*, 6 = *would help depression a lot*), risk-benefit assessment (1 = *risks outweigh benefits*, 7 = *benefits outweigh risks*), and intentions (1 = *very unlikely*, 5 = *very likely*).