

Direct-to-Consumer (DTC) Prescription Drug Advertising on Television and Online Purchases of Medications

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The present research explored several aspects concerning hazard/risk communication in direct-to-consumer (DTC) television advertising. Results indicated that participants frequently encounter DTC ads and some report information seeking as a result. Participants reported that their physicians will fill their requests for DTC advertised drugs. They report infrequently making online (Internet) purchases of prescription drugs possibly due to safety and legal concerns. Implications of the findings for factors/ergonomics (HF/E) professionals are discussed.

INTRODUCTION

Direct-to-consumer (DTC) advertising refers to the mass media promotion of prescription medications to the public. In 1997, guidelines from the US Food and Drug Administration (FDA) required the disclosure of drug safety information during advertising. This effectively made it easier for manufacturers to advertise their drugs directly to the public (Marinac, Godfrey, Buchinger, Sun, Wooten, & Willsie, 2004). As a result of the tremendous growth of this kind of advertising in the last decade, most of the U.S. public probably sees many DTC prescription drug advertisements in both broadcast (television and radio) and print (newspapers and magazines) forms.

Current U.S. Federal law requires that DTC drug advertisements convey both risk and benefit information. However, drug manufacturers' advertisements may not actually give balance to the benefits and risks. For example, one study of DTC advertisements on the Internet showed that risk information was much more difficult to access because of its separate and "distant" presentation from the benefits information (Vigilante & Wogalter, 2001). Basic human factors/ergonomics (HFE) and cognitive design principles can be readily applied to improve accurate information

acquisition (Wogalter, Mills, Paine, & Smith-Jackson, 1999).

Research indicates that DTC ads influence interactions between doctors and their patients. For example, Findlay (2002) estimated that in 2001 between 8.5 and 12.6 million people received a prescription from a physician as a result of (or having some relation to) DTC drug advertising (Findlay, 2002). Thus, people appear to be engaging in information seeking after they encounter DTC advertisements—yet very little research has measured the relationship. Although people might notice and seek out information from a variety of different sources, there still is the medical health professional to limit its use to appropriate users.

Another notable trend occurring concurrently with the proliferation of DTC ads has been the explosion in the use of the Internet. The Internet provides the opportunity to purchase drugs online that might bypass physician's restrictions. Online purchasing of prescription medications without a doctor's prescription has grown (Hubbard, 2004).

The present research investigates several questions related to DTC prescription drug advertising and access via the Internet. Specifically, these concerned: (a) how frequently the public encounters DTC ads on television, (b) how they engage in information seeking through

interacting with their doctors, (c) estimates of DTC-driven requests for prescription drugs, and (d) how people conceptualize the purchase of prescription drugs via the Internet.

METHOD

Survey

A survey was created that concerned consumer product safety for a variety of topics. A subset of the survey questions concerning DTC ads on TV, online purchasing of prescription drugs are described.

The survey was created and distributed in the Fall of 2003. Demographic questions included: age, gender, full-time student (yes/no), and last year of school completed (1-20 or more).

Participants were also asked to estimate how many different kinds of prescription drugs that they have taken in the last six months.

DTC TV Advertisements

The survey contained a series of questions concerning the participants' experience with respect to DTC drug advertisements (commercials) on TV.

Participants were first asked to estimate the number of different prescription drug ads they had seen in the last six months. Participants were then asked to respond "yes" or "no" to the following three questions:

- Has a TV commercial for a prescription drug ever caused you to look for or request more information about the drug?
- Have you ever asked your doctor for a prescription drug that you saw on a TV commercial?
- Has your doctor ever declined to prescribe a prescription drug that you requested after having seen it in a TV commercial?

Participants gave likelihood ratings for the question:

- If you saw a TV commercial for a prescription drug that treats a condition that you have or believe you have, how likely would you be to talk to your doctor about that drug?

Participants responded to the above question by giving a rating on an 8-point Likert-type scale with the following numerical and descriptive anchors: (1) Extremely unlikely; (2) Very unlikely; (3) Unlikely; (4) Somewhat unlikely; (5) Somewhat likely; (6) Likely; (7) Very likely; (8) Extremely likely.

Purchasing Prescription Drugs on the Internet

Other questions asked about participants' experiences buying prescription drugs over the Internet (online). They were asked if they have ever purchased prescription drugs on the Internet.

Participants were then asked to rate the following questions using the same 8-point likelihood scale described above:

- How likely would you be to purchase prescription drugs on the Internet in the future?
- How likely would you be to purchase prescription drugs on the Internet without a prescription from your doctor?

Participants were also asked to rate how safe they believe it is to purchase prescription drugs on the Internet using an 8-point Likert-type scale anchored with: (1) Extremely unsafe; (2) Very unsafe; (3) Unsafe; (4) Somewhat unsafe; (5) Somewhat safe; (6) Safe; (7) Very safe; (8) Extremely safe.

Participants

The survey was completed by two groups of participants. One group consisted of 119 undergraduates (45% female) from a large public university in the mid-Atlantic region of the U.S. Mean age was 21 years ($SD = 2.28$). They indicated having completed an average of 14 years of schooling ($SD = 1.40$). The student sample was comprised of 68% Caucasian, 11% African-

American, 8% Hispanic, 5% Asian, 2% Native American, and 1 % Middle-Eastern.

The other participant group was comprised of 94 non-student adults (53% female) with a mean reported age of 41 years ($SD = 14.79$). These individuals were volunteer participants collected at various venues in North Carolina. Fifteen percent of the non-students reported having a high school degree; 27% reported having 1-3 years of school beyond high school; 40% reported finishing four years of college; and 18% reported having some post-graduate study or a graduate degree. The non-student adult sample was comprised of 82% Caucasian, 6% African-American, and 2% Asian.

RESULTS

All “yes” and “no” responses were coded as 1 and 0, respectively. The data for the following analyses were collapsed across group type. Only results statistically significant at an alpha level of .05 are discussed.

Participants reported taking an average of 1.96 different kinds of prescription drugs in the last six months ($SD = 2.14$). Females ($M = 2.53$, $SD = 2.25$) reported taking significantly more different prescription drugs in the last six months than males ($M = 1.46$, $SD = 1.91$).

DTC TV Advertisements

Participants reported seeing an average of eight different prescription drugs advertised in TV commercials in the last six months ($SD = 8.10$).

Sixteen percent of participants reported that a DTC drug TV advertisement caused them to look for or request more information about the drug. Fifteen percent reported that they have asked their doctor for a prescription drug that they had seen advertised on TV. Five percent of the total reported their doctor declined to prescribe them a drug that they had seen advertised via DTC formats.

Participants indicated that they were somewhat likely to talk to their doctor about a drug they had seen advertised on TV for an ailment they had ($M = 5.25$, $SD = 1.70$). Females ($M = 5.62$, $SD = 1.54$) reported being more likely to talk to their doctor

about a drug advertised on TV than males ($M = 4.89$, $SD = 1.77$).

Purchasing Prescription Drugs on the Internet

Only 2% of the participants reported purchasing prescription drugs on the Internet.

Participants generally reported that they were not likely to purchase prescription drugs over the Internet in the future. This is indicated by the positioning of the mean on the rating scale ($M = 2.54$, $SD = 1.66$), which was located between very unlikely and unlikely.

Participants also reported that they are very unlikely to purchase prescription drugs on the Internet without a doctor's prescription ($M = 1.90$, $SD = 1.39$). However, males ($M = 2.16$, $SD = 1.50$) reported being slightly more likely to purchase prescription drugs over the Internet without a prescription than females ($M = 1.62$, $SD = 1.20$).

Furthermore, participants report not believing it is safe to purchase prescription drugs on the Internet. This result was indicated by the positioning of the mean on the rating scale ($M = 3.31$, $SD = 1.65$), at a point located between the anchors of unsafe and somewhat unsafe. However, these safety ratings differed somewhat by gender and student/nonstudent status. Males ($M = 3.70$, $SD = 1.70$) reported believing that it is safer to purchase drugs over the Internet than females ($M = 2.89$, $SD = 1.49$). Non-student adults ($M = 3.61$, $SD = 1.76$) reported believing that it is safer to purchase drugs over the Internet than students ($M = 3.07$, $SD = 1.52$).

DISCUSSION

These results describe some specific aspects of how DTC prescription drug advertisements may affect or relate to some consumers. People are being increasingly exposed to DTC drug advertisements. In the present study, participants reported encountering an average of eight drugs advertised through DTC television commercials during the previous six-month period. Second, some (16%) of the sample reported engaging in

further information seeking as a result of exposure to a DTC advertisement with more females asked about DTC advertised drug than males. Third, only 5% of the sample reported that a doctor declined to prescribe a drug that they requested after seeing a televised DTC advertisement.

These findings are consistent with current trends in healthcare where the patient is taking a more active role in making decisions. Rather than passively accepting doctor's treatment decisions, patients are now arriving at their appointments armed with information they have encountered from other sources, including from the Internet (Hicks, Wogalter, & Vigilante, 2005).

The quality of the information that the public is drawing from DTC pharmaceutical advertisements may be somewhat unbalanced. The content of some advertisements is confusing, difficult to understand, and further evidence suggests that side effect information may not sufficient (Marinac et al., 2004). The benefits tend to be more salient than risks (Hicks et al. 2005; Vigilante & Wogalter, 2005).

The current results suggest that DTC drug advertisements are prompting some people to discuss advertised prescription drugs as potential treatment options with their doctors (Marinac et al., 2004). Surprisingly, only a few participants reported having the experience of their doctors declining to prescribe a prescription drug they requested after seeing an ad for it on TV. Of course, the data are correlational and cause-effect can not be established by this study.

The data also suggest that Internet purchasing of prescription drugs is relatively infrequent -- possibly due to current law and beliefs that it is unsafe, with respect to health and civil penalties. While all mean responses about the safety of Internet purchases tended to be around the anchor of 3 (unsafe), closer examination of the data revealed a number of differences due to demographics. Non-students considered it safer to purchase prescription drugs over the Internet compared to college students. Also, males gave higher ratings of safety to purchasing drugs online than females. Thus, there is some tentative suggestion that online purchasing of prescription drugs without a prescription may not be as

prevalent as others have suggested (Hubbard, 2004). Nevertheless, opinions may be changing regarding the safety of online prescription purchases given its relative convenience, reduced costs of medications, and the growing adoption by health care management organizations (Fox, 2004).

Given the negative potential consequences of biased DTC advertising and the risks that online drug purchases may engender, it seems appropriate for HF/E professionals to contribute their expertise in this domain. First, HF/E knowledge about cognitive design principles can be applied to DTC advertisements to improve the likelihood that people acquire accurate knowledge regarding the risks and benefits (Wogalter et al., 1999). Second, HF/E professionals might actively assist the FDA with interventions that effectively protect the public from unintentional risks.

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