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Seniors' perceptions of prescription drug advertisements: A pilot study of the potential impact on informed decision making

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Abstract

Objective—To conduct a pilot study exploring seniors' perceptions of direct-to-consumer advertising (DTCA) of prescription drugs and how the advertisements might prepare them for making informed decisions with their physicians.

Methods—We interviewed 15 seniors (ages 63-82) individually after they each watched nine prescription drug advertisements recorded from broadcast television. Grounded Theory methods were used to identify core themes related to the research questions.

Results—Four themes emerged from the interviews about DTCA: (1) awareness of medications was increased, (2) information was missing or misleading and drugs were often perceived as more effective than clinical evidence would suggest, (3) most seniors were more strongly influenced by personal or vicarious experience with a drug – and by their physician – than by DTCA, and (4) most seniors were circumspect about the information in commercial DTCA.

Conclusions—DTCA may have some limited benefit for informed decision making by seniors, but the advertisements do not provide enough detailed information and some information is misinterpreted.

Practical Implications—Physicians should be aware that many patients may misunderstand DTCA, and that a certain amount of time may be required during consultations to correct these misconceptions until better advertising methods are employed by the pharmaceutical industry.

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Keywords

Direct-to-Consumer Advertising; prescription drugs; seniors; informed decision making

1. Introduction

Direct-to-consumer advertising (DTCA) of prescription drugs to consumers is currently only permitted in the United States and New Zealand, where it remains controversial(1;2). Proponents and critics continue to debate the public health value of regulatory policies applied to DTCA(1). Over the last decades patients have become increasingly involved in making decisions with their doctors about treatment options(3;4), but the quality of these decisions depends in part on the quality of the information about clinical options such as prescription drugs they bring to consultations with their doctor.

Informed decision-making is defined as when a patient understands the clinical condition being addressed as well as the risks, benefits, limitations, alternatives and uncertainties of a given intervention(5). Proponents of DTCA claim that advertisements help inform consumers and facilitate their involvement in clinical decisions about prescription drugs(6). Indeed, in its defense of DTCA the pharmaceutical industry has repeatedly asserted that the practice is aligned with the patient's rights movement that has contributed to the greater involvement of patients in clinical decision-making(3). In testimony to the U.S. Senate Committee on Aging, the Pharmaceutical Research and Manufacturers Association (PhRMA) testified that DTCA enables consumers to be better partners in clinical decision making by providing them with information on new drugs and on symptoms and treatments for medical conditions that are under-diagnosed or under-treated(6;7). In addition, PhRMA argued that DTCA encourages and enables participants to discuss medical problems with their doctors(6). Surveys of physicians and consumers provide some support for these assertions, including that patients feel more informed about prescription drugs by advertisements(8-12).

Critics acknowledge that DTCA could support clinical decision making, but they question whether the quality and quantity of information about prescription drugs in advertisements is sufficient at present(1). Content analysis studies show that while some symptoms are discussed in DTCA, few advertisements describe the risk factors for a condition, its prevalence, or the mechanism of action for a drug(13;14). Critics also point to studies showing that information about the efficacy of drugs presented in the advertisements misleads consumers into believing that the medications are more effective than is documented by clinical trials(15;16). Other studies suggest that DTCA leads patients to seek unnecessary treatments(12), which may result from consumers misinterpreting the limited information presented in the advertisements.

Older Americans are one of the primary groups targeted by DTCA(17), yet we are unaware of studies that have approached members of this demographic group to gauge their perceptions of specific prescription drug advertisements, as opposed to prescription drug advertising in general. This initial qualitative study examines seniors' perceptions of advertisements and the potential impact of advertisements on helping consumers make informed decisions about prescription drugs to inform future larger scale studies of the impact of DTCA on consumers' decision-making.

2. Methods

2.1. Participants and Procedure

Based on prior experiences collecting qualitative research data, the study aimed to recruit up to 15 participants age 65 or older. No other criteria beyond age were used in recruiting participants as the goal of the study was to recruit an inclusive sample of seniors. To limit potential volunteer bias related to health topics and prescription drug advertising, potential participants were told that participation in the study entailed watching one hour of recent television programming and completing an interview. No mention was made of the study's focus on DTCA or health related decision-making. Initially, we used a street intercept approach to recruit participants. A total of 30 individuals who were approached were willing to consider participating in the study. Of these 30, 7 (23%) indicated a willingness to participate after hearing what the study would entail, of whom 5 were disqualified for being below the age of 65 and 2 (7%) participated in the study. Because of the inherent challenges in recruiting participants using a street intercept approach, the remaining participants were recruited from 2 multi-purpose community senior centers. One center was located in a low-income predominately African American neighborhood (n=7) and the other was located in a middle-income ethnically mixed neighborhood (n=6). The centers are supported through county and municipal funds and provide a venue for seniors to access services and social support. The centers organize social activities for seniors; provide access to meals, limited health services as well as fitness activities. Flyers were posted throughout the 2 senior centers and announcements seeking volunteers for the study were made at the beginning of various activities scheduled in the centers (e.g., card games; arts and crafts groups). All of those in the senior centers who volunteered to participate were enrolled in the study. Recruitment activities ended once 15 participants had been enrolled. Participants' demographic data are shown in Table 1. One participant recruited from a senior center indicated that she was 63 on her demographic questionnaire after completing the interview.

Confidential, semi-structured interviews were conducted by a trained research assistant with participants individually (see Table 2 for interview questions). For participants recruited through street intercept, the interviews were conducted in an academic office at UCLA. For participants recruited from senior centers, interviews were conducted in a private room in the respective senior center. Questions were asked after showing each of 9 television advertisements, recorded from network and cable television during the summer of 2007. The products for which advertisements were shown are listed in Table 3. The majority of advertisements we selected were for products that had cardiovascular indications, given that cardiovascular disease remains the primary cause of death in the US. The remaining products were intended to treat a variety of conditions that are common among seniors. The interviews were recorded and fully transcribed for analysis of the text data. Participants completed a brief demographic questionnaire after completing the interview. The study procedures were approved by the Institutional Review Board at the University of California, Los Angeles.

2.2. Analysis

The data analysis approach was adapted from Grounded Theory(18). We allowed themes to emerge inductively from the responses of the participants using open and axial coding, guided by two overarching research questions: (1) How is the information presented in the prescription drug advertisements understood and interpreted by seniors?; and (2) how does the information perceived by older consumers appear to inform decision making about taking prescription drugs? These research questions are consistent with the pharmaceutical industry's claims that DTCA aids consumer participation in clinical decision-making(1;6).

In a first round of open coding, the research team distinguished a list of the possible themes related to seniors' interpretations of DTCA. Open coding refers to the analytical process of examining, comparing, and categorizing qualitative data to develop thematic concepts. Three health services researchers (JG, VU, DLF) independently coded a set of randomly selected interviews and collectively constructed a preliminary coding scheme by identifying phrases and sentences in the text that expressed meaningful themes. The team then collaboratively examined these themes and selected the core themes associated with the research questions. These core themes were tested against the interview data for each individual during rounds of axial coding in which the various elements were put together and checked for redundancy and clarity. Axial coding refers to a set of procedures used to put categories distinguished during open coding together by making connections among categories and concepts. We identified the core themes in the data, but a synthesis of an overall grounded theory was beyond the scope of the current study.

3. Results

Four major themes emerged from interviews on DTCA that were related to informed decision making between a patient and a health professional: increased awareness, educational content, misinterpreted information, and circumspection about the information and its source. Each of the themes is related to our 2 research questions. How participants understand and interpret the advertisements appears to influence how they might use the information when consulting with a physician and making a decision about prescription drug use.

3.1. Increased awareness

Most of the participants (13 of 15) said that an ad had made them aware of the availability of a medication or a health behavior that may help relieve a medical condition:

“Very informative... that this [myocardial infarction] can occur. And they now have a medicine that is helpful. Maybe that's why people aren't dropping dead the way they used to.” (Participant #5, Plavix)

Another participant noted that the Vytorin ad increased her awareness about diet for controlling cholesterol:

“It [the advertisement] is helpful because they're letting you know the foods that cause you to, you know have high cholesterol. So that's very helpful to me.” (Participant #10, Vytorin)

The comments of these seniors suggest the potential for DTCA to raise awareness among viewers for therapeutic lifestyle behaviors as well as the availability of medication to treat medical conditions.

The increased awareness about drugs after observing DTCA appeared to encourage some seniors to ask their doctors about the drugs. Many participants in this study (9 of 15) said that they had been prompted to ask a doctor about a drug by DTCA in the past, prior to viewing the current advertisements for the study. An example is provided by a participant, who said that she was going to ask her doctor about a drug following exposure to the ad as part of the study. In particular she appeared drawn to the apparent convenience of the product, which the ad highlighted:

“In my next visit I'm going to have to ask him about this one. If he could, would he recommend this for me? You know that way its one pill, because I got to take them, I'd rather take this than two different medications.” (Participant #6, Caduet).

3.2. Educational content

Although some participants reported increased awareness of medications and lifestyle changes, they also reported that important information was missing and, sometimes, they misinterpreted the educational content of an advertisement. Most participants (14 of 15) felt that some information was missing from one or more of the advertisements, making it difficult for them to assess how effective a medication might be:

“Q: What do you think about how effective Plavix would be?”

A: well, it's really hard to say without seeing data.” (Participant #8, Plavix)

Another participant made a similar statement about the Vytorin ad:

“You know, I didn't even remember the name of the drug. All I remembered was the pies [laughs]. How effective? I don't know. I have no idea as to much how much it's been researched.” (Participant #12, Vytorin)

Two specific pieces of information that were of interest to some participants included the cause of a condition and the mode of action for a drug, which content analysis studies have found is frequently missing(13):

“Well I don't know how the bladder control problem arises in the first place. I guess it's from, you know your weakness and stuff like that in the bladder. But did they say about how did it, some people, how'd they get to be in that situation?” (Participant #10, Detrol)

“... it said, “If you had a had a heart attack or stroke,” but it didn't particularly say how it would help. So...does it clean out the arteries, does it do this, does it do that? No, it didn't. It didn't tell me much. I think what most of these commercials tell you is enough to get you going and get a prescription for it and that's it.” (Participant #4, Plavix)

Participants also expressed an interest in more specific data on side effects:

“Well, they're combining the medicines so you don't have to take as many pills. And I always think this muscle weakness is a rare condition. They say, I wonder if it's really that rare because they're mentioning it in every one of these advertisements.” (Participant #5, Caduet)

as well as specific efficacy data:

“It's a new item and I would like the statistics on any of these products.” (Participant #12, Caduet)

Others noted a desire for more information about when specifically medication treatment is indicated:

“I would like to know, when does your cholesterol really start to affect you where you need to do something about it. ...So I'm wondering, I'm not saying that other medication are not doing the same thing, but I'm wondering if they're really trying to help you avoid it or just help you buy medication for it.” (Participant #14, Zetia)

Despite this common perception that DTCA lacked information, however, two participants thought that the advertisements provided an adequate amount of information:

“What is it? A sixty second commercial? Ninety second? I mean how much can they get in, you know [laughs]? Remembering that this really is geared towards seniors, these commercials and our interest span is not that long [laughs]. I think there is enough information for what it is, what the medication is.” (Participant #9, Lipitor)

These comments suggest that some viewers may assume that the amount of information provided in a prescription drug ad is adequate because it is limited by the length of typical advertisements. Nevertheless, this participant later also noted that the importance of diet was not discussed adequately in the Lipitor ad despite his acknowledgement of time constraints in DTCA.

3.3. Misinterpreted information

The majority of participants (12 of 15) made comments that indicated they may have misinterpreted some information presented in the advertisements. For example, gene mutations responsible for familial hyperlipidemia are rare, occurring among only 0.1% to 0.4% of the population in North America (12), but the Vytorin ad appeared to create some confusion about this:

“I didn't know that part of it; cholesterol. I thought it was only eating things. I didn't know it was a family type thing.” (Participant #13, Vytorin)

Another participant was left with the impression that high cholesterol was unavoidable:

“Q: And does it [ad] give you the sense that you can avoid high cholesterol?

A: No, because it says your family might have it. Yeah it's in your genes.”
(Participant #15, Vytorin)

In both of these cases, the information about the genetic contribution to high cholesterol in the ad was erroneously perceived in such a way that participants inferred that genetics might be more important than diet.

Participants also tended to draw conclusions from advertisements despite limited information presented in the advertisements to support them. For example, one participant thought that the two medications included in Caduet would act synergistically and thereby perhaps be more effective than taking the medications as two separate pills:

“I don't know if it implies but maybe I'm inferring that there is a synergy that maybe because the two [medications] are working together, each one will supplement the other.” (Participant #8, Caduet)

Participants also perceived that medications would be effective despite the fact that no efficacy data is provided in the advertisements:

“Well according to what they say, it [Detrol] must work very well. That this will stop it [bladder control problem].” (Participant #13, Detrol)

“Well, according to the advertisement, it would be very effective.” (Participant #14, Cymbalta)

In addition, participants drew conclusions from the advertisements about how common medical conditions were despite limited or no information on prevalence in the advertisements:

“If there's a medicine for it [bladder control problem], it means that it's very common. It's very common. And from what I see, it's very common.” (Participant #4, Detrol)

Some participants thought that the number of advertisements and the number of medications promoted for a condition indicated that the condition must be prevalent:

“I have seen this ad so much on television, it [insomnia] must be very prevalent.”
(Participant #11, Lunesta)

A few participants recognized that prevalence data was not included in the advertisements and would not comment on how common the condition was (data not shown). Overall, however, the quotes provided here show that participants often inferred information that was not provided in the DTCA.

3.4. Circumspection about advertisements

Most participants (10 of 15) expressed some skepticism or mistrust of information presented in one or more of the advertisements. One participant felt that the imagery used in the advertisements was not a realistic portrayal of prescription drug effects:

“So they'll show you this beautiful person walking and doing all these things and you will feel like, “Oh, I'll take this and it'll make me feel like that.” (Participant #3, Caduet)

Another indicated that she was generally suspicious of advertisements for prescription drugs:

“They're trying to sell me something, that's the first thing. And it makes me a little suspicious.” (Participant #12, Lipitor)

Skepticism also included disagreements with the specific narrative of some ad content:

“Well they're trying to give people the excuse, that it's all, seems like it's all genetics and genetically it's something we just come with. And that we don't have any choice over, like the color of our eyes, how tall we are, the color of our hair, but the choice we do have is what we eat.” (Participant #1, Vytarin)

Participants reported relying on sources other than DTCA to judge the effectiveness of prescription medications. All participants indicated in one comment or another that they used personal experience or the experiences of family and friends to judge the effectiveness of a drug.

Finally, doctors were another important source of information. Although some participants were prompted by DTCA to ask their doctor about a product, as noted above, most participants (12 of 15) said that they were more likely to rely on their doctor to recommend medications than to specifically request a drug based upon an ad:

“Well, I take away that the doctor probably has a better database from the people he has treated than, you know, what you can believe from an ad here. But if you do have the problem, you see your doctor and each doctor probably prefers a different thing. For me it might get me to the doctor but I don't know that I would go with the commercial to tell me which one is best.” (Participant #8, Zetia).

4. Discussion and Conclusions

4.1. Discussion

Regulation of prescription drug advertising is grounded in the recognition that prescription drug use entails risks, even when used as directed(19). The legal requirement that advertisements strike a fair balance in presenting benefits and risks reflects the need to consider these trade-offs when making a prescribing decision(20). Previous survey studies have found that the American public generally feels that DTCA improves their understanding of diseases and available treatments(1). But these general perceptions tell us little about the utility of specific advertisements in helping consumers arrive at informed decisions about whether or not to ask their physician for a prescription.

Our interviews suggest that DTCA has the potential to be beneficial to seniors. A number of seniors indicated that the advertisements increased their awareness of the availability of drugs to treat certain conditions and some indicated that an ad prompted them to discuss a drug with their physician. This finding is consistent with prior research that has demonstrated that exposure to DTCA increases patient prescription requests(11;21). Although seniors are somewhat less likely than younger individuals to make DTCA-prompted prescription requests, it has been suggested that the introduction of Medicare Part D (a prescription drug benefit for Americans 65 or older) may have increased seniors' willingness to request a prescription from their physician(22). American seniors have a myriad of prescription drug plan choices through Medicare Part D, and each plan covers a different range of drugs. Thus, if one plan doesn't cover a particular drug, a person can potentially change their plan to one that covers the drug of interest(23).

Whether or not increased awareness of prescription drugs can translate into improved health outcomes very much depends on the condition being targeted and the quality of information in advertisements. Our findings also suggest that advertisements that include references to the importance of lifestyle change to manage health risks such as high cholesterol can serve as useful reminders. Research on large scale public health campaigns finds that they are most effective when they achieve repeated exposure to the health promotion message(24). Given the large amount of financial resources devoted to DTCA, advertisements clearly have the potential to promote engagement in healthful behaviors. Further research is needed to examine these questions and determine whether these embedded health promotion messages are mitigated when provided in the context of an ad promoting a prescription drug. Nonetheless, as our findings indicate, ambiguous advertising narratives also have the potential to mislead seniors' in their conceptions of the causality of health risk factors and conditions. The Vytorin ad in our sample appeared to lead some participants to give greater weight to genetic factors in developing high cholesterol than may be warranted(25).

Beyond the beneficial potential of the advertisements, our findings also highlight several shortcomings of the current advertisement format. Several seniors felt that the advertisements provided limited information about the potential benefits and risk of products. What is striking is that several seniors clearly wanted more hard data to support assertions about potential benefits as well as to better assess the likelihood of potential side effects. These findings are consistent with other studies and recent proposals to improve the utility of DTCA(1;26). Of particular concern, and also consistent with recent studies, is that in the absence of clear data, seniors often drew inferences about effectiveness of drugs and prevalence of conditions that were not warranted by information provided in the advertisements(15;16). These findings support the power of ad imagery to mislead consumers, which has been frequently noted by critics of DTCA(13). A study of physician attitudes about prescription requests found that they are more likely to be annoyed when a request is prompted by DTCA versus a more traditional source of information such as the Physician's Desk Reference (a compendium of available prescription drugs)(27). Thus, seniors who request a prescription as a result of DTCA exposure may inadvertently complicate the patient-physician relationship, especially if an advertisement has misled them to think a drug is more effective than is supported by data.

Nevertheless, the majority of seniors in our study indicated some general skepticism about advertisements, recognizing that their intent was to sell a product, and a reliance on physicians and other sources of information to make decisions about prescription drugs. A few seniors also noted that the limited information provided may be a function of the short length of the advertisements. Interestingly, Pfizer has run advertisements for Celebrex that are 2.5 minutes long, more than double the average length of advertisements. Longer advertisements could help address some of the concerns voiced by participants in this study.

There are important limitations to our study. First, our study was exploratory and the sample size was modest. Our reliance on a convenience sample further limits the generalizability of our findings. Second, it is unknown whether seniors' actual behavior in response to DTCA would reflect their perceptions and assertions in response to our interview. Although our participant recruitment strategy aimed to limit volunteer bias related to DTCA or health, and interviewers were trained to remain neutral and not differentially reinforce participant responses, we cannot be certain of the degree to which participants may have provided what they thought were socially desirable responses. Despite these limitations, these findings raise questions that are worthy of further study with larger representative samples. Longitudinal studies that prospectively assess advertisement exposure and follow participants to assess their behaviors, participation in clinical encounters, and prescription drug use would be very useful.

4.2. Conclusions

In conclusion, this study confirmed some potential for benefit from DTCA but also identified several ways in which advertisements could be improved to better facilitate informed decision making about prescription drugs. While a ban of DTCA in the US is unlikely to be feasible, given First Amendment protections of commercial speech(20), legislative action could be used to alter regulations and improve the utility of DTCA. Other countries that are being lobbied to permit DTCA, could use these findings to inform their legislative process(28).

4.3. Practice Implications

Although DTCA can increase awareness of the availability of prescription drugs and prompt patients to request prescriptions, these findings highlight critical short-comings of the current ad format. These gaps further reinforce the need for comprehensive counseling by physicians when making treatment decisions that involve prescribing new prescription drugs to patients(29).

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Table 1

Participant demographic information.

Participant Number	Age	Gender	Marital Status	Race/Ethnicity	Years of Education
1	75	Female	Divorced	Caucasian	14
2	66	Female	Divorced	African American	18
3	69	Female	Married	African American	16
4	65	Female	Widowed	Other	16
5	71	Female	Divorced	Caucasian	17
6	63	Female	Divorced	African American	12
7	72	Female	Divorced	African American	8
8	66	Male	Never married	Caucasian	17
9	81	Male	n/a	Caucasian	16
10	67	Female	Widowed	African American	14
11	76	Female	Divorced	African American	17
12	82	Female	n/a	Caucasian	17
13	80	Female	Widowed	African American	12
14	75	Female	Divorced	African American	14
15	69	Female	Married	Asian/Pacific Islander	14

n/a = not available.

Table 2

Questions asked during the semi-structured interviews.

Questions asked after each individual advertisement:

- What comes to mind after seeing that ad?
- What messages do you take from the ad?
- What kind of alternatives do you think there might be to taking this medication?
- Do you think there are alternatives to the product that don't involve medication?
- What do you think about how well the product will work?
- What does the ad tell you about how common this medical condition is?
- If you had this condition, how would using this product affect your life?
- Do you think you can do something to avoid the disease in this ad?

Questions asked after viewing the complete series of advertisements:

- What is the role of products, such as those seen in these ads, in helping you stay healthy?
 - If you get sick, what role might these kind of products play in helping you get better?
 - What is the role of these products in helping you lead a happy life?
 - What do these ads tell you in general about the role of healthcare in helping you stay healthy?
 - Have you ever asked your doctor about a medication advertised on TV?
-

Table 3

Prescription Drug Advertisements Shown to Participants.

#	Brand Name	Active Ingredient(s)	Indication
1	Lipitor	atorvastatin	high cholesterol
2	Vytorin	ezetimibe/simvastatin	high cholesterol
3	Zetia	ezetimibe	high cholesterol
4	Caduet	amlodipine and atorvastatin	high blood pressure and high cholesterol
5	Detrol	tolterodine	overactive bladder
6	Lunesta	eszopiclone	insomnia
7	Levitra	vardeafil	erectile dysfunction
8	Cymbalta	duloxetine	depression
9	Plavix	clopidogrel	coronary artery disease