

**ATTITUDES TOWARD PHARMACEUTICAL DIRECT-TO-CONSUMER
ADVERTISING: THE ROLE OF CULTURE**

Jyotsna Mukherji, Ananda Mukherji

ABSTRACT

In this study, we examined the attitudes and behaviors of Hispanic consumers toward pharmaceutical direct-to-consumer advertising. The main motivations were to not only understand specific behaviors and attitudes, but also to investigate if these behaviors are impacted by culture. A sample of 200 consumers filled out a questionnaire. Findings indicate that culture and language use influence conversations with doctors about drugs and disease. Respondents also reported that DTC advertising motivates them to take better care of their health. The concerns respondents raise are to do with DTC promotions not highlighting the risks associated with the drugs. Implications for advertising and public policy are discussed.

Keywords: Advertising, Culture, Customer, Pharmaceutical industry

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The pharmaceutical industry is a dominant element in the economic environment of the US. In 2007, it was worth \$300 billion and was projected to reach between \$230-250 billion in 2015. (IMS Institute for Healthcare Informatics). Expenditure on advertising to consumers in 2008 was \$4.7 billion, a fourth of all spending on pharmaceutical promotion activities (Congressional Budget Office Brief, 2009). Expenditures on prescription drugs increased between 1995 and 2007 by 274%. The growth in prescription drug expenditures coincided with the growth in pharmaceutical promotion, which increased from \$11.4 billion in 1996 to \$29.9 billion in 2005 (Donohue et al., 2007). Direct to consumer advertising (DTCA) experienced growth, especially after 1997 the when Food and Drug Administration (FDA) issued relaxed guidelines for direct-to-consumer (DTC) pharmaceutical marketing and, in response, the pharmaceutical industry spending on DTCA grew from \$791 million in 1999 to \$4.8 billion in 2006. Research on

pharmaceutical advertising is, therefore, important as it influences consumption of prescription drugs which has witnessed an impressive growth.

Investments made on advertising to consumers have a good return. Research shows that every \$1 spent on advertising results in an increase in retail sales of \$4.20. Advertising also seems to have an influence on patients and or physicians, since new drugs with DTCA are nine times more likely to be prescribed than those new drugs without DTCA. The fact that the US and New Zealand are the only two countries in the developed world which allow DTCA illustrates the controversy around this type of advertising (Hoek & Gendall, 2002).

Hispanic Consumers and DTCA

There is evidence that Hispanic consumers have low satisfaction with the consumption of healthcare; from access to health care, being insured, to having satisfactory access and communication with health care providers. A study by Porter (2011) found that DTCA does not impact all groups in the population equally. In general, minorities, particularly Hispanics, are less aware of DTC promotions. Low income and low literacy also act as impediments to receiving the benefits of DTC. Porter found that low income consumers are susceptible to brand name drugs and low literacy is an inhibitor to recall of DTCA. We are interested in knowing if Hispanic consumers have opportunities to view DTC ads and if they pay attention to them. This research question is important because in as much as DTC ads do deliver for pharmaceutical companies and can cause some problems for physicians, at a general level research shows that DTC ads have the potential to educate, inform and give patients some confidence in their communication with health care providers. Findings from this research will help us understand attitudes and behaviors of Hispanic consumers toward DTCA and could inform social marketing and public policy.

According to the Kaiser Public Opinion Spotlight report (www.kff.org/spotlight), more than half of all Americans take prescription drugs. Most people agree that these drugs have had a positive impact on the lives of the people taking these prescription drugs. However, paying for these medicines is a problem with four in ten reporting financial problems with filling a prescription. There has been public debate about the role of advertising of these drugs and their high costs. Advertising of prescription drugs in the media has been on the rise. In 2007, manufacturers spent \$10.4 billion on advertising of prescription drugs. Of this, the share directed toward consumers (through advertising on television, radio, magazines, newspapers and outdoor advertising) was \$3.7 billion and the share directed toward physicians was \$6.7 billion.

DTC advertising is delivering for pharmaceutical companies in that consumers are asking their physicians about the advertised drugs. According to *Prevention Magazine* (2001), there are estimates that around 25% of Americans have asked their doctors about a medication they have seen advertised. Similarly, many physicians report that their patients have asked them about drugs they have seen in advertisements (Kaufman & Hoffman 1997).

THEORETICAL BACKGROUND

In an attempt to understand pharmaceutical products, we refer to Nelson (1970, 1974) who has provided the taxonomy of search and experience goods. According to Nelson, a product is said to have search qualities if a consumer can determine a product's quality prior to purchase merely by visual, tactile or analytical inspection. Examples of search goods are electronic goods, tools and credit cards. A good is said to have experience quality if a customer must consume the product to assess its quality. Examples of experience goods include cosmetics, restaurants and cereals. While this taxonomy is neat and convenient for categorizing goods, it must be understood that most products are often hybrids having both search and experience qualities.

Thus, it is difficult to categorize pharmaceutical drugs, since drugs could have different impacts on different people (side effects and interactions) and pharmaceuticals would appear to have more experience than search qualities. However, for those pharmaceuticals that have highly predictable outcomes, search qualities may dominate (Rosenthal et al., 2003). Search goods are more likely to require use of informational advertising, while experience goods producers are more likely to use persuasive advertising. Therefore, it is suggested that goods with dominant experience attributes have greater advertising-sales ratios than do goods with dominant search qualities. From the above research, it is seen that advertising plays a big role in the sale of pharmaceutical drugs.

Proponents and Opponents of DTCA

Direct to consumer advertising has had its share of both proponents and opponents. Proponents of DTC prescription drug promotions contend that these ads inform patients about diseases and possible treatments options, encourage people to seek medical advice and comply with treatment plans, help remove stigma associated with medical conditions and provide needed sales revenue to fund costly research and development (R&D) of new drugs. Supporters of DTC advertising argue that these ads inform consumers about important, treatable health conditions and encourage doctor patient communication. DTC advertising educates consumers and enables them to take a more active role in interacting with health professionals (Mehta & Purvis, 2003). Opponents contend that DTC advertisements misinform patients, encourage overmedication and pressurize physicians to prescribe advertised drugs and thus weaken the relationship between patients and physicians (Calfee, 2002; Spake & Joseph, 2007). They also contend that DTC advertising is often misleading and rarely provides sufficient information on costs, alternative treatment plans and side effects of drugs (Robinson et al., 2004).

Benefits for Pharmaceutical Industries/Return on Investment

DTC advertising is used to communicate to potential consumers and, in turn, stimulate demand. Research shows that investment in this type of advertising has paid dividends. According to Gascoigne (2004), DTCA has resulted in a positive return on investment for more than 90% of brand-name drugs, 70% of which have had returns in excess of \$1.50 for every \$1.00 invested and 35% of which have had returns in excess of \$2.50 for every \$1.00 invested. Further, ten of the leading twelve brand-name drugs with DTCA campaigns have had sales in excess of \$1 billion annually. This is clearly an important genre of advertising for pharmaceutical companies.

Research Questions

RQ1: What are the attitudes and behaviors toward DTC advertisements among Hispanic consumers?

RQ2: Does culture influence attitudes and behaviors toward DTC advertisements?

RESEARCH METHODOLOGY

The survey was administered in person to a convenience sample of 200 residents of a mid-size city in Southern USA. Students in a marketing research class were recruited to conduct the survey. The questionnaire was translated into Spanish and back translated to check for consistency. The interviewers, depending on the language requirements of the respondents, used both versions of the questionnaire. The questionnaire contained two sections. In part one, we elicited consumers' opinions and attitudes toward DTCA. The items for this part were taken from research by Joseph et al. (2005) and Joseph and Finney (2008) and modified for the present survey. These items were measured on a five-point Likert scale (1- strongly disagree to 5 - strongly agree). Part two asked demographic questions and questions of language use.

DATA ANALYSIS

The items for effects and benefits of DTCA were assessed using confirmatory factor analysis using LISREL 8 with item correlations as input (Joreskog & Sorbom, 1999). For example, items with low or extremely high factor loadings and those with high modification indices were deleted. The research questions were tested using cross-tabulation and analysis of variance techniques.

RESULTS

Characteristics of respondents

Respondent characteristics are shown in Table 1. Of the 200 respondents surveyed, 51% were female. 38% of the respondents were older than 50 years of age. Respondents were primarily Hispanic (85%) with Bachelor's degrees (66%). Television was an important medium with 95% reporting seeing pharmaceutical ads in this medium. Magazines were also important (69%) and so was the internet (45%). Radio (13%) and newspapers (21%) were not reported as mediums for viewing DTC promotions.

Opinions of DTC advertising

We asked respondents to rate 12 statements concerning their views on prescription drug advertising on a five-point scale ranging from "strongly disagree" to "strongly agree"; the higher the number the greater the agreement. Table II provides the mean and standard deviation for each statement, as well as the percentage of respondents who agreed with each statement. Since the neutral point on the scale was 3, those items with means above 3.0 suggest overall agreement with the statement and those with means below 3.0 reflect disagreement. Consumers agreed with 8 of the 12 statements. Interestingly, those statements with little support (means below 3.0) all

involved consumer behaviors in response to DTC advertising, such as paying attention to DTC advertising (mean of 2.85), being reminded to take their medicines (2.74) or to fill their prescription (2.78). Further the respondents in our study did not perceive DTC ads as providing information about risks associated with taking the medicines (2.82). Thus, the respondents in our study reported that DTC ads did not motivate certain healthy behaviors regarding taking medicines.

DTC ads were reported to educate respondents about a disease (3.50), about the importance of treating the disease (i.e., diabetes) (3.71) and motivated them to ask their physicians for more information about the drug being advertised (3.81). Respondents also reported that these ads were beneficial in improving their lives (3.54) and managing their health better (3.35).

Some of the negative reactions toward these ads were when respondents reported that DTC ads may influence viewers to ask for the drug being advertised, thus pressurizing the physician (3.38). Respondents also felt that DTC ads may influence people to think they have the disease or condition (restless leg syndrome) being advertised (3.35) and may cause viewers to self-medicate (3.18).

In analyzing the statements with which our respondents showed agreement, we find an interesting trend. Respondents reported that DTC ads had a positive impact on them, but when asked about the effect of these ads on others our respondents suggested that the effect may not be positive. These results can be explained using attribution theory, where one attributes positive comments to self and negative comments to the other. Despite this distinction, we see that the respondents in our survey reported that viewing DTC ads motivates them to manage their health and lead a healthy lifestyle. However, these ads can also encourage overmedication or have consumers begin to think they have the disease being advertised.

Attention to DTC advertising based on demographics

We ran a series of cross-tabulations to investigate the role of culture. The impact of culture on attention to DTC advertising is not well understood. Our analysis revealed only Heritage to be significant. Hispanics (34%) more than Whites (15%) reported paying attention to DTCA (Chi square = 8.320 (2); p=.016. Hispanics tend to score higher (3.90) and report that DTCA makes them ask their physicians for more information than Whites (3.08).

Influence of culture on benefits and effects of DTCA

We were interested in exploring our respondents' perceptions of the effects and benefits of DTCA. DTCA effects are when this type of advertising reminds viewers to take their medicines, to fill their prescriptions and so continue with the treatment and ask physicians for more information. Effects can be both positive and negative. Negative effects are when viewers pressure their physicians to prescribe the advertised drug, self-medicate or believe the viewer has the disease.

DTCA were also conceptualized as providing many benefits to viewers and therefore to physicians and public health officials. We were interested in knowing if DTCA provided an educational value by informing the viewer about the disease, the drug and the risks associated with taking the drug. Other benefits were in the area of persuasion. Advertisers often promote by

highlighting the benefits of taking the drugs with promises of better health and lifestyle. We were interested in knowing if DTCA informed viewers about supportive behaviors that would help manage the diseases the drugs were intended for.

We ran a series of ANOVAs using cultural variables as factors. Culture as a factor when used to separate groups using ethnicity and by language use was a significant separator. Hispanics have higher scores for DTCA effects (3.22) than Whites (2.56) and also for benefits (3.69) than Whites (2.81) (Table 4). Similarly, those who reported using Spanish more than English also had a higher score both for effects (3.34) and for benefits (3.90). Scheffe's Post Hoc analysis shows that in the perception of benefits of DTCA, Spanish speakers are significantly different and report higher scores than both English and bilingual speakers (Table 5).

Specific item-wise exploration of influence of culture

In as much as scales represent a construct, we wanted to explore the influence of culture on specific items that capture perceptions of effects and benefits of DTCA. The results of the item-wise ANOVA analysis demonstrate that culture does impact DTCA attitudes. A series of ANOVA tests were run for all seven items measuring effects and five items measuring benefits. Heritage as a factor was significant in separating groups for four of the seven effect questions and three out of the five benefit questions. Tables 6 and 7 provide all the results and show that Hispanics report paying attention to DTCA, report that viewing DTCA reminds people to take their medication which they would have otherwise forgotten, reminds viewers to fill prescriptions and motivates respondents to ask their physicians for more information. DTCA, despite the concerns, has been reported to have beneficial effects. The results of our study show that Hispanics report these effects greater than Whites. Similarly, Hispanics perceive the educational, lifestyle improvement aspect of DTCA greater than Whites.

Language use was also a significant factor in separating groups. Tables 8 and 9 report the results of ANOVA analyses. Scheffe's Post Hoc tests reveal some of the interesting results are that Hispanics are significantly different with higher scores when it comes to the motivational aspect of DTCA. Spanish speakers (3.94) perceive the educational benefits of DTCA more than English speakers (3.42) and bilinguals (3.12).

LIMITATIONS AND FUTURE RESEARCH

This study was done in Southern USA where Hispanics are primarily from Mexico. It would be advisable to study the attitudes of Hispanics from other countries, for example, Puerto Rico. It is quite possible that one needs to go beyond language and explore country of origin as a socialization variable. While this study did examine demographic factors, it is suggested that other conditions should also be investigated. Some such conditions are (1) whether a person has health insurance, (2) the health status of a respondent and (3) whether a respondent is taking prescription medication. These conditions could influence a person or make them familiar with medications and thus influence their opinions about DTCA.

CONCLUSION

Our research shows that the respondents in this study perceived the motivational potential of DTCA. Respondents reported that viewing DTCA influenced them to ask their doctors for more information. Respondents also perceived the educational potential of DTCA in that viewing these promotions enabled them to better manage their health and make better lifestyle choices. There were some concerns such that respondents reported that DTCA did not communicate the risks of taking the drug, could make viewers think she/he had the disease, viewers could pressure their doctors for the advertised drug or could self-medicate.

Results of the study are encouraging when one considers Hispanic consumers' access to and utilization of health care. Since the Hispanic respondents in the study had generally positive attitudes towards DTCA, one can conjecture that they will be inclined to pay attention to the information from the promotions, become empowered to talk with their doctors about the drugs, the diseases and the management of the diseases. The implications for social marketing and public policy are that DTCA must be designed with the culture of the target group in mind. A major element of culture is language. It is recommended that marketing communications include Spanish and use images and appeals that are in alignment with the culture.

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Jyotsna Mukherji, Texas A&M International University
Ananda Mukherji, Texas A&M International University

APPENDIX

TABLE 1
Characteristics of Respondents

Demographic Variable	Percentage
<i>Gender</i>	
Male	49
Female	51
<i>Age</i>	
21-29	20
30-39	28
40-49	14
Over 50	38
<i>Heritage</i>	
White	12
Hispanic	85
<i>Education Level</i>	
High School	10
Bachelor's degree	66
Graduate degree	24
<i>Income</i>	
Less than \$25,000	03
25,001-50,000	46
50,001-75,000	27
75,001 and up	24
<i>Language use</i>	
English	37.5
Spanish	37.5
Both English and Spanish	25
<i>Medium of exposure to DTC ads</i>	
Television	94.8
Magazine	68.8
Radio	12.5
Newspapers	20.8
Internet	44.8

TABLE 2
Consumer Opinions about Pharmaceutical Drug Advertising

Consumer Opinions	Mean	SD	Percent Agree ^a
I generally pay attention to DTC ads	2.85	1.12	30
TV reminds people to take the medicine, which they would have otherwise forgotten	2.74	1.26	30
Seeing a DTC ad in a magazine or watching it on TV has reminded me to fill my prescription, which I would have otherwise forgotten	2.78	1.26	27
Seeing a DTC ad in a magazine or watching it on TV has made me ask my doctor for more information	3.81	1.15	71
After seeing a DTC ad in a magazine or watching it on TV, people may ask their doctors to write them a prescription	3.38	1.201	49
It is likely that DTC ads make people think they have the disease/condition	3.35	1.36	58
DTC ads cause people to self-medicate	3.18	1.37	49
DTC ads educate me about the disease	3.50	1.25	59
DTC ads inform me about the importance of treating my disease	3.71	1.16	66
DTC ads show me how taking the drug will improve my life	3.54	1.16	59
DTC ads inform more clearly about risks associated with taking these medicines	2.82	1.23	32
DTC ads inform about supportive behaviors through lifestyle changes that could help me manage my health	3.35	2.30	41

Note: ^aThose who selected “agree” (4) or “strongly agree” (5) in response to the statement.

TABLE 3
Cross Tabulation of Heritage and Attention to DTCA

	Yes%	No%	Neutral%
White	15	77	8
Hispanic	34	35	32
Chi-square = 8.320 (2); p=.016			

TABLE 4
Means and F Values for Heritage

	White (n= 24)	Hispanic (n=170)	F-Value
DTC Benefits	2.81	3.69	16.989 (.000)
DTC Effects	2.56	3.22	16.60 (.000)

TABLE 5
Means, Scheffe's Post Hoc Tests and F Values for Language Use ¹

	English _a (n= 66)	Spanish _b (n=68)	Both _c (n=66)	F-Value
DTC Benefits	3.43 _b	3.90 _{ac}	3.40 _b	5.299(.006)
DTC Effects	3.04	3.34	3.08	3.100(.047)

Note: Language Use¹ where a=English, b=Spanish, c=Both

TABLE 6
Means and F Values for Heritage - EFFECT ITEMS

	White (n= 24)	Hispanic (n=170)	F-Value
DTCA Effects - Attention	1.75	2.96	28.882 (.000)
DTCA Effect-Taking Medication	2.17	2.82	6.049 (.015)
DTCA Effect – Filling Prescription	2.17	2.87	6.984 (009)
DTCA Effect – Information from Physician	2.92	3.92	16.951(000)

TABLE 7
Means and F Values for Heritage - BENEFITS ITEMS

	White (n= 24)	Hispanic (n=170)	F-Value
DTCA BENEFITS-Education	2.58	3.62	15.508 (.000)
DTCA BENEFITS-Treating disease	2.92	3.81	13.055 (.000)
DTCA BENEFITS-Risks	2.92	3.62	8.079 (005)

TABLE 8
Means, Scheffe's Post Hoc Tests and F Values for Language¹ - EFFECT ITEMS

	English _a (n= 66)	Spanish _b (n=68)	Both _c (n=66)	F-Value
DTCA Effect-Taking Medication	2.39 _b	3.00 _a	2.82	4.215(.016)
DTCA Effect – Filling Prescription	2.36 _b	3.15 _a	2.82	6.944(.001)
DTCA Effect – Information from Physician	3.58 _b	4.18 _{ac}	3.67 _b	5.589 (.004)
DTCA Effect – Self-medicate	3.21	3.50 _c	2.82 _b	4.314(.015)

Note: Language Use¹ where a=English, b=Spanish, c=Both

TABLE 9
Means, Scheffe's Post Hoc Tests and F Values for Language Use¹ - BENEFITS ITEMS

	English _a (n= 66)	Spanish _b (n=68)	Both _c (n=66)	F-Value
DTCA BENEFITS-Education	3.42 _b	3.94 _{ac}	3.12 _b	7.925(.000)
DTCA BENEFITS-Treating disease	3.39 _b	4.09 _a	3.64	6.506(.002)
DTCA BENEFITS-Risks	2.58 _c	2.74	3.15 _a	3.969 (.020)

Note: Language Use¹ where a=English, b=Spanish, c=Both

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