

*Article*

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**The Boon and Bane of Covert  
Advertising**DOI: 10.47368/ejhc.2023.306  
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CC BY 4.0**Consumer Perceptions of Pharmaceutical  
Companies' Disease-Awareness Websites****Viorela Dan** 

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**Abstract**

When pharmaceutical companies operate disease-awareness websites, they are required to give complete and accurate information to consumers, but at the same time, they are seeking to increase revenue. In most countries, direct-to-consumer advertising for prescription drugs (DTCA) is prohibited; thus, such websites are among the few means by which pharmaceutical companies can communicate directly with consumers. Yet, our understanding of consumers' perceptions of such websites remains limited, especially in contexts where DTCA is disallowed. This research attempted to elucidate this issue via a qualitative mixed methods study, including an intervention, tasks, think-alouds, and open questions with German consumers ( $N = 46$ ). Our results indicated that consumers' evaluations of a stimulus website about premature ejaculation, which were largely positive at first, changed when people became aware that it was operated by a pharmaceutical company. While respondents were cognisant of most or all the treatment options for the medical condition that were presented on the website, they were most aware of the availability of a prescription drug. Most were able to find out the name of that drug, which was not mentioned on the website, within minutes. We concluded that this form of covert advertising is best characterised as a double-edged sword.

**Keywords**

Consumer perceptions, disease-awareness websites, covert advertising, pharmaceutical companies, persuasion knowledge.

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In most places around the world, pharmaceutical companies are not allowed to advertise their most profitable products—prescription (Rx) drugs—directly to consumers. Even in the few countries where it is allowed, United States and New Zealand, direct-to-consumer advertising (DTCA) cannot simply address drug benefits; it must also include information on drug risks and side effects (Dan, 2022). This sets pharmaceutical companies apart from most businesses because their promotional efforts pursue a dual focus: On the one hand, they seek to increase revenue; on the other, they are required to provide information to consumers. Of the communication efforts of pharmaceutical companies, disease-awareness advertising (DAA) most clearly illustrates this dual goal.<sup>1</sup> The umbrella term DAA covers a multitude of efforts to make consumers cognisant of diseases and medical conditions, as well as the availability of treatments (Hall et al., 2011). The latter must occur in general terms, as naming a prescription product or brand is prohibited in this context (Hall et al., 2009).

One of the most comprehensive definitions to date describes DAA as “the promotion of a disease or human health condition ... [which is] commonly sponsored by pharmaceutical companies that manufacture a prescription-only medicine designed to treat or prevent that condition or disease” (Hall et al., 2009, p. 1). Critics resort to more narrow definitions, arguing that DAA represents “condition branding” (Banerjee & Dash, 2018, p. 135) and “disease mongering”<sup>2</sup> (Moynihan et al., 2002, p. 886), being yet another tool in the box of those wanting “to sell a disease” by pathologising normal bodily processes, by exaggerating prevalence rates to increase perceived susceptibility, and by overstating drug benefits and downplaying risks (Schwartz & Woloshin, 2013).

The present research is devoted to the study of consumer perceptions of disease-awareness websites<sup>3</sup> operated or sponsored by pharmaceutical companies. Such websites constitute a specific type of DAA — alongside other channels and formats, including print, television, and social media (Hall et al., 2009; Leonardo Alves et al., 2018). Previous studies mostly defined awareness websites as internet sites providing information about a disease or medical condition (for which the sponsor/operator manufactures a treatment) without explicitly mentioning or promoting a particular drug brand (Hall et al., 2011; Huh & Shin, 2015). Besins Healthcare for instance, a manufacturer of a wide spectrum of hormonal drugs, operates [www.mannvital.de](http://www.mannvital.de), an awareness website targeting men with information about testosterone, potency, fertility, and prostate-related issues.

The goal of the present study was to understand consumers’ perceptions of awareness websites in Germany, a country where DTCA is prohibited but DAA is thriving. Reported here is a qualitative mixed methods study guided by the persuasion knowledge model (PKM; Friestad & Wright, 1994). In total, 46 German consumers participated in an intervention, solved tasks, engaged in a think-aloud procedure, and answered questions. These methods generated insights into (1) how consumers evaluate a typical awareness website at first sight, (2) how, if at all, these first impressions change upon realising that the website was operated by a pharmaceutical company (thus following the activation of persuasion knowledge), (3) whether all treatment options mentioned on the website register with participants or just the prescription medication presented as a quick fix, and (4) whether consumers are able to discover the name of the drug manufactured by the website operator.

## Disease Awareness Advertising Where Direct Advertising is Prohibited

DAA represents the industry's response to the near-worldwide ban on DTCA, and as such, it is used most in jurisdictions where DTCA is prohibited (Mintzes, 2006). DAA is routinely described as rather common around the world (Hall et al., 2009; Leonardo Alves et al., 2014). In Germany, where DTCA is prohibited,<sup>4</sup> DAA is flourishing as one of the few means at the disposal of Rx drug manufacturers to reach out to consumers. While pharma associations elsewhere provide comprehensive lists of awareness websites,<sup>5</sup> we were unable to locate such lists for Germany, despite intensive searches.

Our online search in preparation for this study suggested however that German internet users have a fair chance of coming across such websites when searching for information about diseases and medical conditions, especially for those related to (male) sexuality. According to the literature, such sexuality- and gender-specific issues lend themselves to vigorous marketing efforts (see Dan & Pauer, 2021; Hall et al., 2009). For instance, ads for an erectile dysfunction product or for those on genital herpes were common in a content analysis of Australian women's magazines (Hall et al., 2009).

Next to the already-mentioned [www.mannvital.de](http://www.mannvital.de) (Besins Healthcare) and [www.spaeterkommen.de](http://www.spaeterkommen.de) (Berlin Chemie AG), the website focused on premature ejaculation used as a stimulus in this study, our search quickly revealed numerous others, including a website dedicated to erectile dysfunction ([www.hilfe-bei-erektionsproblemen.de](http://www.hilfe-bei-erektionsproblemen.de) by Coloplast) and one devoted to HPV ([www.entschiedengegenkrebs.de](http://www.entschiedengegenkrebs.de) by Merck). These and the other websites identified in this search all fit the description of awareness websites in the literature (reviewed in the next section). Specifically, these websites contained information about the medical condition at hand and treatment options but were also characterised by a tendency to camouflage information about website ownership, to exaggerate prevalence rates, and to emphasise medical over non-medical solutions. Moreover, all of them were operated by pharmaceutical companies holding a (near) monopoly status for the condition advertised, making their prescription drugs easily identifiable.

Of the plethora of countries in which DAA thrives, Germany was selected because, on account of its economic strength and it being the most populous EU country, Germany represents a major market for pharmaceutical companies. Furthermore, websites in German, one of the most-spoken languages in the EU, are also accessible to German-speaking consumers elsewhere, especially in Austria and Switzerland.

## Consumers' Perceptions of Awareness Websites

Consumers' perceptions of awareness websites depend primarily on whether they are deemed trustworthy or not (Huh & Shin, 2009, 2014). Generally, the pharmaceutical industry scores low on trust (Edelman, 2019), but website operators do have the opportunity to elevate trust through trust cues, for instance by providing accurate and helpful information and by being transparent about ownership (Huh & Shin, 2014).

Evidence suggests, on the one hand, that consumers can draw benefits from these websites, as they do provide helpful information (Griffiths & Christensen, 2000). Indeed, scholars point out that consumers appreciate websites as they can yield beneficial outcomes (see Hall & Jones, 2008; Wymer, 2010). On the other hand, accuracy has been a matter of concern, for two reasons: (1) emphasising prescription medication as a quick fix; (2) exaggerating prevalence

rates. First, previous studies found that the treatment options addressed fail to include non-medication strategies or describe them as insufficient (Griffiths et al., 2002; Leonardo Alves et al., 2014; Macias & Lewis, 2003, 2005). This has been frowned upon as it was shown to lead to an increased demand for prescription medication, especially among the older and less educated (Hall et al., 2009; Hall et al., 2011; Jong et al., 2004). For instance, in the United States, exposure to a LowT (low testosterone) awareness campaign was associated with increased rates of testosterone testing, treatment initiation, and treatment without prior testing (Mintzes, 2018). Second, exaggerated prevalence rates are very common (Hall et al., 2009; Leonardo Alves et al., 2018; Mintzes, 2006; Moynihan & Cassels, 2006). For instance, awareness campaigns for LowT claimed that 20% of men over 50 have low testosterone, whereas data suggest that only 2.1% of men are affected (Mintzes, 2018).

The literature reviewed thus far prepared the stage for our first research question:

*RQ1*: How do consumers evaluate a disease awareness website at first sight?

To ask about an evaluation “at first sight”, as done in RQ1, already implies our interest in whether perceptions change when consumers look closely at an awareness website. Indeed, previous studies generated two crucial findings that informed our work. First, it was reported that awareness websites tend to lack information about website ownership or to camouflage it (Griffiths et al., 2002; Leonardo Alves et al., 2014; Macias & Lewis, 2003, 2005). This matters because consumers generally understand that the purpose of advertising is to generate revenue for the entity that has commissioned it (Huh & Shin, 2015). Thus, overt, conventional ads are likely to be approached with scepticism (Diehl et al., 2007; Friestad & Wright, 1994). But in the absence of the knowledge that one is being exposed to a promotional message, covert advertising may catch consumers unawares. Second, the available literature clarified that awareness websites operated by NGOs/NPOs or those co-sponsored by NGOs/NPOs are considered more trustworthy than those run by the pharmaceutical industry, and the former are perceived as more trustworthy than branded drug websites (Banerjee & Dash, 2018; DeLorme et al., 2011; Hall et al. 2011; Hammond, 1987; Hayley, 1996; Huh & Shin, 2015; Sullivan et al., 2016).

We propose that the mechanism behind this response can be explained by the persuasion knowledge model (PKM; Friestad & Wright, 1994), which claims that consumers are aware of the persuasion tactics through which advertisers try to persuade them to purchase a product and that they activate this persuasion knowledge as a defence mechanism when they realise that the message at hand is promotional in nature (Friestad & Wright, 1994). It follows that a persuasion attempt must be recognised to be resisted (Eagly et al., 1978), and the available evidence clearly suggests that overt advertising triggers persuasion knowledge activation more than covert advertising does, whether in the form of native advertising, product placements, advertorials, or awareness websites (Huh & Shin, 2015; Wojdyski & Evans, 2020). Moreover, realising that a message that seemed inconspicuous was in fact pursuing a selling goal has been shown to lead to more negative evaluations of that message (DeAndrea & Vendemia, 2016; Sabour et al., 2016; Wojdyski & Evans, 2016). Put differently, concealing ownership of awareness websites means obscuring selling intent, with the result that consumers’ persuasion knowledge is less likely to be activated (Griffiths et al., 2002; Huh & Shin, 2015). Becoming cognisant of website ownership information thus stands a good chance to affect consumers’ evaluation of awareness websites (DeLorme et al., 2011; Huh & Shin, 2015). This allowed us to formulate the following research question:

*RQ2:* How, if at all, does becoming aware that the website is operated by a pharmaceutical company alter consumers' views?

In line with the literature reviewed above concerning the tendency to describe treatment options in a way that presents prescription medication as a quick fix (Griffiths et al., 2002; Hall et al., 2009; Hall et al., 2011; Jong et al., 2004; Leonardo Alves et al., 2014; Macias & Lewis, 2003, 2005;), we were also interested in determining whether this imbalance was consequential.

*RQ3:* Are consumers equally aware of all treatment options mentioned on the stimulus website?

Finally, given that DAA is only allowed under the condition that it does not mention, directly or indirectly, a specific drug or brand (Hall et al., 2011; Huh & Shin, 2015), we were interested in determining whether the information provided on an awareness website may suffice to circumvent this regulation. We asked:

*RQ4:* Are consumers able to discover the name of the drug manufactured by the website operator?

## Methods

We conducted a qualitative mixed methods study, including an intervention, tasks, think-aloud protocols, and open questions ( $N = 46$ ). This combination of methods was intended to capture people's perceptions of a disease awareness website and the way they interacted with it. The intervention consisted of presenting participants to a scenario which required them to imagine that, in the process of trying to help a friend in need, they engaged in an online search and encountered the awareness website used as a stimulus. In total, participants completed four time-limited<sup>6</sup> tasks: three general browsing tasks and one item-search task (Vigilante & Wogalter, 2005). The tasks, described below in depth, involved interaction with the stimulus website and allowed us to observe actual browsing behaviour in a way that would not have been possible to record simply by asking questions. Think-aloud protocols are unobtrusive and particularly useful in studies that involve problem solving (Coleman et al., 2008), such as the tasks in this study. Here, they were used to observe the knowledge people activated and how they processed the messages disseminated on the website (Shapiro, 1994). The open questions, described below, were asked after performing each of the tasks.

*Table 1.* Sociodemographic Information of Study Participants

Age	Gender	
	Male	Female
18–29	5	4
30–39	3	4
40–49	4	4
50–59	3	4
60–69	3	4
70 and above	3	5
Total	21	25

## *Participants*

In total, 46 individuals took part in this study. This was a convenience sample recruited through the extended social networks of the authors. While the sample was diverse in terms of age and gender (Table 1), socio-economic backgrounds, education and health/digital literacy levels may have been rather homogeneous. None of the participants were aware of the existence of the stimulus website before participating in this study. As none of the authors' affiliations had an institutional review board at the time of research, ethics approval was not sought.

## *Stimulus*

The stimulus was a live awareness website that is now offline (see screenshots in Figure A1 in the Appendix). Since the stimulus was not designed by the researchers, but rather represented a genuine awareness website, it was not pretested. Rather, we selected a website that was representative of the awareness-website landscape in Germany. The website contained information about premature ejaculation and how it can be treated, but camouflaged information about website ownership, exaggerated prevalence rates, and emphasised medical over non-medical solutions.

The stimulus website dealt with a medical condition people might be reticent to discuss with their doctors: premature ejaculation. Those affected by premature ejaculation are likely to turn to the internet before or instead of going to the doctor, perhaps more so than for conditions that are not taboo (see Berger et al., 2005; Dan & Pauer, 2021; Waling et al., 2022). Importantly, conditions related to sexual performance are subject to overdiagnosis (Doran & Henry, 2008). The domain's name, [www.spaeterkommen.de](http://www.spaeterkommen.de), is a play on words: Its literal translation is "arriving late," but it can also mean lasting longer during sex.

The website was operated by Berlin Chemie AG, a German pharmaceutical company. Information on the identity of the website operator (i.e., Berlin Chemie AG) was given on the website in the copyright notice but not revealed explicitly. This company manufactures Priligy, the only drug available in Germany for treating premature ejaculation in men, where "premature" means less than 2 minutes. This means that this company holds a monopoly within the treatment category, making it the direct and only beneficiary of DAA in Germany for this condition (see Huh & Shin, 2015). Priligy is an Rx antidepressant administered on demand before anticipated sexual activity. Its active ingredient, dapoxetine hydrochloride, prevents neuronal serotonin reuptake, thereby delaying or even suspending ejaculation (Electronic Medicines Compendium, 2020).

The website consisted primarily of text and still photos in full colour; it also contained video statements from medical doctors (see Dan, 2019). The website offered a lengthy introduction to premature ejaculation, and it presented the three following treatment options: therapy, manual techniques performed during intercourse, and an unnamed prescription drug. Therapy was described as potentially tedious, whereas manual techniques were characterised as possibly straining on the partner, as found in content analyses of other awareness websites (Griffiths et al., 2002; Macias & Lewis, 2003, 2005). By contrast, the unnamed drug was presented as an easy fix. Moreover, the information on the three solutions was not balanced. Instead, that on the prescription drug was presented first and in most depth; also, the drug was the only treatment option presented as effective. The website section describing these therapy options used a plain font throughout except for the following disclaimer, which was given in bold face:

“Unfortunately, due to legal requirements, we are not allowed to provide further information about prescription drugs” (see Figure A1).

### *Procedure*

Data were collected face-to-face and one-on-one by one of the authors and a research assistant in October and November 2019. Several training sessions were conducted to ensure a smooth data-collection process. We practiced ways to approach individuals to recruit them for the study, ways to communicate about the topic of the website, and ways to deal with disruptive or personal comments we might be receiving. In addition, we discussed various ways in which to introduce the website and the tasks, to explain what thinking-aloud entails and how to phrase the (open) questions. In the end, we agreed upon specific phrases which we used consistently, while leaving room for the conversation to flow naturally.

A dry run of the entire procedure for data collection was acted out with two consumers recruited from the personal networks of the authors. We tested the understandability of questions and instructions next to data collectors’ ability to record all relevant information despite distraction (e.g., off-topic comments). This brought about revisions in the phrasing of questions and instructions, as well as an additional training session following the identification of uncomfortable situations (e.g., personal questions by participants).

To keep the project manageable, data were collected in an omnibus context, meaning that participants also took part in another study (i.e., Dan & Rauter, 2021). This separate study dealt with a different topic, journalism, and was of similar length. Participants took part in the two studies in no particular order. On average, they took 30 minutes to complete each of the two studies, including a break in between, in which snacks were offered to the participants. They were not remunerated.

Upon being provided with information on the purpose of the study, described as evaluating a website dealing with premature ejaculation, the participants offered informed consent. They were informed that the study would be anonymous and that they could quit at any point without negative consequences. They were reassured that no previous knowledge was required for participation and that there were no wrong answers. Moreover, we explained that the study did not deal with premature ejaculation as such and thus that no intimate questions would be asked. Next, the participants performed the tasks and answered the questions described below. Whenever the answers were ambiguous or very concise, we used follow-up questions and probes to tease out details. Copious notes were taken throughout, leading to near-verbatim transcripts of the participants’ answers and actions. Participants were observed while performing the tasks, and the thoughts they voiced in the meantime were noted (i.e., think-aloud). Finally, participants were offered the opportunity to make comments and ask questions, debriefed on the purpose of the study, thanked, and dismissed.

To facilitate data collection, a guide was created. It included questions to be asked and specific instructions for data collectors, including how to record informed consent, how to record the thoughts voiced, and when to interrupt a task.

### *Scenario, Task Description, and Questions*

The study began with a description of the following scenario, intended to heighten the participants’ involvement. They were asked to imagine that they had a friend who came to them seeking advice on problems related to sexual performance, specifically, premature ejaculation.

They were asked to imagine further that, in an attempt to help this friend, they went online to seek information and encountered the stimulus website.

In Task 1, a general browsing task, participants were asked to navigate the website at their own pace and voice their thoughts while doing so. The navigation was interrupted after 5 minutes. Then, participants were asked about their thoughts about the website (at a time at which none of them was aware that the website was pharma-operated). This task was kept open on purpose, such that we gave no direction for the thoughts to be voiced. Thus, rather than telling participants to focus on content, design, or other aspects, we encouraged them navigate the website as they normally would. Task 1 was designed to collect data relevant for answering RQ1.

Task 2 was an item-search task that asked participants to find a specific piece of information. Here, participants were requested to try to find out who operated the website using whatever means they deemed appropriate (e.g., searching the website, the internet). Participants were interrupted after 2 minutes, regardless of the success of their efforts. The website operator and its field of activity were revealed to those unable to find it out independently (2 out of 46). Once this task was completed, all participants knew that Berlin Chemie AG operated the website and that this was a pharmaceutical company manufacturing the only drug on the market for treating premature ejaculation. Thereafter, participants were asked whether this new insight affected their evaluation of the website in any way. Next, they were asked to state whether they felt that “covert advertising” or “disease awareness” was the more appropriate characterisation. Task 2 and the follow-up open question were designed to collect data relevant for answering RQ2.

Task 3 was a general browsing task. Here, participants were asked to become acquainted with the treatment options for premature ejaculation, as described on the website, to give some advice to their friend. Subsequently, they were asked to list the treatment options available according to the website. Task 3 and the follow-up open question were designed to collect data relevant for answering RQ3.

After answering this question, it was conveyed to them that we were particularly interested in treatment with an Rx drug. Participants were asked to imagine that the friend had already tried therapy and manual techniques but none of the remedies had helped. Hence, in the last task, Task 4, again a general browsing task, participants were asked to check the website (or the internet) for hints on a specific drug they could recommend to their friend to talk to their doctor about. This task was motivated by earlier research findings suggesting that people engage in online searches upon exposure to promotional messages deemed trustworthy (Chesnes & Jin, 2019). Task 4 and the follow-up open question were designed to collect data relevant for answering RQ4.

### *Data Analysis*

The data analysis was conducted based on the transcripts employing consensus coding (Schreier, 2012). We began by individually coding each transcript, recording justifications for coding decisions, and paraphrasing the main points of the participants’ views for future reference. Then, in subsequent meetings, we compared our coding of each transcript to reveal potential contradictions in the way we had classified participants’ answers and discussed differences in coding. Given the straightforward nature of our procedure and the extensive training, disagreements were rare. To settle them, we took the following steps: Each of us



presented a reasoning for her coding decision, which we discussed at length. This allowed us to relate to each other's coding decisions and to re-examine original coding decisions. In this way, all differences could be solved by consensus. At the end of this analysis step, we had a set of codes and a skimmed version of each interview transcript, with paraphrases for each aspect of interest. Catchy phrases were marked for use in the Results section.

## Results

### *Website Evaluation at First Sight*

Initially, 32 participants judged the website as informative, while 14 said the website conveyed the impression that the operator was trying to sell something to them.

The statements categorised as pointing to an informative website included the following: "Well, if I had this problem, I'd think the website was good. It even seems to give information about what you can do, lots of information, including a self-test and suggestions on how to talk about it with your doctor" (ID 11) and "For those affected, it is certainly helpful. If one needs more information on the topic, this seems to be the place to go to get it, assuming that one doesn't want to go see a doctor right away" (ID 21). By contrast, sample quotations evaluating the website as part of promotional efforts included the following: "Is this part of a marketing campaign?" (ID 22) and "They are trying to promote the condition and its treatment" (ID 16).

Some participants justified their opinions with reference to the appearance of the website. However, the results on this matter were inconclusive: Of those categorising the website as informative, nine stated that the website design (perceived as high quality) contributed to this impression, whereas five explained that they considered the website to be informative despite what they perceived as poor design. This is evident in comparing the following quotations: "It's important that such resources are available. Because I reckon many people would be too embarrassed to talk about this with their doctors. The website is very open and well-structured" (ID 38) versus "The navigation menu is not that great, and the images are poorly chosen. The use of red makes me think of something else, of a website wanting to recruit blood donors. But I guess it's informative. It's just that the pictures are very trashy, like from a bad TV guide or something" (ID 12). Among those who assumed that there were profit-driven motives behind the website, five suggested that it was untrustworthy because of the poor design: "It looks fake to me. Is this website even real?" (ID 5). The remaining participants did not comment on the design of the website.

In response to RQ1, it appears that consumers evaluate an awareness website rather positively when unaware that it is operated by a pharmaceutical company.

### *Website Evaluation on Realising That it Was Pharma-Operated*

RQ2 asked whether people's evaluation of the website would be altered by finding out that a pharmaceutical company operated it (which 44 of 46 participants were able to find out independently by browsing the website). Here, the analysis revealed a dramatic change (Figure 1): Of the 32 participants who had initially considered the website informative, 22 changed their minds upon identifying the operator. Some example quotations are as follows: "This sure alters my opinion of the website. Well, they are trying to sell me a drug. This is covert advertising" (ID 1); "Um, I know I said it was rather informative at first, but now that I realise that a company is pursuing financial interests through it, I see this differently" (ID 7); "Oh,

what a scam! One could get the impression that they are trying to raise awareness and that they care about those affected. And now this... Yet another deceptive pharmaceutical company trying to sell drugs” (ID 14); and “I think this should have been mentioned more clearly on the website. Oh my, this doesn’t seem trustworthy at all” (ID 32).

Ten participants maintained their position that the website was still informative. Sample quotations are as follows: “This doesn’t change anything for me. This website remains informative” (ID 4); “Well, companies have to sell their drugs one way or another. Apparently, that’s how this company sells theirs” (ID 37); and “It’s still informative. Look, there is a service hotline. There, one can get even more information than given on the website. And I don’t see a specific drug mentioned anywhere on the website” (ID 43).

The situation became somewhat blurred when participants were explicitly asked to characterise the website as covert advertising or disease awareness (Figure 1). While more participants opted for covert advertising, nearly as many said that the website was best described as an awareness website (22 vs. 18). A comparison of the following quotations illustrates this point: “I think this is advertising, they are trying to sell me something and use the website to spread the word” (ID 5) versus “I don’t think it’s advertising but rather disease awareness. Very much so” (ID 10). Three participants had trouble deciding between the two; one commented, “I would say it is informative, but of course, it’s also a covert ad. Well hidden” (ID 32). The other three felt that the website was neither advertising nor an effort to improve disease awareness, as illustrated in the following: “Well, it’s definitely not informative, perhaps this is what they were going for, but I don’t think they’ve succeeded. But since I don’t see an ad for a specific drug, I wouldn’t say it’s advertising either” (ID 15).

In response to RQ2, the findings presented above indicate that becoming aware that the website was operated by a pharmaceutical company dramatically altered consumers’ evaluation. Specifically, this piece of information caused 22 participants to update their views such that the website was no longer perceived to be informative.

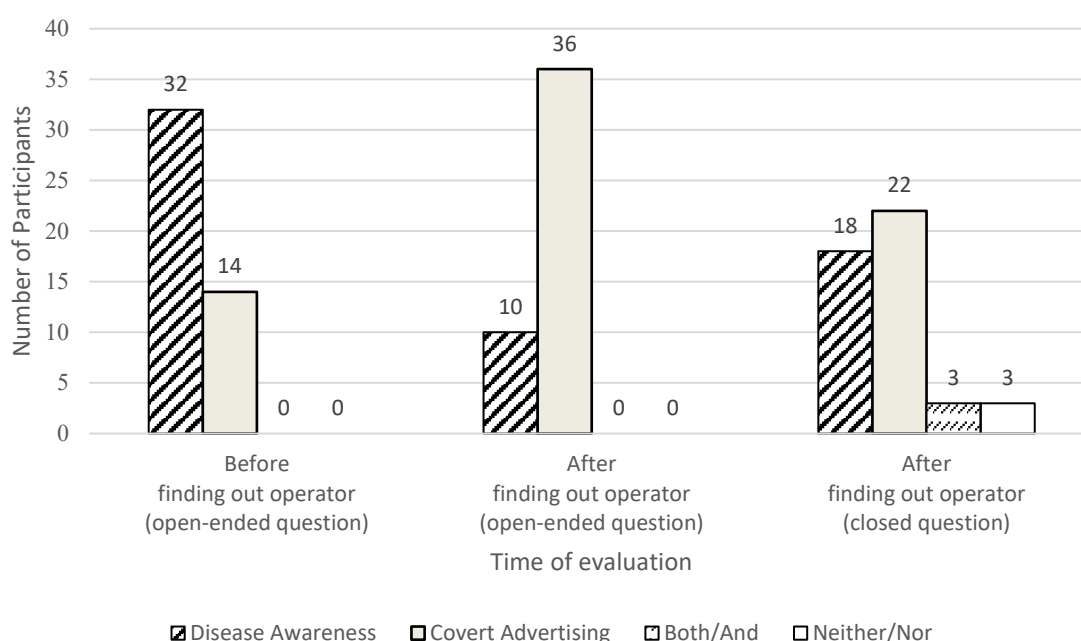


Figure 1. Evaluation of a Disease-Awareness Website Operated by a Pharmaceutical Company

### *Awareness of Revenue-Relevant Information*

RQ3 asked whether participants acknowledged all treatment options mentioned on the website equally. Most participants (35 of 46) were aware of all three treatment options mentioned on the website, for instance, “They say that this condition can be treated through sex therapy (which I assume would be done by a doctor), pills (though it doesn’t say which), and alternative techniques like pulling out or stuff like that” (ID 11).

We found that almost everyone (45 out of 46 participants) was aware of the possibility of treating the condition by taking a drug. Most also remembered the other two options mentioned (i.e., 44 remembered that therapy was also an option, and 36 remembered manual techniques). Some participants felt that although the existence of other options was mentioned, taking a pill was emphasised: “They do say that various treatment options exist, but they seem to suggest the drug is the right way to go” (ID 17). Eleven of 46 were unable to list all three options. Of these, one mentioned just drugs, nine listed drugs and therapy, and one remembered drugs and alternatives. Interestingly, those remembering drugs and therapy also felt that drugs were prioritised: “Rx medication. That’s what they seem to refer to in this legal disclaimer. Like there was a drug to treat it, but they weren’t allowed to tell us what it was... Therapy might also be an option, but they barely touch on this” (ID 1).

In light of the findings presented above, RQ3 can be answered as follows. While most participants were aware of all three treatment options mentioned on the website, not all of these options were acknowledged equally. Rather, the possibility of treating the condition by taking a drug was remembered more consistently than therapy and manual techniques.

RQ4 asked whether participants were able to find out the name of the drug manufactured by the website operator based on the information given on the website and an online search. Seven participants reported unease at the thought of recommending a drug to their friend in the absence of medical training, making such comments as, “I would rather send him to see a doctor, but if he insisted, I would google it” (ID 1). Three participants even declined the task, saying, for instance, “I would send him to a doctor. I don’t have any medical training. I can only be there for him if he wants to talk about this” (ID 20).

All those who accepted the task, representing 43 out of 46 participants, were able to find out within 4 minutes, on average, that the drug in question was Priligy. This information was provided to the remaining three participants. In 11 out of 46 cases, the participant’s attention was caught by the legal disclaimer on the inability to provide information on Rx drugs. This suggested to them that they would not find this information on the website, which prompted them to conduct an online search: “Well, the website says they cannot give further information, so I guess I’ll google it?!” (ID 5). During this process, three participants realised that Priligy was, in fact, an antidepressant with serious side effects, which appalled them: “This is insane! There are so many risks and side effects. It says right here. ... The website didn’t mention any of this. This is audacious” (ID 18).

Thus, the analysis pertaining to RQ4 revealed that all participants who accepted the task of trying to find out the name of the drug manufactured by the website operator were able to do so within minutes.

## Discussion

The dual goal inherent in disease awareness websites operated or sponsored by pharmaceutical companies, that is, to increase awareness and revenue, appears to be reflected in people's perceptions of the sites. Like other promotional messages coming from the pharmaceutical industry, awareness websites may be both boon and bane (Wymer, 2010). Indeed, our results indicated that consumers' evaluations of a disease-awareness website, while largely positive at first sight, changed dramatically when participants became aware that a pharmaceutical company operated the website. Despite this shift, when asked to commit to saying that the website could be more suitably characterised as covert advertising or disease awareness, almost equal numbers of study participants chose each of the two options.

The findings confirm and expand existing work. First, they suggest that scholars were right to highlight the duality of disease-awareness websites in their definitions, pointing out both websites' ability to make consumers cognisant of diseases, but also their role in disease mongering (Griffiths & Christensen, 2000; Hall & Jones, 2008; Hall et al., 2011; Moynihan et al., 2002; Wymer, 2010). Furthermore, our findings testify to the importance of trust in evaluating awareness websites. As indicated by Huh and Shin (2014), participants in our study also tended to sanction the website operator for camouflaging ownership information and for presenting treatment options in an unbalanced and less-than-accurate fashion. Taken together, such practices are unlikely to help redress the low levels of trust experienced by the pharmaceutical industry (Edelman, 2019; Griffiths et al., 2002; Hall et al., 2009, 2011; Jong et al., 2004; Leonardo Alves et al., 2014; Macias & Lewis, 2003, 2005; Mintzes, 2006, 2018; Moynihan & Cassels, 2006).

Another theoretical implication of this study concerns the persuasion knowledge model (Friestad & Wright, 1994). One potential way to continue this line of work would be by expanding the model to include ways in which strategists attempt to circumvent the activation of persuasion knowledge. While such attempts are widespread in the practice of communication (Huh & Shin, 2015; Wojdyski & Evans, 2020), theory-building seems to be lagging behind. Like other studies on source transparency, the present research suggests that messages are evaluated more positively when consumers assume that operators are non-profit rather than for-profit (DeLorme et al., 2011; Huh & Shin, 2015). To our knowledge, this is the first study to suggest this for awareness websites. We assume that such changes of heart are attributable to the activation of persuasion knowledge (Friestad & Wright, 1994). Indeed, earlier studies indicated that realising persuasive intent after none was initially assumed has the effect of detracting from people's positive evaluations of messages (DeAndrea & Vendemia, 2016; Sabour et al., 2016; Wojdyski & Evans, 2016). Future studies could test other ways to signal to consumers that the website operator might not have an impartial stance toward the information provided (e.g., a pop-up disclaimer) and seek to determine whether this causes similar changes of heart to those described here.

From a practical perspective, the results reveal the drawbacks of prohibiting DTCA, notwithstanding the plentiful benefits of this decision (Dan, 2022). This is because recognising persuasive intent in awareness websites seems to be more difficult than it is in DTCA; moreover, awareness websites are devoid of information on drug risks and side effects. In the worse-case scenario, then, consumers are exposed to the alleged benefits of prescription drugs (whose names they are able to find within minutes) but do not receive any disclosure

information. They will not have their guard up, and this might make them more willing to uncritically accept the information provided without doing more research.

It is important to stress that participants were not entirely turned off when they realised the identity of the website operator, and some granted that navigating through the website conveyed new information to them. This suggests that even an imperfect website can yield positive outcomes, as others have pointed out (see Griffiths & Christensen, 2000; Hall & Jones, 2008; Wymer, 2010). It could be that not all thoughts people mention when asked an open-ended question are given the same weight in their summative evaluations (required for answering closed questions). Yet, this mismatch between participants' answers to the open-ended and closed-ended questions is puzzling. Perhaps consumers' spontaneous reaction to being put off by uncovering a covert persuasive attempt evens out after coming to terms with the initial shock/disappointment, with people realising that they had still drawn some benefit from the website.

Another finding worth discussing is that most study participants could remember two or all three treatment options mentioned on the website. This is the upside of disease awareness websites: Assuming that the medical condition dealt with is serious yet often undiagnosed, it is a good thing to improve people's awareness of it and the availability of treatment. Yet, all study participants remembered the existence of a prescription drug better than alternatives, and, through an online search, most were easily able to find out the name of the prescription drug manufactured by the pharmaceutical company operating the website. This underlines the financial benefits of investing in awareness websites *and* the downside of awareness websites from a normative standpoint: Since people remember prescription medication better than alternative treatments, there is a risk that consumers will be too eager to resort to prescription medication when alternatives may be the better option, especially for medical conditions associated with taboos and shame (Berger et al., 2005; Dan & Pauer, 2021; Waling et al., 2022). Moreover, this finding also suggests that disease awareness websites can circumvent the ban on DTCA where one exists. At the same time, it is arguably not the purpose of the ban to hide information from consumers who are actively seeking it, and pharmaceutical companies are not responsible for users being savvy enough to find the name of the drug.

In light of the findings, one may wonder how regulators could respond. At very least, they could stipulate that a pop-up window or other prominent disclaimer on the identity of the website operator/sponsor must be shown to consumers when they reach the website. More sweeping regulation could involve having these websites reviewed and certified through a third-party review by an independent authority or scientific funding body (see Griffiths et al., 2002). A third potential response would be to delegate the creation of such websites to impartial third parties based on scientific advice and submissions of relevant information by all companies manufacturing a Rx drug relevant to the disease or medical condition at hand. Future studies might find it rewarding to investigate how regulators perceive their role in awareness websites.

### *Limitations*

This research has two main limitations. First, we only collected data on participants' gender and age, which was considered sufficient for a first study devoted to this topic in this context. Nonetheless, future studies would benefit from recording information on participants' education, health literacy, and digital literacy, as these individual characteristics may impact

people's comprehension/perception of a website. In the present study, such characteristics may have prompted differences in participants' ability to acknowledge the treatment options presented. Furthermore, some groups may have been affected by the topic of the website more than others.

Second, we analysed participants' responses to just one website. However, the website was chosen carefully to be representative of the awareness-website landscape in Germany and met the criteria described in past content analyses (i.e., relative prominence of medical treatment, monopoly status). Still, as the prevalence of disease-awareness websites increases, researchers are advised to assess whether the answers to the research questions provided here hold also for websites where no monopoly status exists. Relatedly, studies to come could expand the focus to include other types of DAA beyond websites, perhaps comparing perceptions by format, be that print, television, or social media (Hall et al., 2009; Leonardo Alves et al., 2018).

Third, our study could be criticised as artificial in that people's evaluation of the website was progressively influenced by the tasks we asked them to complete. While we realise that not all people may engage in these tasks in real life (e.g., seek to identify the website operator), our approach was suitable here because we were interested precisely in whether perceptions change as the result of interacting with the website. Future quantitative studies could manipulate this explicitly, for instance using an experimental design. Relatedly, eye-tracking methodology could add more insight to this line work, indicating how much time respondents spend studying the page while also tracking their eye movement.

## Conclusion

This study was among the first to assess the way people perceive awareness websites in a context in which DTCA is prohibited. Consumers' views of the stimulus website were largely positive on first sight, but they deteriorated when the participants realised that the pharmaceutical company operated the website. Specifically, many people's views flipped from perceiving the site's motivation as "promoting disease awareness" to "engaging in covert advertising." Still, consumers extracted potentially valuable information about the medical condition at hand and treatment options that went beyond the drug manufactured by the website operator. This provided impetus for our characterisation of awareness websites as both boon and bane.

## Notes

1. The pharmaceutical industry is not the only one to engage in communication activities designed to elevate people's awareness of diseases and medical conditions. Rather, governments, non-governmental (NGOs) and non-profit organisations (NPOs) also engage in such activities (Hall et al., 2011). For details on the strategic communication of organisations, see Raupp and Dan (2013). For consistency, we use the term DAA throughout this paper. Note however, that terms such as "help-seeking advertising" or "unbranded advertising" are sometimes used synonymously to DAA in the literature (see Hall et al., 2009).

2. Disease mongering has been defined as an effort to widen the “boundaries of treatable illness in order to expand markets for those who profit from treatments” (Moynihan et al., 2002, p. 886).
3. Other terms include “pharmaceutical company–sponsored disease information websites” (Huh & Shin, 2015). While the terms “information” and “awareness” are not synonyms — with the former being needed to accomplish the latter—the various terms used to refer to awareness websites are defined synonymously. Awareness websites must be distinguished from branded drug websites, which are part of companies’ explicit DTCA efforts (see Dan, 2022; Huh & Shin, 2015).
4. Regulations both at the European and national level prohibit DTCA in Germany (HGW, 1994/2001; Sullivan, 2000). By contrast, DAA is allowed, as long as no direct or indirect references to specific medication are made (European Parliament and Council, 2004; Diehl et al., 2007).
5. For instance, Once-Daily Pharma still lists “unbranded websites,” while the Pharmaceutical Research and Manufacturers of America (PhRMA) and the Association of the British Pharmaceutical Industry (ABPI) used to do so until recently (Griffiths et al., 2002).
6. The time-limitations are not stipulated by the method. Rather, they were chosen by the research team to make sure participants do not lose interest and that their thoughts are voiced based on the same benchmark / depth of information processing.

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As no institutional review board existed at the time of research, ethics approval was not sought. All participants provided written informed consent prior to enrolment in the study.

## Conflict of Interest

The authors declare no conflict of interests.

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Conceptualisation (main idea, theory): Viorela Dan

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Methodology (design, operationalisation): Viorela Dan & Sara Mahlmeister

Data collection: Sara Mahlmeister

Data analysis: Viorela Dan & Sara Mahlmeister

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Appendix



Figure A1. Screenshots from the Awareness Website spaeterkommen.de

### Medikamente gegen vorzeitigen Samenerguss

Die aktuellen wissenschaftlichen Erkenntnisse zu den Ursachen der Ejaculatio praecox wurden für die Entwicklung moderner Therapieoptionen genutzt. So gibt es heute verschreibungspflichtige Medikamente in Form von Tabletten, die z.B. die Sensibilität der Körperzellen auf den Botenstoff Serotonin beeinflussen. Die hemmende Wirkung von Serotonin kann dadurch verstärkt und der Samenerguss verzögert werden.



**01 Medikamentöse Behandlung**

Ebenfalls eine häufig von Ärzten und Sexualtherapeuten/-medizinerinnen empfohlene Behandlung ist z.B. das Auftragen von Cremes auf das Bändchen (Frenulum) sowie die Eichel (Glans) des Penis. Die Cremes enthalten Wirkstoffe, die die Sensibilität des Penis reduzieren und somit die Ejakulation verzögern sollen. Nur sind diese lokalen Betäubungsmittel oft schwer zu dosieren. Sie können zur Taubheit der Glans/des Penis und zum kompletten Verlust der Erektion bzw. Ejakulation führen, wenn Sie überdosiert werden. Es besteht auch die Möglichkeit den betäubenden Wirkstoff auf die Partnerin zu übertragen, was die sexuelle Wahrnehmung beeinträchtigen kann und ihren Orgasmus erschwert.

**02**

Ein vergleichbarer Wirkstoff findet sich zum Beispiel auch in der Beschichtung spezieller Kondome.

Ein Arzt kann Sie zu den modernen Therapieoptionen beraten und mit Ihnen gemeinsam entscheiden, welche Behandlung für Sie am besten geeignet ist. Wenn Sie sich für eine medikamentöse Therapie entscheiden, kann diese nur vom Arzt verordnet werden. Die Kosten für die Behandlung werden vom Patienten getragen. Generell wichtig bei der Behandlung der vorzeitigen Ejakulation ist eine weiterführende Betreuung durch den behandelnden Arzt.

**Aufgrund gesetzlicher Bestimmungen können wir Ihnen an dieser Stelle leider keine weiteren Informationen zu verschreibungspflichtigen Arzneimitteln geben.**



### Manuelle Möglichkeiten zur Verzögerung der Ejakulation

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Figure A1 (continued). Screenshots from the Awareness Website spaeterkommen.de