Content analysis of disease awareness advertisements in popular Australian women's magazines

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ABSTRACT

Objective: To examine the nature of disease awareness advertising (DAA).

Design: Therapeutic advertisements in six popular Australian women's magazines were monitored between April 2006 and March 2007. A subset of advertisements was included in the study based on criteria derived from a definition of DAA. Unique advertisements were analysed by four independent coders.

Main outcome measures: Types of advertisements and their sponsors, the types of disease information present, and the persuasive techniques utilised.

Results: Of 711 advertisements identified, 60 met the inclusion criteria for DAA, and 30 of these were unique. Over one-third of the advertisements were classified as "unbranded product advertisements", which promote a product without referring directly to a brand. DAA sponsored by pharmaceutical companies most often provided treatment and prevalence information. Most (22/30) advertisements used emotional appeals; 15 of these used "happiness/healthiness/wellbeing".

Conclusions: The educational value of industry-sponsored DAA could be improved if regulations and guidelines stipulated disease information requirements, such as inclusion of risk-factor and symptom information. Regulators should provide guidelines for "unbranded product advertisements" and the acceptability of other persuasive techniques. Further research into DAA is required and should consider advertisements in a range of media, and behavioural responses.

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In countries where direct-to-consumer advertising (DTCA) of prescription medicine is prohibited, pharmaceutical companies can indirectly promote medicines via disease awareness advertising (DAA).[1,2] DAA typically contains information on a disease and recommends that consumers speak to a doctor for further information. Companies sponsor DAA for conditions for which they manufacture a treatment, and often run concurrent branded advertising campaigns that target general practitioners.[2]

DAA sponsored by pharmaceutical companies may negatively influence consumers, generate unnecessary fear, and create a greater reliance on medications to solve social and behavioural problems.[1,3] DAA has been identified as a form of disease mongering or "widening the boundaries of treatable illness in order to expand markets for those who sell and deliver treatments".[4] DAA is often directed at lifestyle conditions for which there are large, lucrative markets (eg, balding or erectile dysfunction).[5,6] A Dutch study found that a DAA campaign increased disease-related consultations and prescriptions for the advertiser's product for what may be considered an unimportant health issue.[7]

However, DAA can also provide information to help consumers identify symptoms and seek information about and treatment for previously untreated conditions.[8] Advocates consider DAA to be particularly important for diseases that are considerably underdiagnosed (eg, diabetes).

In Australia, advertisers of therapeutic goods are bound by the *Therapeutic Goods Act 1989* (Cwlth) and the Therapeutic Goods Administration (TGA) Therapeutic Goods Advertising Code,[9] which prohibit DTCA. Although the definition and regulation of DAA is not explicit in the current Code, this form of advertising was recognised in a review of the therapeutic goods legislation.[10] The review identified pros and cons of industry DAA, including its potential use as a method of skirting current regulations that prohibit DTCA. It called for the development of a code of practice with clear parameters for DAA, with an aim to increase the potential benefits and decrease the potential disadvantages.[10] The formative Australia New Zealand Therapeutic Products Authority (ANZTPA), which aims to establish a trans-Tasman regulatory scheme for therapeutic products, defined DAA in its draft advertising code.[11] The establishment of ANZTPA, however, faltered in the New Zealand Parliament, and it may not be revisited for some time.

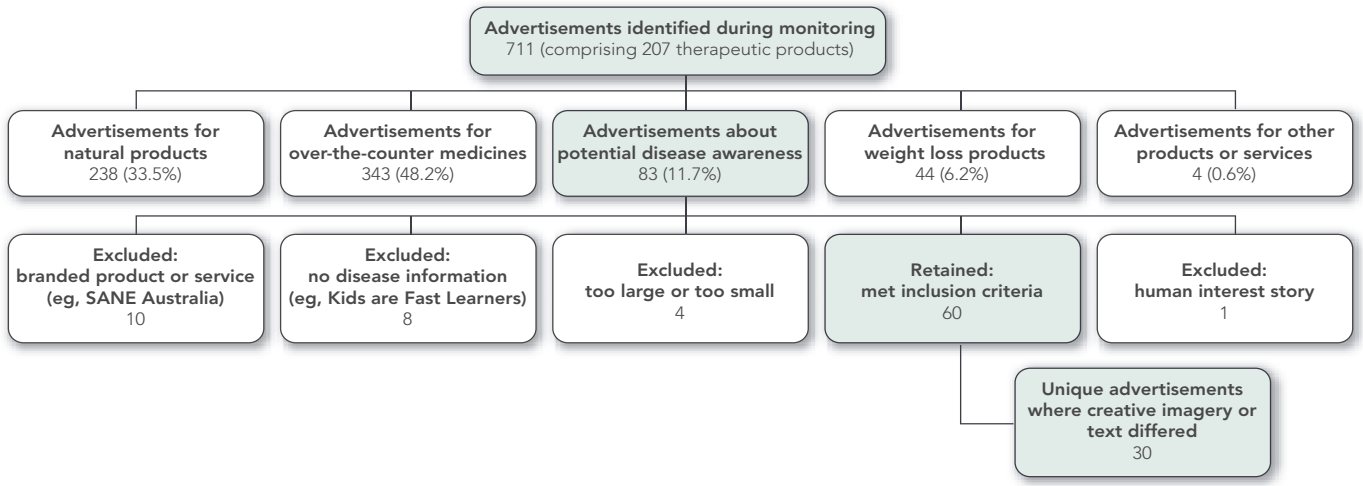
In Australia, pharmaceutical company advertising for prescription medicines, including DAA, currently falls under the jurisdiction of Medicines Australia, a self-regulatory industry body. The Medicines Australia *Code of Conduct* is designed to complement the requirements of the Act and the TGA Code. Although prior approval of advertisements is not required, there is a monitoring committee, and member companies may be required to submit promotional material for review at various times.[12] Section 9.5 of the Medicines Australia *Code of Conduct* (15th edition) allows for "patient education", including advertising or provision of information on medical conditions and the broad range of treatments that may be prescribed by doctors. The Code stipulates that patient education should: be current, accurate, and balanced; not focus on a specific product or treatment; include a statement directing consumers to seek further information about the condition or range of treatments; not encourage patients to seek a prescription for a product; not cause alarm or misunderstanding; and not raise patients' hopes of successful treatment.[12]

We aimed to determine the nature of DAA in popular Australian magazines, including the types of disease information provided and the use of persuasive techniques, in an effort to inform future regulation of pharmaceutical industry DAA.

METHODS

We used content analysis, as this method has been successfully employed in the United States to examine DTCA.[13-15] We chose to study women's magazines, as women have been identified as being more involved in health-related decisions, and studies in the US have indicated a greater incidence of DTCA in women's magazines.[14,15] The two highest-circulating monthly magazines, the three highest-circulating weekly magazines that contained therapeutic advertisements, and the highest-circulating health magazine were selected for the study. Monitoring was conducted from April 2006 to March 2007.

1 Disease awareness advertisements selected from initial sample



Advertisements where the focus was a disease or condition were included for analysis. We used the definitions in the ANZTPA draft advertising code.[11] ANZTPA describes DAA as

> information that aims to raise awareness regarding specific diseases, including public health campaigns, [that] must be factual and balanced, and support consumers in making informed healthcare choices,[11]

and unbranded product advertising as

> promot[ing] the use or supply of product by inviting the consumer to seek further information about symptoms or conditions and/or their treatment or management while not referring overtly to any particular branded product.[11]

Advertisements regarding health behaviours or procedures (eg, domestic violence or eye checks) were not included unless they contained some mention of a disease associated with these behaviours. Advertisements where a branded product or service was promoted (eg, over-the-counter products or government vaccination programs) were excluded. Disease advertisements where a separate but potentially related over-the-counter product advertisement appeared on the same or adjacent page were included, along with the original placement context, but coders were asked to focus on the disease advertisement.

We employed directed content analysis for the study, where categories and codes were derived from relevant theory and prior research.[16] Three coders had qualifications and experience in marketing, and one had medical qualifications and experience as a GP.

2 Magazine source of 60 disease awareness advertisements, April 2006 to March 2007

Magazine	Size*	Circulation	Advertisements
Reader's Digest	154	352 000	22
Good Medicine	162	70 031	11
Woman's Day	496	480 564	8
Australian Women's Weekly	256	605 039	7
New Idea	456	391 388	6
NW	382	176 139	6

NW = New Weekly. * Number of pages per month based on first month of study. ◆

One of us (D V H) facilitated individual training with each coder, as recommended by Kolbe and Burnett.[17]

Coders made decisions on the sponsors, type of disease information provided, target audience, emotional appeal and use of branding techniques. Advertisements were coded for the presence or absence of disease information, but coders did not analyse the accuracy of information. More detailed information regarding the establishment of categories and codes is available from us.

Following the completion of coding, data were entered into a spreadsheet using SPSS, version 15 (SPSS Inc, Chicago, Ill, USA). The level of intercoder agreement was tested using the proportional reduction in loss (PRL) approach, which is suited to qualitative data, particularly where subjective coder judgements are made about marketing and promotional material.[18] The PRL is considered to be, under the assumptions of generalisability theory, an equivalent measure to Cronbach's α.[18] A minimum of 0.7 is considered adequate for exploratory work.

3 Number of times diseases or conditions were advertised in six magazines, April 2006 to March 2007

Disease or condition	No.
Cervical cancer	13
Melanoma or skin cancer	9
Genital herpes	6
Erectile dysfunction	5
Asthma	4
Cramps	4
Multiple sclerosis	4
Skin conditions	2
Nasal congestion	2
Onychomycosis (foot fungal conditions)	2
Prostate problems	2
Whooping cough	2
Arthritis	1
Osteoporosis	1
Bruises	1
Muscle pain	1
Tinnitus and vertigo	1

RESULTS

We identified 711 advertisements for 207 therapeutic products (including over-the-counter and natural products) in the initial monitoring process (Box 1). Initially, 83 advertisements were identified as DAA; however, 23 were excluded as they did not meet

4 Presence of different types of disease information in 30 advertisements in six magazines, April 2006 to March 2007

Disease information type	No. of advertisements where present	PRL reliability score
Treatment	28	0.95
Cause/ aetiology	21	0.87
Symptoms	21	0.98
Prevention	19	0.85
Risk factor(s)	16	0.78
Prevalence	13	0.92

PRL = proportional reduction in loss. ◆

the inclusion criteria (Box 1). The remaining 60 advertisements were analysed for frequency by magazine source (Box 2) and disease or condition advertised (Box 3).

The most frequently advertised conditions were cervical cancer, melanoma or skin cancer, genital herpes, and erectile dysfunction (Box 3). These advertisements were part of larger advertising campaigns that occurred across a range of media during the monitoring period.

Of the 60 advertisements, 30 unique advertisements (ie, with unique text or imagery) were identified, and these were provided to the four coders for analysis. Most advertisements (22) targeted men and women, five targeted women only, and three targeted men only. Adults were targeted in all advertisements — most (21) targeted adults in general, six targeted young adults and three targeted older people.

Advertisement sponsor and type

Of these 30 advertisements, 13 had no identifiable advertiser or sponsor, nine were sponsored by pharmaceutical companies, three by government, three by non-government organisations and two by a combination of advertisers (PRL, 0.97). Most advertisements (19) were classified as DAA, with the remaining 11 classified as unbranded product advertisements (PRL, 0.80).

Analysis of sponsor by advertisement type showed that most unbranded product advertisements (7/11) had no identifiable sponsor. These advertisements could be classified as "advertorials" as they commonly appeared alongside an advertisement for an over-the-counter product. However, four of the nine industry-sponsored advertisements were also classified as unbranded product advertisements.

Disease information

Box 4 shows the number of advertisements where the various types of disease information were present and the reliability scores for each.

The most common form of disease information in advertisements was treatment information, followed by information on the cause or aetiology of the disease/condition as well as symptom information. PRL reliability scores ranged from 0.78 for risk factors to 0.98 for symptoms. Analysis of disease information by sponsor showed that the advertisements sponsored by pharmaceutical companies more often provided prevalence and treatment information, whereas advertisements without identifiable sponsors tended to provide information in all areas apart from prevalence (Box 5).

Persuasive techniques

Emotional appeals (imagery that aroused feelings) were identified in 22 advertisements (PRL, 0.95). Of these, the most commonly used appeal type (of eight possibilities) was happiness/healthiness/wellbeing (15), and the second most common was fear/revulsion/loss (3) (PRL, 0.94). The advertisements containing fear/revulsion/loss appeals were the melanoma and skin cancer advertisements that formed part of an Australian Government advertising campaign.

Thematic analysis of coder responses to the implicit intent of the imagery (the meaning implied by imagery) demonstrated similar themes to the responses for emotional appeal type. An interesting finding was that the imagery in a series of genital herpes advertisements conveyed contradictory messages regarding the prevalence of the condition. Whereas the text stated that "1 in 8" people have genital herpes, the coders felt that the imagery portrayed much higher prevalence levels. For example, one advertisement showed an image of six female symbols, where four were coloured black and two coloured red. The coders agreed that the implicit message was that two in six women have genital herpes.

Coders unanimously agreed that 15 advertisements contained a corporate brand or logo. Fourteen advertisements had other forms of branding present, such as a campaign name, logo or icon, including seven of the nine industry-sponsored advertisements.

Examples of advertisements examined and their characteristics are shown in Box 6.

5 Disease information provided in 30 advertisements in six magazines, April 2006 to March 2007, by sponsor

Disease information type	Government (*n* = 3)	Non-government organisation (*n* = 3)	Pharmaceutical company (*n* = 9)	Combination of sponsors (*n* = 2)	Sponsor not identified (*n* = 13)
Treatment	3	3	7	2	13
Cause/aetiology	3	2	3	0	13
Symptoms	0	2	4	2	13
Prevention	3	1	3	2	10
Risk factor(s)	3	2	2	0	9
Prevalence	3	2	7	0	1

DISCUSSION

Our results indicate that DAA comprises a small proportion of all therapeutic advertising in popular Australian magazines, and is sponsored by industry, government and non-government organisations. Almost half the industry-sponsored advertisements were classified as "unbranded product advertisements", which promote the use or supply of a product without referring directly to a brand.[11] The most common form of disease information in all advertisements was treatment information, and industry-sponsored advertisements more often provided information regarding treatment and prevalence.

These results suggest that a primary objective of industry DAA is to provide information about a treatment in order to sell a product. Although this may appear logical from a marketing viewpoint, consumer advocates are concerned that the public is unaware of the profit motive of DAA.[19,20] Further research is required to determine actual responses, but it is possible that consumers would not recognise the commercial intent of industry DAA, and perceive it to be a community service, similar to government advertisements. A possible solution is more transparent disclosure that the advertiser

6 Examples of four advertisements and their characteristics

Example	Sponsor	Main image	Main text	Category	Disease information	Target audience	Emotional appeal	Branding
1	Bayer Healthcare	Photograph of two bananas side by side, one pointing up and one pointing down	"Erection difficulties? Your doctor can point you in the right direction"	Unbranded product advertisement	Treatment	Men	Humour	Small image from another advertising campaign and flame symbol
2	CSL Laboratories	Photograph of adolescent girl leaving home with a camping rucksack	"You can't stop your daughter from growing up, but you can help protect her from cervical cancer"	Disease awareness advertisement	Cause; prevalence; prevention; treatment	Adults	Happiness/ healthiness/ wellbeing	Text: "guard against cervical cancer"
3	Not identified	Photograph of skeletal spine	"Understanding osteoporosis"	Disease awareness advertisement	Cause; risk factors; prevention; treatment	Older adults	Not present	Not present
4	Australian Government	Photograph of surgeon's hand cutting skin with a scalpel	"Not everyone with melanoma dies, some just go through hell"	Disease awareness advertisement	Cause; risk factors; prevalence; prevention; treatment	Young adults	Fear/ revulsion/ loss	Illustrative symbols; text: "protect yourself in five ways from skin cancer"

makes a product to treat or prevent the condition advertised; however, the use of such a disclosure would require research and testing, as it may act as a form of advertising similar to DTCA, or have other adverse effects.

The results have implications for health professionals, as industry DAA is required to include a statement to encourage patients to "ask their doctor".[12] However, if advertisements focus on treatment and do not include adequate information on risk factors, doctors may spend more valuable consultation time responding to inappropriate requests for treatment and re-educating patients.[21]

Our results suggest that the pharmaceutical industry could improve DAA through the provision of more comprehensive disease information, such as symptom and risk factor information. Medicines Australia could provide more detailed and specific guidelines for DAA, as recommended in a Council of Australian Governments review.[10] Such guidelines are provided by the Medicines and Healthcare products Regulatory Agency in the United Kingdom. The Agency guidelines state that information in DAA should be: accurate; current; substantiated; comprehensive in covering the key characteristics of the disease including identification of the symptoms and risk factors; and balanced such that treatment information is not unduly emphasised.[22] The identification of unbranded product advertisements may also be useful for Medicines Australia for future revisions to their code of conduct, as there is currently no acknowledgement of, or guidelines for, this form of advertising. This differs from the TGA advertising code, which recognises unbranded therapeutic product advertisements in relation to non-prescription medicines.[9]

We found that most industry-sponsored DAA used branding techniques, such as campaign names, logos or symbols. The use of branding techniques has previously been identified in Australian DAA as potentially circumventing the prohibition on DTCA, as companies create a "pseudo brand" that conveys the identity of the product without naming it.[2] As in studies of DTCA in the US,[13,23] the most prominent emotional appeal that we found was positive (happiness/healthiness/wellbeing). An analysis of visual features in DTCA in the US found that advertisements commonly portray models with positive personal characteristics. Consumers may associate prescription drugs with social rewards via observational learning and conclude that "a healthy appearance and active lifestyle is only a prescription away".[23]

Our methodology was based on analyses of DTCA conducted in the US,[24] and in response to draft industry-focused advertising regulation in Australia and New Zealand.[11] Specific codes relevant to non-profit or government advertisements were not devised, and therefore recommendations for these advertisements have not been made. Another limitation of our study is the small sample of unique advertisements that resulted from the monitoring and inclusion process. This prevented statistical analysis and comparisons with content analyses conducted into DTCA.

Although further research into DAA across a range of media is required, as is research into behavioural responses to this form of advertising, we have demonstrated that DAA is present in popular Australian magazines and is sponsored by profit and not-for-profit organisations. Most industry DAA contained treatment information, and almost half were classified as "unbranded product advertisements". Medicines Australia could improve the educational value of industry DAA by providing specific and detailed guidelines to pharmaceutical marketers regarding the presence of different types of disease information, as well as guidelines on the use of persuasive techniques.

COMPETING INTERESTS

None identified.

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