PILOT STUDY ON THE IMPACT OF MEDICINES ADVERTISING ON HEALTHCARE PROFESSIONALS AND PATIENTS

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Abstract

The impact of advertising of medicinal products on healthcare professionals and patients is essential in the context of rational drug use. The hypothesis of this study is that the advertising of medicinal products affects the purchase decision and/or the recommendation of medical professionals and patients. Based on this hypothesis, the aim of the study is to explore attitudes towards drug advertising and the extent of its impact on patients/consumers and healthcare professionals. The study was conducted using the method of "direct anonymous poll" among 87 healthcare professionals (doctors, pharmacists, dentists and health care professionals) and 150 consumers/patients in four Bulgarian cities – Sofia, Plovdiv, Blagoevgrad and Kyustendil within 2012. The results show that patients (57.6% of respondents) have more confidence and are more likely to believe in drug advertising than healthcare specialists (35.6%). Over 82% of the healthcare specialists in Bulgaria admit to recommend/prescribe medicines which have been promoted to them, a little over 73% of patients admit that the advertising of a particular product has incited them to purchase. All this leads to the conclusion of good performance by the advertising of medicinal products on the decision to purchase and / or recommendation of a specific product.

Keywords: *patients, physicians, pharmacists, advertising, medicine, healthcare specialists*

1. INTRODUCTION

Over the past two decades we have seen a constant modernization of everyday life, the introduction of new services and products, the permanent progress in many scientific fields such as medicine and pharmacy. All this is accompanied by a huge flow of information in which advertising plays a central role. (Dimitrov & Salchev 2013)

The word advertising comes from the French réclame (from the Latin “reclamo”) and means - "calling". (Gulenova 2003) It is dissemination in any form or by any means of information about a person, product, idea or initiative that is designed for a specific audience and aims to inspire, form or maintain interest in the persons, goods, ideas and initiatives, so that they can be implemented (to be selected, bought, visited, followed, etc.). The adv begins to play a significant role in the XIX-th and beginning of the XX-th century.

Advertising of medicines is growing rapidly in the past few decades and is now the most prominent type of health communication, common in the public domain. (Greene & Herzberg 2010; Kuehn 2010; DTC marketing mix 2010) There are several studies that show that advertising can influence the purchase decision and/or recommendation of a product. (Kotwal, Neelima & Arjee 2008)

According to the Bulgarian Drug Law advertising of medicinal products is any form of information presentation, promotion or suggestions to stimulate prescription, sale or use of the product and includes advertising to the public, medical professionals, visits of medical sales representatives to healthcare specialists, providing samples of medicinal products, sponsorship of promotional meetings and scientific congresses attended by medical professionals, including the assumption of their travel and stay in the country where the event takes place. (Law on Medicinal Products for Human Use 2007)

Drug advertising can be defined as an attempt (usually through standard media channels) by a

pharmaceutical company to promote their products. (Abel et al. 2006) U.S. and New Zealand are the only countries that allow direct-to-consumer advertisement of prescription only medicines (Rx). (Abel et al. 2006) In most other countries, including Bulgaria, advertising is allowed only for medicines not subject to medical prescription (OTC). There have been numerous unsuccessful attempts to overturn a ban on advertising of Rx products in the European Union. (Humphreys 2009; Nelson 2007) In 2008, 22 of the 27 EU member states voted "against" proposed legislative changes that would allow communication prescription only products directly to patients. (Greene & Kesselheim 2010)

The most commonly used channels for advertising of medicinal products include television, print (magazines, newspapers), radio, Internet and other media (billboards and direct mail). (Abel et al. 2006; Connors 2009) Brochures to be given to health professionals and reach patients may also be included, although they are not direct communication between pharmaceutical companies and patients. (Abel et al. 2006)

In 1980, total expenditure on advertising of medicines is $12 million, 1990 - $47 million, and in 1995, over $340 million, nearly 3000% increase in costs over 15 years. The next ten have seen a serious surge of investment in drug advertising to the general public. In 1998, the advertising budget tripled to $1.2 billion, in 2006 and in 2007 reaching $5 billion. Due to the financial crisis there is little decline in recent years, to $4.5 billion in 2009. (Gebhart 2009; Greene & Herzberg 2010; DTC marketing mix 2010)

In Bulgaria advertising to the public and advertising campaigns under the Law can be distributed/carried out only after obtaining permission from the Executive Director of the Bulgarian Drug Agency (BDA). (Ordinance № 1 2012)

The number of ads approved by BDA, is steadily increasing in recent years. In 2008, 276 ads of medicinal products were approved, in 2009 – 318; 2010 – 620; 2011 – 557, the scheme has been modified and now subject to authorization is only advertising of OTC medicinal products to the public. Dominant is print advertising, followed by television and audio ads. (Annual report of the Bulgarian Drug Agency for 2011)

In recent years the Internet has become a leading source of information on medicines. (Vekov et al. 2012) Online marketing is becoming more popular, allowing pharmaceutical companies to reach millions of potential patients. Although the majority of the advertising budgets are still allocated to traditional media (television, newspapers, magazines, radio), companies have begun shifting promotional costs to e-marketing – websites, online banner advertising, marketing for online search, social media campaigns and mobile advertising. (Greene & Kesselheim 2010; Liang & Mackey 2011)

The European Parliament rejected the idea of advertising of medicinal products in the electronic media. (Ventola 2011) According to Catherine Stiller, a spokesman for the European Parliament, it is dangerous to go to the American model of mass advertising "wonderful" drugs. These prohibitions do not apply to the advertising of medicines available without prescription.

2. PURPOSE AND OBJECTIVES OF THE STUDY

The influence of advertising of medicinal products to healthcare professionals and patients is essential in the context of rational drug use.

The hypothesis of this study is that advertising of medicinal products influences prescription and dispensing by medical professionals and purchase by the patients. Based on this hypothesis, the aim of this study was to explore the attitude towards medicinal products advertising and the extent of its impact on patients/consumers and the prescribing habits of the healthcare professionals.

For the purpose the following tasks were implemented:

- study the degree of perception and impact on patients and healthcare professionals of the advertising of medicinal products.
- exploring the ethical aspects and attitudes of patients and health professionals on the advertising of medicinal products.

- research and analysis of the impact of advertising in the choice of medicine for patients and health care professionals.
- survey of the attitudes of medical professionals to the possibility of direct advertising of medicinal products to patients.

3. MATERIALS AND METHODS

3. 1. Inquiry method.

The study was conducted using the method of "direct anonymous questionnaire". The questionnaires were divided into two groups – a survey of medical professionals and a survey of patients.

Overall, the survey explores the attitude of healthcare professionals and patients to advertising of medicines without a prescription, legal regulations, and ethical rules to comply with this type of advertising.

The questionnaires contained ten closed questions. It begins with a brief address to the respondents stating the object and purpose of the study, who conducted it and how the data will be used.

The initial part of the questionnaire obtains demographic data: age, sex and education. Surveys are generally funnel structured, starting with general questions relating to the basic concepts of advertising and go towards narrowing, i.e. clarification of concepts and statements regarding drug advertising and its ethical implications.

3. 2. Sampling Methodology.

This pilot survey was conducted among 87 medical professionals (doctors, pharmacists, dentists and other healthcare professionals) and 150 consumers/patients in four Bulgarian cities – Sofia, Plovdiv, Blagoevgrad and Kyustendil within 2012.

We used typological sample of medical specialists and the patients of Sofia, Plovdiv, Blagoevgrad and Kyustendil. (Naseva 2013; Naseva et al. 2013) Cities are selected as follows: on one hand are Sofia and Plovdiv – the two largest cities, best provided with healthcare, on the other Blagoevgrad and Kyustendil, are taken as a typical “smaller” district centers.

To participate in the study we recruited medical professionals (doctors 30%, , 30% pharmacists, dentists 15% and other healthcare professionals 15%) working in medical and diagnostic consultative centers and pharmacies in the selected cities and patients. Patients interviewing was outside the offices of physicians and pharmacies. To determine the sample size for each city we used the proportion of population in the country as follows: 18% Sofia, Plovdiv, 10%, Blagoevgrad and Kyustendil – 4% and 2%. These shares are aggregated and distributed proportionally to obtain the sample size: Sofia, 52%, 29% Plovdiv, Blagoevgrad and Kyustendil - 12% and 6%. The distribution of respondents by city is presented in Table 1.

City	Medical specialist	Patients
Blagoevgrad	10	18
Kyustendil	6	9
Plovdiv	26	45
Sofia	45	78
Total	87	150

Table 1. Sample the settlements (absolute numbers)

3.3. Statistical methods.

The data was entered in SPSS and processed statistically. (Naseva & Gardeva 2013) Descriptive statistics and quantitative comparative analysis of the main features (gender, age, specialty, etc.) is applied for the analysis of the data. The small sample size does not allow a comparison between the cities. Statistical analyses are not performed, because the level of confidence is low and the sample is not representative.

4. RESULTS AND DISCUSSION

4. 1. Results from the questioner conducted with the patients/consumers.

4. 1.1. Demographics

Within the study we interviewed a total of 150 patients - 46% men and 54% women. The majority of the interviewed are 26-45 years (Table.2).

Age group	**%**
under 25	20,0
26-35	22,0
36-45	22,7
46-55	19,3
56-65	8,7
over 65	7,3

Table 2. Distribution of respondents by age (patients/consumers).

The proportion of respondents with higher and secondary education is almost equal - 45.3% have completed high school and 54.7% college or university.

Of all respondents 44.7% admit that they are regularly taking certain medication. Most often these are people in the age range 46-55 years (14.7%), followed by those aged 36-45 years (10.7%). Among those taking medication 29.3% were women and 15.3% men. Most subjected to daily advertising are people under 25 years of age - 13.3%, followed by those aged 26-35 years - 10%. Third place was split between respondents falling in the age groups 36-45 years and 46-55 years (at 9.3%).

4. 1.2. Attitude of the patients /consumers towards the advertising of medicinal products.

More than half (53.3%) of patients surveyed recognize that are subject to advertising every day, while 67.3% reported that in most cases it is an advertisement for a medicinal product. This result confirms the widespread distribution and saturation of the media with advertising of medicines.

We raised a question: "Do you believe the advertising?" The majority of respondents (58.7%) are adamant that they believe in what is advertised, while the other 41.3% do not share their opinion.

Half of the respondents (50.7%) are unaware of the agency controlling the advertising of medicines in Bulgaria, 45.3% of know it, and 4% say that there is no such authority, i.e. they have no idea that the advertising of medicinal products is subject to regulation (Figure 1). People with higher education are generally those who are familiar with the regulation of drug advertising in Bulgaria. 75% of university and college graduates are adamant that they know of such an institution, while 63.2% of those with secondary education do not know about that.

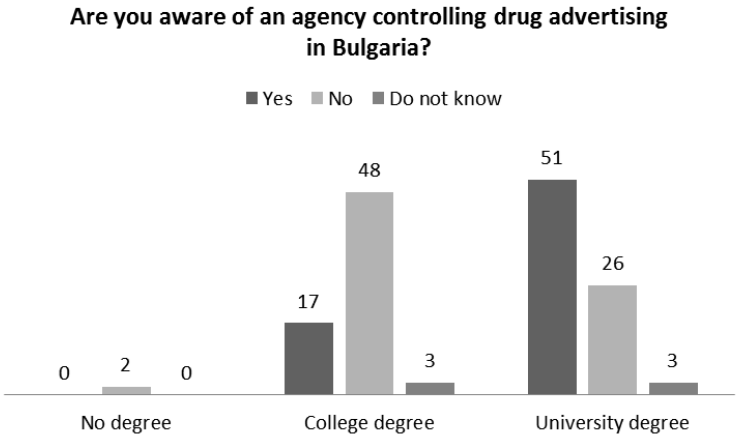

Figure 1. Influence of education on awareness of respondents on the regulation of advertising (absolute number).

Only 24.7% feel misled by the advertising of medicinal products while the remaining 75.3 percent have no such concerns. It turns out that advertising strongly influences the choice and purchase of drugs - 73.3% of respondents gave a positive answer to the question whether advertising has led them to look for a product, while only 19.3% were not influenced by advertised medications, and 7.4% were uncertain.

Figure. 2 shows the distribution of answers to the question "What disturbs you in the advertising of medicines?". The data shows that more than ¼ of the respondents could not identify what disturbs them, as well as consider themselves most worrying about the purely commercial messages requiring purchase of the product. The frequency and eventual false content are not major confounding factors for the medicines advertising.

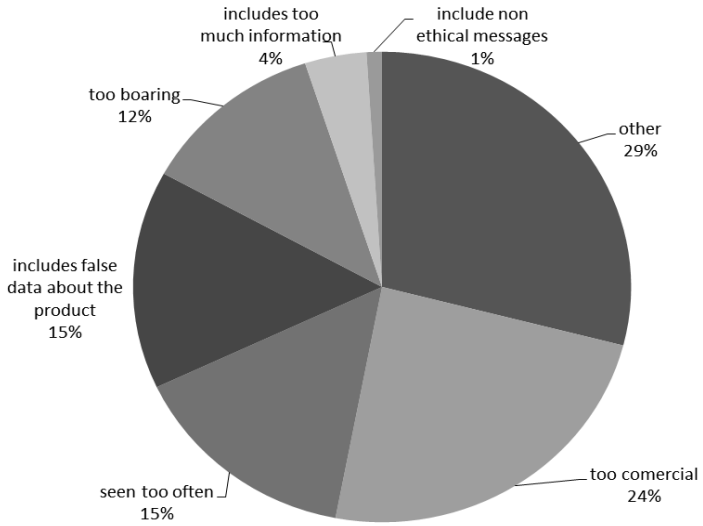

Figure 2. Data answers "What trouble you in the advertising of medicines?" (percentage)

The prevailing opinion among the respondents in this study (44%) is that advertised drugs are safe enough, but 42% cannot judge it only by advertising, and 14% believe that they are not safe enough.

According to the majority of respondents (81%), advertising must comply with all ethical criteria simultaneously, less than 1/5 consider only one set of criteria as most important. Aspects of safety, punctuality, loyalty and truthfulness collected separately and in total, have the highest percentage of responses. The distribution of responses is shown in Figure 3. Over four-fifths of people affected in one way or another by a medicinal product, believe that advertising should be: loyal, truthful, accurate and reliable to observe the linguistic rules to comply with the rules of ethics and morality, to be fair to the consumer to tell the truth about the product, to submit only audited statements and not to conceal risks and ADRs of the product.

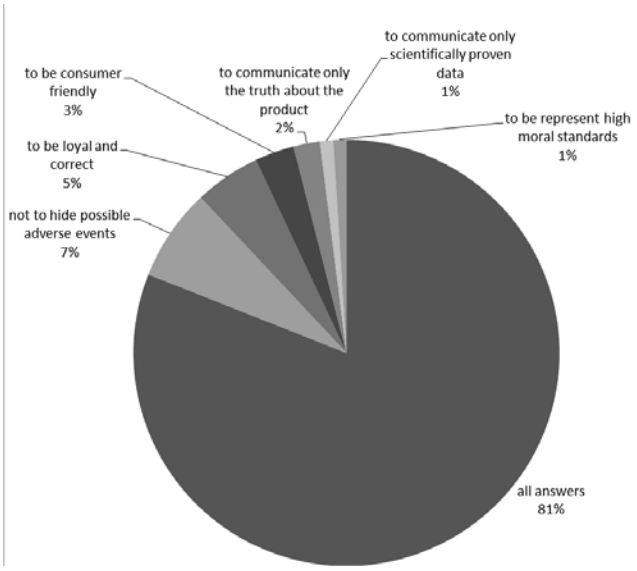

Figure 3. What do you think should be the ethical advertising of medicines?

This is the opinion of 48.3% of those who said that drug ads have influenced their choice of product and 81.8% of patients, hesitating over whether the ads influence their judgment or not.

Over half of the respondents (53.3%) believe that most drug ads are socially acceptable and understandable, while a quarter (23.3%) were on the opposite opinion, another ¼ (23.4%) have no strong opinions and cannot accurately assess their response.

As for the credibility of advertising, it is highest in people aged 46-55 years - 14.7%, followed by young people under 25 years - 14%. Most sceptical are people in the range of 26 to 35 years of age - 10.7%, followed by those in the next age group (36-45 years) - 10%. More than half (56.5 percent) of all college and university graduates do not trust the ads for drugs they see. Confidence in the advertising of medicines among people taking drugs is unexpectedly small - only 47.7%. 59.7% of respondents, who do not take drugs, do not trust advertised medicines.

Most strongly influenced by advertising are people aged 36 to 45 years - 23.6%, followed by groups of individuals in the intervals 46-55 years and under 25 years with 20.9 percent. People with higher education are influenced more by advertised products - 54.5% compared to those with secondary or lower education - 44.5%. This is most likely linked with the fact that people with higher education are considered more often target audience for the pharmaceutical companies, and thus more likely to be influenced.

High proportion of respondents (57.6%) who are daily exposed to different types of advertising are convinced that the advertised drugs are safe enough, while 38.1% of those who seek to avoid such type

of ads are not convinced of the safety of medicines. Here again education and age play an important role.

4. 2. Results of the survey conducted among healthcare professionals.

4. 2.1. Demographics

Respondents were 87 different healthcare specialists dominated with 65.5% women, while men were 34.5% (30 people) of the sample.

Distribution by specialty is 26 doctors (29.9%), 32 Master pharmacists (36.8%), 13 dentists (14.9%). Other healthcare professionals - 16 (18.4%) with varying degrees of medical education.

4. 2.2. Attitude towards drug advertising of the healthcare professionals.

Dominate the respondents (63.2%) who share that daily are subject to some form of advertising, and 72.4% of all the ads are for specific medicine.

Trust in advertising is relatively low and 64.4% of medical professionals are questioning their credibility. At the same time 35.6% of their peers tend to believe the advertising.

More than half (55.2%) of the health professionals who participated in the survey were aware of the existence of a controlling authority on advertising of medicines in Bulgaria, although they could not name it, 39.1% did not know and 5.7% were adamant that such authority does not exist.

As to the opinion of medical professionals on the presentation of information in their advertised drugs in an objective and truthful manner, 57.5% of them believe that this statement is not true, 26.4% think that it is true, but 16.1% could not decide.

There is no consensus among medical experts about the safety of the advertised products, despite the fact that by default all drugs are with high quality, effective and safe and at least the healthcare professionals (if not the patients) should know it. Over one third (39.1%) believe that they are safe, 33.3% are of the opposite opinion, and 27.6% are hesitant in its response (Figure 4). This data have confirms other studies (Almasi, Stafford & Kravitz 2006) that the ads did not focus on drug safety feature as they does not contribute to the effectiveness of ad campaigns. The results of the answers to this question raise the issue of the effect of advertising and marketing messages of the pharmaceutical companies.

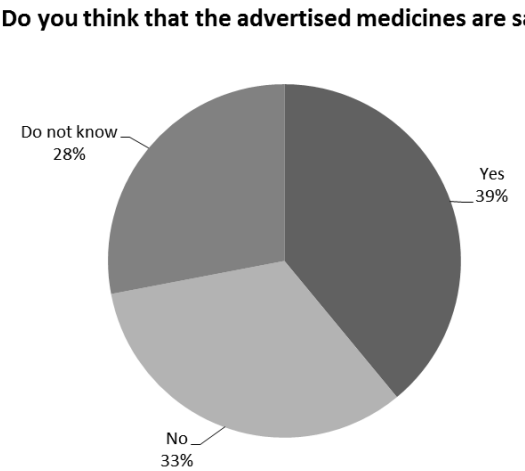

Figure 4. Opinion of the medical professionals on the safety of medicines (percentage)

The influence of advertising on the practice of medical professionals is defined by them as follows: only 11.5% are adamant that advertising influences them and affect their judgment in prescribing or

recommending specific product to their patients. Just over a third (34.5%) says that advertising does not affect them in any way. This indicates low efficiency of advertising campaigns or rather, given the other answers, unconscious and/or willing to recognize reality by the majority of respondents. This is confirmed by the other questions - whether patients ask them about advertised medications or if they prescribe/recommend them.

Only 5.7% of respondents said that their patients never asked them for advice on an advertised product. For 11.5% it happens rarely, 29.9% have shared that happens sometimes, and for 52.9% this is a common occurrence in their practice.

Over four fifths said that the advertised drugs are prescribed or recommended by them. 13.8% of healthcare specialists often prescribe and/or recommend advertised drugs, 18.4% do not do it, 26.4% say that it is rare and 41.4% report occasionally such practices. (Figure 5)

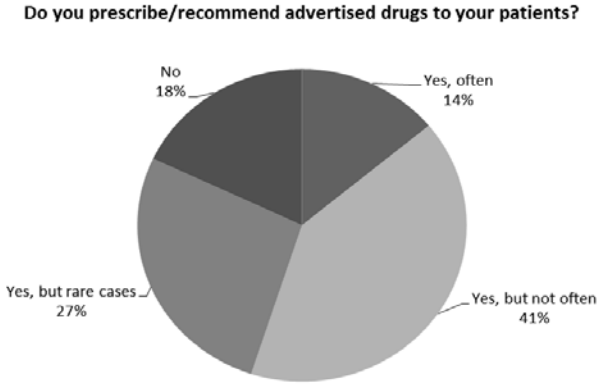

Figure 5. Influence of advertising on the practice of health professionals surveyed (percentage).

When asked: "In your opinion, should I be allowed direct advertising of medicines on prescription to patients/customers?" Medical experts are adamant in rejecting this option - "no" said 82.8% vs. only 9.2 percent saying "yes", while 8% did not know.

We made a number of comparisons of the impact of various factors surrounding the advertising of drugs to healthcare specialists and got the following results:

Most strongly influenced by advertising medical professionals are those up to 25 years (the majority assistant pharmacists). In 40% of this age group advertising influences their judgment on recommending the advertised drugs to their patients, and 60% admit that this is happening in most cases.

Most resistant to advertising are professionals in the age range 36-45 years and 42.4% of them stated that advertising does not in any way change their assessment of the drug, but 51.5% of the same group recognized that sometimes recommend/prescribed to their patients advertised products.

Among pharmacists, 62.5% recommend advertised drugs, with doctors it is 53.8% and 30.8% of the dentists. Adamant that they do not recommend/prescribe advertised medicines are 31.3% of the pharmacists, 42.3% of physicians and 46.2% of the dentists.

Of all medical professionals who trust advertising of medicinal products, 25.8% often prescribe and/or recommend advertised drugs, and 48.4% rarely. Of those who do not trust advertising, 7.1% admit that they often prescribe advertised products, while 37.5% do it sometimes.

Of those who said that advertising does not affect their assessment in any way, 3.3% often prescribe advertised products, 30% do it sometimes, 26.7% rarely and 40% are adamant that they never prescribe advertised medicines. On the other hand with specialists who admit that advertising has an

effects their prescribing - 6.4% often prescribe advertised drugs, 53.2% do it sometimes, 31.9% rarely and 8.5% never.

Presented data on the frequency of prescribing/medication recommendation based on ad shows that the most vulnerable and receptive to advertising messages are pharmacists. This may direct marketing to pharmaceutical companies targeting drugs in this profession.

5. CONCLUSION

Over 80% of patients felt that the advertising of medicinal products must comply with a number of higher standards. However, half (53.3%) of respondents approved presentations to present advertisements on medicines. Only about ¼ of patients believe they are misled by drug advertising, which shows that the majority of products advertised meet the expectations of patients/consumers.

Patients (57.6% of respondents) have more confidence and are more likely to believe in the advertised drugs than healthcare specialists (35.6 percent). Neither patients nor professionals are sufficiently aware of the existence of a body controlling advertising of medicines in Bulgaria - 50.7% of patients and 39.1% of healthcare specialists say that they do not know such agency exists.

Over 82% of healthcare specialists in Bulgaria admit to recommend/prescribe medicines which have been promoted to them. Of these, 80% admit that they do so often, 20% it sometimes does.

In the group of patients polled just over 73% admit that the advertising of a particular product has incited them to purchase. This is result that can confirm the good performance of drug advertising on the decision-making process to use a particular product.

Over 80% of medical professionals feel direct advertising of prescription only products should not be allowed to patients, supporting already established standards for advertising in Bulgaria and the EU. It appears that experts are of the opinion that society; in particular their patients are not knowledgeable enough to take more active participate in decisions concerning their own health and the choice of drug therapy.

Most susceptible and receptive to advertising messages are pharmacists - 62.5% of them recommend the advertised drugs. The most conservative are dentists, where 30.8 percent recommended advertised drugs. This can be explained by the fact that pharmacists are subjected to an extensive advertising in pharmacies. They have direct access to all new drugs and are target audience of almost all pharmaceutical companies. On the other hand, dentists, operate with a relatively narrow range of drugs and not priority group of health professionals for the pharmaceutical companies.

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