



Promotion of dietary supplements – regulations and market practice

Promocja suplementów diety – regulacje i praktyka rynkowa

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Abstract

Introduction and Objective. Dietary supplements owe their popularity and prevalence to their relatively affordable price and wide availability. A key aspect is the promotion of these supplements directly to patients or indirectly through doctors and pharmacists. The aim of the article is to gather knowledge about various methods of supplement promotion, with emphasis on channels that reach patients directly, while also considering the role of new technologies.

Review Methods. Available works and current regulations regarding dietary supplements were analyzed, with emphasis on the methods of promoting dietary supplements published during 2006–2024.

Brief description of the state of knowledge. The cafeteria of methods for promoting dietary supplements is wide. Television and radio, as traditional communication channels, still remain important aspects in building marketing strategies. However, in the dynamic world of emerging technologies, the mode of communication is changing. Digital and all forms of online promotion are becoming more attractive. An important aspect in medicine and the pharmaceutical industry, which gains significance year-by-year, is the utilization of artificial intelligence (AI).

Summary. An important aspect in medicine and the pharmaceutical industry, which gains significance annually, is the utilization of Internet tools and new technologies. It is crucial to monitor the further development of promotional channels in the pharmaceutical market and the dietary supplements sector, as well as technology enabling precise attainment and effective communication, especially in the context of changing legal regulations and the aim to structure promotion in the broad realm of the Internet.

Key words

marketing, promotion, consumer, diet supplement, advertisement

Streszczenie

Wprowadzenie i cel pracy. Suplementy diety swoją popularność i powszechność zawdzięczają stosunkowo przystępnej cenie oraz szerokiej dostępności. Kluczowym aspektem jest promocja preparatów skierowana bezpośrednio do pacjentów lub trafiająca do nich pośrednio – poprzez lekarzy oraz farmaceutów.

Celem artykułu będzie próba zebrania wiedzy na temat poszczególnych sposobów promocji suplementów, przy czym nacisk położony zostanie na te kanały, które docierają bezpośrednio do pacjenta, uwzględniając również rolę nowych technologii.

Metody przeglądu. Przeanalizowano dostępne prace oraz obowiązujące regulacje dotyczące suplementów diety, opublikowane na przestrzeni lat 2006–2024, koncentrując się na sposobach ich promocji.

Opis stanu wiedzy. Jest wiele metod promocji suplementów diety. Telewizja czy radio jako tradycyjny sposób komunikacji nadal pozostaje ważnym medium wykorzystywanym w budowaniu strategii marketingowej. Jednak wraz z dynamicznie rozwijającym się światem nowych technologii zmienia się sposób komunikacji. Bardziej atrakcyjna staje się technologia cyfrowa oraz wszelkie formy promocji internetowej. W medycynie oraz w branży farmaceutycznej istotnym aspektem, który z roku na rok nabiera znaczenia, jest wykorzystywanie sztucznej inteligencji.

Podsumowanie. Ważnym aspektem w medycynie oraz w branży farmaceutycznej, który z roku na rok zyskuje na znaczeniu, jest korzystanie z narzędzi internetowych oraz nowych technologii. Istotne jest, aby śledzić dalszy rozwój kanałów promocji rynku farmaceutycznego i segmentu suplementów diety oraz technologii umożliwiającej precyzyjne dotarcie do klienta oraz efektywną komunikację. Zwłaszcza w kontekście zmieniających się przepisów prawnych i dążenia do ustrukturyzowania promocji w szeroko pojętym Internecie.

Słowa kluczowe

marketing, promocja, konsument, suplementy diety, reklama

INTRODUCTION

Dietary supplements are products intended to supplement the diet that contain one or more nutrients, including vitamins or minerals [1]. Dietary supplements are becoming increasingly popular among people of different age groups

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and backgrounds, thanks to their wide use, relatively affordable price, easy availability, and the belief that most of these preparations are safe [2]. In developed countries, about half of adults and every third child regularly take dietary supplements [3]. In Poland, among people who take them daily, nearly 32% are taking two different supplements per day, while 20% are taking as many as three [4]. In business terms, in 2022 alone, the global dietary supplement market generated a turnover of USD 173 billion, while on the European scale, it was estimated at 30 billion USD. In the case of the Polish market, that value was at about PLN 7.7 billion, although it has to be pointed out that this sector is steadily growing, with a growth rate of about 14% last year [5]. With such a large business scale and prospects for further growth, one of the most important aspects is the marketing of these preparations directly to the patient or indirectly through doctors and pharmacists. Effective marketing and use of modern technologies [6] are essential for creating a need and increasing demand for a specific product, in this case, dietary supplements [7].

OBJECTIVE

The aim of the article is to present various methods of marketing dietary supplements, with particular emphasis on channels that reach the patient directly. This information is based on both scientific literature and legal acts. The authors have attempted to show how new technologies, including artificial intelligence (AI), affect consumer purchasing behaviour and how these technologies support the pharmaceutical industry in promoting dietary supplements.

MATERIALS AND METHOD

An analysis of the available papers was conducted on the subject and existing regulations on dietary supplements, focusing on ways of marketing dietary supplements, published between 2006–2024.

Marketing of dietary supplements. Marketing communication is a fundamental aspect which connects businesses with their potential consumers. In the literature on the subject, marketing communication is defined as a series of messages from multiple sources that are received by the environment [8]. This general definition used in the area of economics and marketing also applies to the pharmaceutical industry. In the case of the pharmaceutical market, the mentioned environment refers to patients, namely, potential customers of dietary supplements and healthcare professionals. In 1988, a more precise definition was proposed by the World Health Organization (WHO), which defined pharmaceutical marketing as *'all informational and persuasive activities by manufacturers and distributors, the effect of which is to induce the prescription, supply, purchase and/or use of medicinal drugs'* [9]. In the case of products classified as dietary supplements, marketing communication, which meets the criteria of the above definition, can take place in many ways. The range of channels companies use to reach a potential customer is very wide, in contrast, for example, to the prescription drug market, where communication, according to Polish legislation, is limited to their promotion by physicians.

In the case of the pharmaceutical market, the literature describes at least three different ways of reaching the customer: marketing-consumer-product, marketing-consumer-physician-prescription, and marketing-physician-prescription [10]. This list can be supplemented with the marketing-pharmacist-consumer pathway, which plays an equally important role. In the case of the first of the mentioned pathways, it is possible to reach the patient directly through advertising on television, online tools such as banners, mailings, collaboration with influencers, press, or radio. All of these measures are aimed at communicating key information about the product and creating a need in the recipient's mind. The decisive factor in choosing a particular product is very often its composition and price. In a study conducted on a group of students of pharmacy, it was the two aforementioned factors that most often determined the choice of a given vitamin and mineral preparation [11]. In the case of pharmacy students, biotechnology and medical analytics, a physician's recommendations were indicated as the third most common factor influencing the choice of product [11]. In another study on a group of adult pharmacy customers, the most important factor in choosing a product indicated by the respondents was a physician's recommendation, with almost half of the respondents mentioning the recommendation of a specialist, while the second most frequent answer was previous experience. In the case of this study, price was mentioned by only 4% of the respondents [12].

Similar results were obtained in a study on the population of the South East of England, based on a survey of the general population and pharmacists. As shown in the current article, the recommendation of a specialist, a physician, or a pharmacist are the two most important elements that determine patient choice [13]. The third factor was the recommendation of a family member or friend, with the impact of TV commercials ranking seventh [13]. According to the study, the price or a specialist's recommendation are important and even often decisive factors in the choice of a specific preparation, regardless of the country in which the study was conducted. However, a literature review should also be conducted that focuses on the sources of health and product information from the marketing-consumer-product channel, without the suggestions of specialists. It is important to point out that more than 45% of adult users of dietary supplements did not consult their choices with a specialist, which means that the advertising potential in this area that can be exploited is considerable [14]. In addition, it is worth emphasising that if such marketing methods were ineffective, investments in TV or online marketing would be showing a downward trend. However, this is not the case, as will be explained later in the article.

In a study published in 2015, 228 respondents were asked about the sources they use to obtain health information. Television and radio were indicated most frequently, regardless of gender [15]. The second most common response was the press [15]. In the case of students, i.e. a younger group of potential advertising recipients, it was the Internet that was mentioned most frequently as a source of information about vitamin and mineral preparations [11], followed by magazines and recommendation from friends. Television ranked only fourth [11]. The Internet as a source of information on dietary supplements was also indicated by 60% of the participants of a survey conducted on physically active persons aged 21–31

years [16], followed by recommendations from trainers and friends (76%) [16].

It is worth noting that both of the above-mentioned surveys were published in 2011. Hence, it can be assumed that the Internet as a source of information on dietary supplements is currently playing an increasingly important role in influencing purchasing decisions, while television is continuing to lose an impact among young consumers. When discussing sources of information on health in general, or on specific health-related products, it is worth noting that the Polish market is generally similar to that in Europe, and in the general population of adult patients, television is still the leading source of information. A study conducted on a representative group of residents of Bucharest, Romania, about knowledge of various commercially available decongestants, confirmed that long-term television campaigns have the greatest impact on brand recognition among patients [17].

In summary, the factors that influence the patient's purchasing decisions are the composition and price of the product, as well as the recommendation of a specialist. When it comes to sources of information about health and available dietary supplements, television and the Internet are most commonly used to reach out to potential customers and create a need to purchase. Of course, when designing a marketing strategy, the aspects mentioned below should be taken into account.

Legal aspects in dietary supplement marketing. As mentioned above, dietary supplements have become increasingly popular across all European countries, driven by growing interest in health and preventive care, especially after the COVID-19 pandemic. Due to the large popularity of supplements, the range of marketing opportunities is also very wide; however, it is worth remembering that the marketing communication of medicines or dietary supplements is regulated by law. At the moment, the legislation regarding the advertising of dietary supplements is much less restrictive than the advertising of non-prescription drugs [18]. However, manufacturers who want to market their products should follow a few important rules: in the case of dietary supplements, they are regulated by both European and domestic legislation.

The European Union provided the primary legal frameworks for all member countries. In particular, the document that sets the framework is Directive 2002/46/EC of the European parliament and of the European Council of 10 June 2002 on the approximation of the laws of the Member States relating to food supplements. This directive is the foundation of dietary supplement regulation in the EU and sets out harmonized rules for the marketing of food supplements, focusing on vitamins and minerals that may be added to supplements. Additionally, the directive specifies requirements regarding the labelling and packaging information to avoid misleading consumers. It's worth highlighting that the promotion refers not only to the classic advertisement, but also to information on packs.

The second, but no less important document is Regulation (EC) No. 1924/2006 of the European Parliament and of the European Council of 20 December 2006 on nutrition and health claims made about foods. The most important part of this regulation refers to health claims, which are the foundation for structuring the communication. Among member countries, European law also harmonises the list

of active substances which can be use in diet supplements, e.g. vitamins or minerals. Regulation (EC) No. 1925/2006 lists permitted ingredients, including amounts of active substance, and imposes rules on labelling by manufacturers [19]. Regulation (EU) No. 1169/2011 of the European Parliament and of the European Council of 25 October 2011, comprehensively clarify legal principles concerning the rules of food information addressed to the consumer, while at the same time abolishing some of the previous provisions. The European Regulation No. 1169/2011 includes labelling requirements to ensure clarity, in that the information on labels must be legible, with a minimum font size to be easily legible to consumers, including allergen information and information about nutritional value [20]. It is crucial to highlight that as packaging is the first step in advertising, all manufacturers should provide clear and understandable information on diet supplements' packing. The mentioned regulation influences the conscious choice of the consumer.

In the case of the Polish regulation, the Act of 25 August 2006 on the safety of food and nutrition, together with implementing regulations, this is currently the only document in Polish legislation that regulates the area of dietary supplements. Pursuant to Article 27 (5) of the above-mentioned Act: *'the labelling, presentation and advertising of dietary supplements may not contain information stating or suggesting that a balanced and varied diet cannot provide sufficient amounts of nutrients for the body* [21]. Apart from that

Act, the Polish regulation defines the principles by implementing the Ordinance of the Minister of Health concerning the composition and labelling of dietary supplements. The Ordinance establishes details requirements about permitted vitamins and minerals which can be add to diet supplements, starting their minimum and maximum levels. Similar to European regulations, the documents include labelling requirements and purity of ingredients, among others [22].

Industry-specific codes, including the Code of Good Practice for the Advertising of Dietary Supplements created by PASMI (Polish Association of Self Medication Industry) and the Broadcasters' Agreement, further clarify the manner in which dietary supplements can be advertised [23]. First of all, according to the latter, dietary supplement advertising must not mislead the consumer by claiming a specific medicinal effect. It must also not suggest that the use of the supplement can replace consultation with a specialist, and it must not be targeted at children [24]. In addition to a message that does not mislead the viewer, it is also important to mark the advertised supplement as follows: *'Dietary supplement. Contains ingredients that support body functions by supplementing a healthy diet. Does not have medicinal properties'* [24]. This wording must be presented only in the visual form. The text should be shown for no less than five seconds, of which two seconds by clearly marking a box at the bottom of the screen that should occupy no less than 10% of the total screen area. The text must be clearly visible, legible, stationary, and written horizontally, with the distance of the letters from the lower and upper edges of the advertising area not exceeding half of the height of the letters, and the distance between the lines of the caption not exceeding the height of the letters [25].

In comparison, TV commercials for OTC medicines must be accompanied not only by a visual but also a voice message.

According to the Regulation of the Minister of Health, a warning message may appear in three different variants, e.g.: *'This is a medicine. For your safety, use it in accordance with the patient information leaflet. Do not exceed the maximum dose. If in doubt, consult your doctor or pharmacist'* [26,27]. In addition, each newly- developed advertisement must use a different version of the warning indicated in the regulation [27]. In the case of audiovisual or visual marketing, other than TV commercials, the information should be visible in the lower right-hand corner of the image on a clear and distinguishable rectangular background [25]. In addition, to regulate the advertising of dietary supplements not only by industry codes, but also in legislation. In January 2023, a draft amendment to the Act of safety of food and nutrition was published aimed at adapting the supervision tools to the realities of the rapidly growing dietary supplement market [28].

Another topic recently addressed by the Office of Competition and Consumer Protection (UOKiK) is the promotion of dietary supplements by celebrities (influencers). In 2022, the President of the Office of Competition and Consumer Protection published recommendations on the labelling of advertising content by influencers in social media. The aim of these recommendations is first and foremost to clearly inform the consumer that the marketing message is the result of a commercial agreement between the influencer and the company, in order to avoid unfair practices and misleading the viewer. In accordance with the recommendations, any content that is the result of such a collaboration should be clearly and visibly labelled, with a clear indication that it is advertising content [29].

Marketing dietary supplements on television. In terms of marketing dietary supplements, television is still one of the largest channels for reaching out to consumers in the marketing-consumer-product chain. However, media consumption patterns are undergoing dynamic changes [30] which necessitates a revision of the chosen marketing strategies and an assessment of the effectiveness of existing promotional tools. With the development of new technologies and the expansion of Internet access, TV consumption is showing a downward trend; in addition, the consumption patterns themselves are also changing.

Regarding TV consumption, according to 2018 data collected by the Gemius Panel, respondents spend around 95 hours watching TV and about 58 hours on the Internet [30]. However, as pointed out by experts dealing with the media, the number of viewers continues to decline. In addition, the phenomenon of multi-screening, i.e. the use of multiple screen devices at the same time, is increasing [31], an example is watching television when simultaneously using one's phone to browse the Internet. The data related to falling numbers of viewers and the phenomenon of multi-screening clearly indicate that, in order to effectively communicate messages, especially to the younger group, it is necessary to focus on digital communication channels.

Nevertheless, the scale of advertising of products from the pharmaceutical industry broadcast on television is significant, the most popular in this category being vitamins and supplements boosting the immune system (19.56%). These are followed by products directly related to the flu season: throat remedies (14.68%), cough syrups and tablets (10.97%) and cold remedies (9.71%) [32]. Nearly 22% of all

commercial messages are related to the category of dietary supplements [32], mostly to vitamins and supplements boosting the immune system (64.35%), followed by products supporting digestive health (12.1%) [32].

When creating a marketing message for a dietary supplement, manufacturers encourage the existing and potential consumers by highlighting the naturalness of the ingredients, the composition of the preparation, the amount of active ingredients or the experience of others [32]. When creating a message directly targeting the patient, it is also necessary to take into account the tastes and preferences of the potential consumers.

When it comes to elements of TV campaigns of pharmaceuticals and dietary supplements, those perceived as the most interesting are humorous (35% of the responses), followed by the presentation of the action of the advertised product [12]. In turn, the most annoying element was the figure of a person claiming to be a doctor (30% of the responses). Another irritating factor was an excessive number of advertisements for pharmaceuticals in general, and the constant repetition of the same advertising messages (29% and 27% of the responses, respectively) [12].

When creating an effective message for a TV campaign, the design of the commercial itself is important. In a study published in 2018, based on an analysis of more than 70 different commercials, several leading communication constructs in the broad pharmaceutical segment were identified. Four ways of creating a marketing strategy were distinguished: inspiring trust, efficacy and precision, happiness and good advice [33]. In the case of the former, i.e. inspiring trust, the advertising messages highlight recommendation by one of the medical societies or use percentage data proving the widespread use of the product (e.g. '90% of consumers confirm that ...'). In the case of this strategy, the communication often emphasises the leading status of a given product in a particular product sector [33].

In the case of 'efficacy and precision', the idea is to emphasise that the product in question is the answer to a specific consumer problem, that it works quickly, has a long-lasting effect, and that the dose is the maximum dose available on the market without a prescription. In addition, all visual tools are aimed at showing how the product works in the human body, emphasising its effectiveness and precision of action [33], and attempting to convince the existing and potential consumers that the product is the best choice for their ailments.

The third strategy is to focus on the topic of 'happiness', communicating that using the product leads to happiness in a broad sense. Typically, this refers to happiness in the context of family life [33]. The last of the strategies mentioned in the study is 'good advice'. In this case, the narrative can assume two different forms: either showing the story of a person suffering from the problem in the past and got rid of it thanks to a particular product, or using a dialogue format where one person recommends the product to another one [33].

It is worth noting, however, that despite the large share of TV commercials in the total spending on advertising, as highlighted at the beginning, the audience of traditional TV channels is declining. Hence, spending a significant proportion of the budget on this quite expensive form of advertising, may no longer be so efficient. In addition, television is a channel in the marketing-consumer-product

chain which offers limited possibilities to target specific age or interest groups [34]. Consequently, marketing, also for dietary supplements, is shifting to the Internet where the possibilities are virtually endless.

Digital and influencer marketing. Television continues to be the most important channel for communicating with consumers, regardless of the product category. However, as the data shows, online advertising is a sector that is growing dynamically, attracting an increasingly growing number of entrepreneurs who are replacing conventional TV commercials with online tools. One of the reasons is the increasingly wide access to the Internet. In Poland, as many as 93.3% of households have Internet access at home [35]. Interestingly, in this regard, Poland has overtaken countries such as Greece (87%), and is about to reach the level of Spain (97%) and Belgium (95%) [36].

The question is how such widespread Internet access translates into possible ways of reaching out to existing and potential users. In November 2023 alone, more than 86 billion different advertisements were published, reaching nearly 88% of the population aged between 7–75 [37]. This clearly shows how dynamically this sector has been growing over the last few years. In 2021, expenditure on online advertising amounted to PLN 6.2 billion, with a growth rate of 20%. In 2022, the figure was PLN 6.9 billion with a slightly slower dynamic of 10% [38]. Importantly, in 2022, the pharmaceutical industry saw the biggest increase in online advertising spending [39]. The upward trend continued in 2023. In Q1 2023, a growth rate of 14% was observed [40]. What is driving the growing popularity of this form of advertising? Some of the factors promoting greater spending on this channel include the possibility of customisation of the message, communicating in real time, having an impact on the consumer through motion and sound, and relatively low costs [41].

Online advertising can be divided into overt advertising, where the consumer immediately knows that he or she is dealing with advertising material, and covert advertising, which by definition does not promote the product directly, but contributes significantly to increased awareness of the product and, consequently, increased sales [42]. In the case of overt advertising, manufacturers use such tools as Google advertisements, sponsored articles, mailings, Facebook advertisements or online video on popular platforms such as YouTube. Tik-Tok advertisements and influencer marketing are also gaining importance [43]. Examples of covert advertising include Google search engine positioning and content marketing based on non-product content that may be of potential interest to the consumer [43].

An interesting, albeit still developing area of advertising for dietary supplements which is worth describing in more detail, is influencer marketing. The very fact that the Office of Competition and Consumer Protection has taken an interest in this topic indicates that this form of marketing is becoming increasingly important for the pharmaceutical business and needs better control and organisation. Influencer marketing is defined as: *‘collaborating with popular and influential people in a particular field to promote a brand or product to a community organised around that person’* [44]. Influencers use their popularity online and shape the opinions of their followers through the social media.

But why is this form of marketing of brands, including dietary supplements, so popular? One of the possible reasons

is that the social media allows for the active participation of the audience who can relate to the promoted content in real time. In addition, this form of marketing is perceived as more realistic and authentic in relation to the message [44]. Instead of a universal message to a general population, the recipient is offered a more individual content published by a person who shares his or her life stories on social media on a daily basis. The message is therefore felt as being much closer by the consumer. Another aspect that needs attention is the careful selection of a creator. A creator who accepts too many collaborations without showing discrimination in this respect is perceived as less authentic, which may translate into poorer perception of the marketed product.

The growing popularity of online forms of advertising undoubtedly presents a considerable opportunity for all manufacturers in the pharmaceutical industry, especially in the sector of dietary supplements, which are not as strictly regulated in terms of promoting them directly to the consumer. However, the growing interest of legislators and the medical community in organising and tightening regulations, to some extent may change the face of communication in this channel in the future.

New technologies in the pharmaceutical industry. Broadly understood new technologies are the future not only in the field of finance or data analytics, but also in the medical and pharmaceutical sectors. Medical specialists already have countless tools to choose from that make their work easier, such as 3D printing machines, the use of which in surgical applications is steadily growing [45]. Other tools based on new technologies are all kinds of applications for mobile phones, virtual reality or voice assistants [45]. On the one hand, they improve the work of professionals, and, on the other, help patients, especially those with chronic problems.

When talking about new technologies, what definitely deserves a mention is artificial intelligence (AI), which is entering various areas of our life. Interestingly, the term artificial intelligence was coined as early as 1955 by the American John McCarthy [46], who defined it as the science of engineering smart machines, especially smart computer software [47]. Later, this definition was supplemented by the performance of tasks associated with intelligent beings [48].

In recent months, a widely discussed topic in the context of the development of new technologies and artificial intelligence has been Chat GPT, which was introduced at the end of 2022. Chat GPT is a tool developed by the US OpenAI research laboratory, and is a highly advanced language model based on artificial intelligence [49]. However, this tool cannot be used for brand promotion. For example, after typing the query: *‘Which probiotic should I choose when taking antibiotics?’*, the first response received is: *‘I am not a doctor, but I can provide general information about probiotics and antibiotics. It is always best to consult a health professional before making a decision to take supplements’* [50]. Chat GPT then goes on to explain what factors should be taken into consideration when choosing a probiotic in general. When sending queries about vitamins strengthening the immune system, the tool provides a whole list of vitamins with brief descriptions. Due to the comprehensive nature of the answers, it can be expected that the popularity of Chat GPT will continue to increase. Using GBT Chat for health education is a challenge for the pharmaceutical industry which should respond to consumer needs as suggested and offered by the tool. In the case of

vitamins, it is worth having products in the offer that contain ingredients mentioned by the AI as the answer to specific problems. It is worth emphasising again that although Chat GPT currently does not provide marketing opportunities for the pharmaceutical industry, the future potential of this tool in the area of customer service is significant. The use of fast-learning tools would accelerate contact with consumers potentially interested in a given product. In addition, Chat GPT could be used by marketers in their daily work as a treasure trove of knowledge and quick answers.

An analogous solution to Chat GPT is Med-PaLM 2, a tool created by Google to answer all kinds of health-related queries and facilitate diagnosis in countries where access to professional healthcare is difficult [51]. It is worth noting that the project is in the testing phase and the tool will not be available for widespread use any time soon.

Another interesting area that makes use of artificial intelligence and its analytical power is the development process of new drugs that can predict treatment outcomes. The rapid analysis of the input data allows for the optimisation of the cost and duration of the analysis of the results obtained which, as a consequence, can lead to a faster and more efficient introduction of formulations tailored to the specific needs of patients [52].

CONCLUSIONS

The dietary supplement market has been growing steadily year-by-year, with the number of new products appearing on the market also increasing. These factors mean that companies producing dietary supplements must use increasingly new marketing methods to reach potential customers with information about their products. To this end, television or radio as conventional means of communication remain an important element in building a marketing strategy and planning the advertising budget. However, with the dynamic development of new technologies, the way of conducting marketing is changing, and digital and online forms are becoming increasingly popular. On the one hand, this results from the possibility of matching the type of message and content to the preferences of the individual consumer, because everyone leaves a trace on the Internet that provides much information about the consumers. On the other hand, online marketing seems to be more profitable. An increasingly important aspect of the medical and pharmaceutical industry is the use of artificial intelligence. Nevertheless, the potential of this tool to support pharmaceutical advertising in the future has not yet been discovered.

It is important to follow the further development of marketing channels for the pharmaceutical market and the dietary supplement sector, as well as technologies enabling precise targeting and effective communication, especially in the context of changing legal regulations. It is extremely important to implement current appropriate legal regulations to protect consumers against the misuse of dietary supplements.

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