

СЕКЦІЯ 7 АКТУАЛЬНІ ПРОБЛЕМИ ІННОВАЦІЙНОЇ ДІЯЛЬНОСТІ ВІТЧИЗНЯНИХ ПІДПРИЄМСТВ (ОРГАНІЗАЦІЙ)

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Analysis of scientific and practical approaches to the formation of patents and innovative strategies of companies in the field of digital pill development

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According to the WHO global strategy, digital technologies are the most relevant tools for promoting health, maintaining security in the world, and reaching vulnerable groups [1]. Modern technical solutions in the field of digital medicine include digital pills. Digital pills are a combination of a medicine and an ingestible sensor that allows monitoring patient compliance through an external web server. Non-compliance with treatment can lead to negative health effects, reduced quality of life and increased health care costs. In this context, the annual costs of non-compliance range from USD100 billion up to USD290 billion in the US, EUR1.25 billion in Europe, and approximately USD7 billion in Australia [2]. In addition, there is a growing need to reduce costs and improve the quality of treatment for patients with chronic diseases.

The aim of this study was to analyze the formation of patents and innovative strategies of companies in the field of digital pill development.

Materials and Methods. Studies were conducted using scientometric and patent databases on the Internet.

Results. Currently, the competitiveness companies in the field of digital pills, its profit, and market share are largely determined by the innovation strategy as well as the portfolio of intellectual property rights. Companies can be in a critical situation if they do not expect changing circumstances and react to them in time.

A company's patent and innovative strategies, related to the implementation of digital pills, are aimed at reducing health costs, improving the overall health of the population, and increasing the income.

The reduction of health care costs associated with the use of digital pills is achieved through a number of factors. Among these benefits is the lower cost of treatment for certain diseases. For example, a review of adherence to tuberculosis treatment found that the cost of therapy was lower when digital pills were used compared to direct observation [3]. There are also savings due to a decrease in the number of hospitalizations and a reduction in the loss of working days. Moreover, digital pills can be used in conjunction with generics and biosimilars, increasing their clinical effectiveness and increasing their pharmaceutical market share [4].

An evaluation of patents and innovative strategies of companies in the field of digital pill development based on patent documentation monitoring has been carried out. There is an increase in the number of patents associated with digital pills. Most of the granted patents were issued between 2000 and 2018. The leaders in the number of patents issued are the United States, Europe, Canada, Australia, and China, which account for 72% of the total number of patents in the world. Among the leading companies using this innovative strategy in the field of digital pill development, Proteus Digital Health (California, USA) and Etecrx (Florida, USA) can be noted. Their Ingestible Event Marker and ID-Cap™ systems received FDA approval. The performed analysis revealed that there is powerful patent protection of digital pills.

The analysis of patents and innovative strategies of companies made it possible to identify the main therapeutic areas in which digital pills have proved themselves to be applicable (Figure 1).

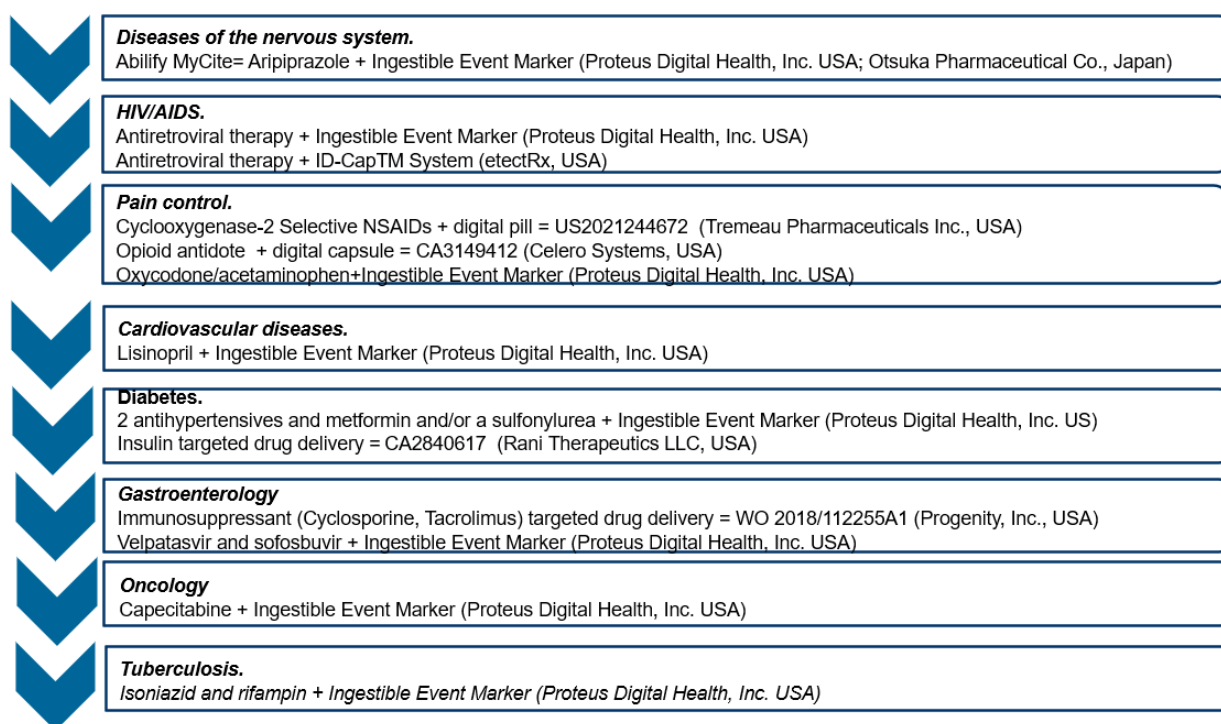


Figure 1. The directions of patents and innovative strategies of companies in the field of digital pill development.

Conclusions. Thus, the formation of a patent and innovative strategies of companies in the field of digital pill development open up new opportunities and allow them to make optimal management decisions related to meeting the needs of clinicians and patients, increasing sales, and saving healthcare system funds.

References

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