

Evaluation of the current status of the value-added pharmacy services and pharmacists' attitude in Bulgaria

Stefan Balkanski¹, Joana Simeonova², Ivan Gitev¹, Ilko Getov^{1,3}

¹ Bulgarian Pharmaceutical Union, 36 Dragan Tsankov Blvd., office B 602, floor 6, Sofia 1040, Bulgaria

² Faculty of Pharmacy, Medical University – Pleven, 1st Sveti Kliment Ohridski Street, Pleven 5800, Bulgaria

³ Faculty of Pharmacy, Medical University – Sofia, 2nd Dunav Street, Sofia 1000, Bulgaria

Corresponding author: Stefan Balkanski (st.balkanski@gmail.com)

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Abstract

Value-added pharmacy services (VAPS) are additional services to the traditional pharmacy activities, which do not include dispensing of medicinal products and professional consultation. Over 51% of the community pharmacies in Bulgaria offer VAPS but mainly measuring of blood pressure (67.4%) and blood glucose (12.9%). About 60% of community pharmacists in the country are willing to perform other VAPS. About 70% of them believe that patients would rate VAPS as useful. Younger pharmacists with professional experience less than 5 years (90.9%) tend to believe that VAPS would be positively rated by their patients. The study shows that VAPS different from consultation and dispensing of medicinal products have a potential for development in the community pharmacies in Bulgaria.

Keywords

Value-added pharmacy services, pharmacists, community pharmacy, patient benefits

Introduction

According to the Law for medicinal products in human medicine “a pharmacy is a health establishment in which the following activities are taking place: storage, preparation, packaging, control, consultations, dispensing with or without medical prescription of medicinal products authorized for use in the Republic of Bulgaria, of medical devices, as well as of food supplements, of cosmetic and sanitary products on a list specified by the Minister of Health” (The Drug Act 2007).

In recent years, in numerous countries around the world, growth in the volume of the pharmacy services is reported. Increasing importance is placed on the pro-

fessional advice and the additional services offered in the pharmacies (McDonald et al. 2010; Scott et al. 2007; Cooksey et al. 2002).

A major aim of most professional pharmaceutical organizations is to change the attitude of the patients, the health insurance funds and the pharmacists themselves toward the pharmacy services offered in the pharmacy (Caamaño et al. 2008). The purpose is to create in the society an image of the pharmacist as a healthcare specialist, offering professional pharmaceutical services and consultation, which extends far beyond the current, more limited frameworks on dispensing medicinal products, medical products and food supplements (Harrison et al. 2012).

Value-added pharmacy services (VAPS) are additional services to the traditional pharmacy activities, which do not include services, related to dispensing of medicinal products and professional consultation. It is proven that offering VAPS can lower expenses in the health system, while inset added value to the work of the pharmacists (Saha et al. 2010; Painter et al. 2018). According to Moullin, offering value-added pharmacy services correlates to more effective medical treatment, improvement of the health outcomes and an opportunity to carry out an overall assessment of the health of the patient (Moullin et al. 2013).

Regardless the great administrative pressure that the pharmacist is subject to, an increasing topic of discussion becomes the importance that he should be able to carry out activities, other than dispensing medicinal products and other health goods such as: monitoring and optimization of the medicinal use, monitoring of the therapy results, activities related to additional services in the pharmacy (Ai et al. 2014). Pharmacists spend 68% of the time dispensing medicinal products (Gaither et al. 2015), as perhaps this percentage is even higher in Bulgaria. In a study Roe (Roe et al. 2016) points out that the high pressure on the pharmacists to dispense medicinal products as fast as possible limits their time to discuss with the patient potential medicinal product interactions, adverse reactions, etc.

A successful business of a pharmacy is defined not solely by the product prices, but also by the volume of the activities offered in it (Kayne 2005), including additional pharmaceutical services adapted to the needs of the patients (Richardson and Pollock 2010). According to Moullin et al. (2013), the main purpose of every pharmacy offering service to the people is to be recognized as a provider of value-added services to the patient in order to improve his health (Moullin et al. 2013).

According to the current Bulgarian legislation, the possibilities of the pharmacy as a health establishment to offer additional services and activities, related to prophylactic, prevention and public healthcare responsibilities, are mostly limited to consulting the patients at the time of dispensing the medicinal product.

By contrast, other European countries show a clear tendency and practice, in which the pharmacy indeed has the functions of a health establishment, facilitating the access of the patient to health professionals.

According to the Joint International Pharmaceutical Federation (FIP) and World Health Organization (WHO) Guidelines on Good Pharmacy Practice (GPP), GPP requires that the objective of each element of pharmacy service is relevant to the patient, is clearly defined and is effectively communicated to all those involved. (FIP/WHO 2011) In the Good Pharmaceutical Practice Rules of the Bulgarian Pharmaceutical Union (BPhU) it is mentioned that "*BPhU encourages the pharmacists to introduce and develop new services for the benefit of patients and society*".

The aim of our study is to evaluate the current state of the value-added pharmacy services offered in the community pharmacies in Bulgaria and the pharmacists' attitude toward these services.

Materials and methods

A cross-sectional study was carried-out in the period of August-October 2018. The study includes pharmacists working in community pharmacies. A web-based questionnaire consisting of 15 questions was developed. Internal consistency of a scale was measured by Cronbach's alpha. The overall Cronbach's α (N=11) is 0.500. There were no rejected items (if item deleted, the Cronbach's α coefficients are from 0.20 to 0.439. The coefficients are lower than 0.723). The questions refer the value-added pharmacy services (VAPS) offered in the pharmacies as blood pressure measurement, measurement of blood glucose, injection, vaccination, etc. We studied pharmacists' attitude to provide expanded pharmacy services. Factor variables used in the statistical model were age, gender, work experience, characteristics of the pharmacy customers (age, customers served per day, and the proportion of customers has stayed more constant).

The questionnaire was submitted to all active members of the Bulgarian Pharmaceutical Union (n=5165). Two hundred thirty-three questionnaires were filled and returned (response rate of 4.5%).

Data were processed by SPSS v.24.0. The number of cases falling in each range of categorical variables and the percentage was displayed. Pearson's chi-square test was used. We assume the differences between groups are significant if the p-value is less than or equal to 0.05.

Results

Table 1 presents the distribution of the community pharmacists by socio-demographic characteristics.

The majority (74.7%) of pharmacists were females. About 40% of community pharmacists fallen into the age group 20–30 years, 25.3% were found between 31 and 40 years of age. 36.9% had professional experience under 5 years, and 25.3% – between 6 and 15 years.

Fifty-seven or 24.5% of pharmacists have specialized in the different fields of the Healthcare system. Clinical Pharmacy (29.8%) and Community Pharmacy and Wholesale practice (45.6%) were the most commonly mentioned post-graduate specialties.

Over 51% of the pharmacies offered VAPS (Fig. 1). The proportion of VAPS (Fig. 2) was significantly higher in pharmacies where the children are the most frequent customers (66.7%) or customers are distributed equally among children and adults (62.3%) – ($\chi^2=10.327$; $df=2$; $p=0.006$).

Increasing the number of pharmacy visitors was associated with a decrease in VAPS – from 53.7% in 200 patients per day to 9.1% in more than 500 patients per day ($p=0.825$). There were no statistically significant differences between groups according to the proportion of permanent visitors in the pharmacies ($p=0.535$).

Blood pressure measurement (67.4%) and measurement of blood glucose (12.9%) were the most commonly offered VAPS.

Table 1. Characteristics of the pharmacists (Number, %).

Variable	Number (%)	Variable	Number (%)	Variable	Number (%)
Gender		Age		Professional experience	
Male	59 (25.3)	20–30 years	93 (39.9)	Under 5 years	86 (36.9)
Female	174 (74.7)	31–40 years	59 (25.3)	6–15 years	66 (25.3)
		41–50 years	38 (16.3)	16–30 years	53 (22.7)
		51–60 years	31 (13.3)	Over 30 years	28 (12.0)
		Over 60 years	12 (5.2)		
Total	233 (100.0)	Total	233 (100.0)	Total	233 (100.0)
				Total	233 (100.0)

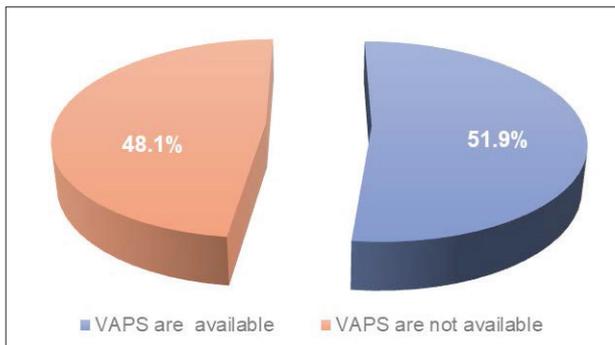


Figure 1. The proportion of the pharmacies offered VAPS (%).

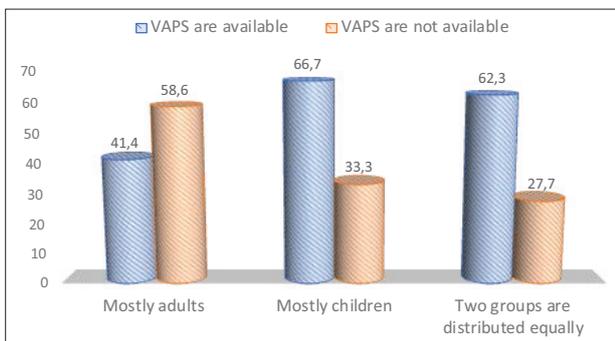


Figure 2. Distribution of the pharmacies according to VAPS and customers (%).

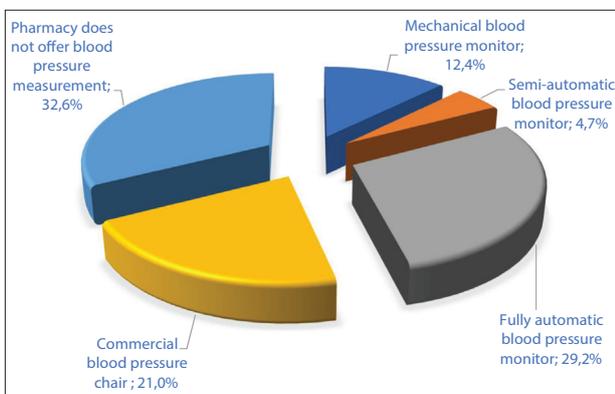


Figure 3. Distribution of pharmacies by the types of the blood pressure devices (%).

Using a fully automatic blood pressure monitor (29.2%) or multi-functional blood pressure monitoring set (21.0%) was a common practice in a pharmacy (Figure 3).

About 60% of community pharmacists were willing to perform other VAPS, different from measuring blood pressure and blood sugar (Figure 4). The community pharmacists (50.4%) had positive attitudes to offering VAPS in pharmacies where most customers were adults compared with 0.8% of the pharmacists dispensed drugs mostly to children. There were no statistically significant differences between groups ($p=0.700$). Increasing of the number of pharmacy customers was associated with a decrease in the proportion of pharmacists who are willing to provide VAPS (from 56.4% in 200 customers per day to 7.5% in more than 500 customers per day); the differences were no statistically significant ($p=0.177$). There were no statistically significant differences between the groups with respect to age and gender ($p>0.05$).

The higher proportion (80.3%) of community pharmacists would participate in future practical training in different medical manipulations, vaccination and first aid training.

As shown in Figure 5, men were more reserved – 32.2% of them had negative attitudes toward practical training of the pharmacists ($\chi^2=7.742$; $df=1$; $p=0.005$).

About 70% of community pharmacists believe that patients would rate VAPS as useful. Thirteen percent considered offering VAPS would be only helped to keep permanent visitors. According to 20%, VAPS would be associated with extra costs and time spending.

The community pharmacists with professional experience fewer than 5 years (90.9%) considered that VAPS would be positively rated by their patients (Figure 6). A significantly decrease in the proportion of positive rates was associated with increasing of professional experience in the pharmacists ($\chi^2=19.495$; $df=9$; $p=0.021$).

In most of the pharmacies (69.0%) where drugs are dispensed for adults, the community pharmacists considered that offering VAPS would be rated positively by patients. There were no statistically significant differences between the groups with respect to the pharmacy visitors ($p=0.744$).

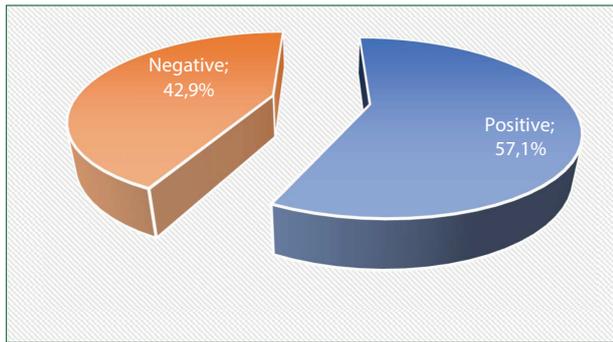


Figure 4. Community pharmacists' attitudes towards the use of VAPS (%).

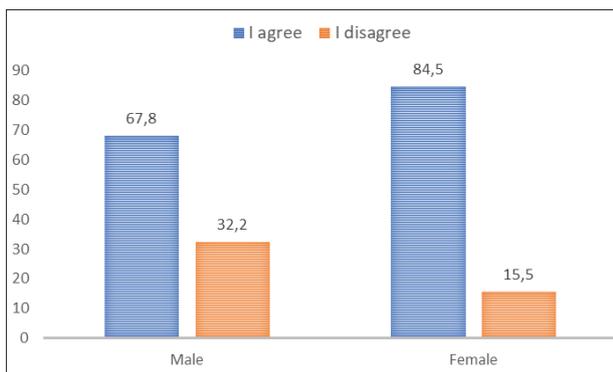


Figure 5. Distribution of pharmacies by gender and their attitudes to participate in future practical training in different medical manipulations, vaccination and first aid training (%).

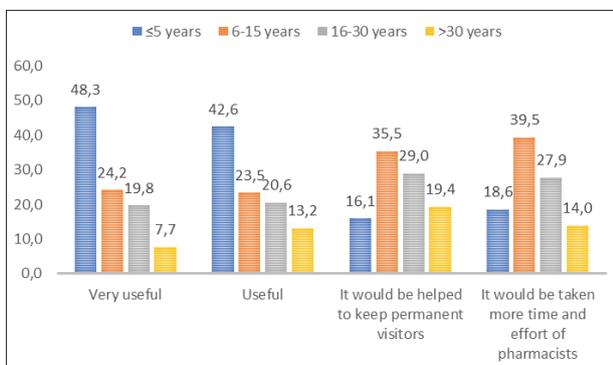


Figure 6. How patients would rate VAPS – community pharmacists' opinion according to their professional experience (%).

Discussion

In our opinion the results above show that VAPS have a huge potential for development in the pharmacies in Bulgaria. Good examples from other countries should be studied and their implementation should be considered. Several examples are mentioned below.

Since 2015 the public funds in the United Kingdom cover the expenses of influenza vaccinations of high-risk groups in pharmacies. Previous studies show that this

leads to an increase of the number of vaccinated patients (Warner et al. 2013), while ensuring lower costs for vaccinations in comparison with the traditional approaches (Atkins et al. 2016). In 2015 more than 500 000 patients in the UK were vaccinated in the pharmacies, while not a single case of harm caused to a patient was reported (Wright 2016).

A pilot project in France analyses the possibilities for influenza vaccines administration in the pharmacy. Trained in advance pharmacists from four regions of the country had the opportunity to administer influenza vaccines on high-risk groups. Within two years 743 554 patients were vaccinated, 173 411 from which for the first time, 60 866 of them being over 70 years old. This additional service was carried out by 13 000 trained pharmacists in 6 716 pharmacies (Wolf-Thal 2019). A similar project was also implemented in the period October-November 2018 in Estonia, where almost 10 000 patients received an influenza vaccine in 15 pharmacies in the whole country, as this was the first vaccination for 70% of them (PGEU 2018).

In its annual report for 2018, the Pharmaceutical Group of the European Union (PGEU 2018) marks more successful examples for the integration of additional services in the pharmaceutical practice. From October 2017 in Belgium begins the project "Family pharmacist", which aims to support patients with chronic diseases by preparing an individual medicinal plan. This plan is being updated with every change of the therapy and it can be sent electronically to the relevant medical specialist. For the first year, 80% of the pharmacies in the country were included in the project and 600 000 patients have benefited from it, which is 5% of the population of the country (PGEU 2018).

Studies show that applying pharmaceutical care and additional services helps to decrease the cardiovascular risk of the patients (Santschi et al. 2011). This is also confirmed by a pilot project held in Ireland. In the period of July-August 2018, a pilot project for the identification of hypertension or arrhythmia on patients over the age of 50 was implemented. Sixty-eight pharmacies in the country participated in the project and for two months 1194 patients were examined in a private consultation room. High blood pressure was identified with 27% of the participants, an irregular pulse was detected in 5.5% of all participants, which can be a sign of arrhythmia and 26% of all participants were referred for an examination to their general practitioner (IPU 2018).

On the other side, a study conducted in 2011 indicates that the patients in Bulgaria are willing to pay for additional services in the pharmacy. (Grigorov et al. 2012)

Conclusion

All the foregoing shows that the pharmacy can offer other services, different from consultation and dispensing of medicinal products. A few of these services are executed in the Bulgarian pharmacies, mainly measuring of the

blood pressure. A big part of the pharmacists working in pharmacies are willing to provide additional services and this is expected to have a very positive perception by the

patients. At the same time, such additional services in the pharmacy will have added value from societal, healthcare and economic point of view.

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