

Implementation of Telepharmacy Services in Community Pharmacy – Pharmacists’ Perspective in Republic of Serbia

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ABSTRACT

Aim/Background: COVID-19 pandemic has casted a new light over the capacity of telepharmacy to increase access to pharmaceutical care, providing more support to patients and allowing new opportunities for pharmacists. However, telepharmacy still hasn't been introduced as a standardised pharmaceutical service in the Republic of Serbia, therefore, the objective of this paper is to assess the potential for its local implementation by exploring the perspectives of community pharmacists. **Materials and Methods:** Semi-structured one-on-one interviews were conducted online from January to March 2021, with pharmacists working in community pharmacies across the country ($n=23$). The questions were developed to ensure the consistency and comprehensibility of the interviews, while keeping the questions flexible enough to allow each participant to share their understanding of telepharmacy, its application, benefits and risks, but also their motivating factors, ideas, and views on overall capacity to introduce such services. Interviews were transcribed ad verbatim, coded and thematically analysed. **Results:** The participants had a good theoretical understanding and were mostly open and ready for the introduction of new services, but due to the lack of regulatory, financial and organisational solutions, participants believed that this is still not possible, especially since remote healthcare services still aren't recognised by the national law of Serbia. **Conclusion:** Although many pharmacists were willing to support patients remotely and have done so on their own in the past, there is a need for further initiatives in order to introduce structured and standardised telepharmacy services in the Republic of Serbia.

Keywords: Telehealth, Telemedicine, Pharmaceutical care, Pharmacy services, Public health.

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INTRODUCTION

Community pharmacists are recognised as competent health professionals to provide pharmaceutical care, though there are doubts whether they are adequately involved in provision of health care. Telepharmacy may facilitate pharmacists' involvement in health care provision and extension of their professional capacity, especially in situations where patients are facing limited access to healthcare. Provision of remote pharmaceutical services may accomplish positive impact on outcomes related to disease management, medication adherence, implications of polypharmacy and self-care.¹⁻³

COVID-19 pandemic introduced new ways and platforms for communication between patients and healthcare professionals and revealed a new potential of remote services.³⁻⁶ During the pandemic, in most countries, community pharmacists have proven to have a crucial role as front-line health care professionals.

Besides supplying medicines, medical products and devices, pharmacists provided services that lead to responsible and safe use of medication, and enhanced medication adherence. Face-to-face contact avoidance in telepharmacy reduced risk of COVID infections and was proven to be a convenient technology for delivering consultative pharmacy services and interventions in both, COVID and non-COVID patients.⁵ Many people possess smartphones and internet access, and therefore capacity of patients to receive such services is increasing.⁷

Before the pandemic, telepharmacy services were developed and implemented mostly in the United States and Australia, due to sparsely populated regions.⁸ However, several countries, including Canada and United Kingdom, have legally allowed pharmacists to expand their role by including remote consultations with patients and ensuring home delivery of medicines during the pandemic. In the United Arab Emirates via telepharmacy pharmacists could provide remote patient counselling, therapy management, identification of COVID-19 symptoms, referral of patients to appropriate medical facilities and dispensing of medicines. On the other hand, in Italy provision of telepharmacy service has been limited due to lack of support from the health authorities.⁹



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Even though the benefits of telepharmacy service are recognised, and COVID-19 pandemic revealed that such services are of great importance, these services are still not widely implemented and legally approved. In the Republic of Serbia, according to the Health Care legislation Act, pharmacists are not allowed to deliver remote pharmaceutical care services outside of health care facilities.¹⁰

The aim of this paper is to assess the factors and capabilities for implementation of telepharmacy services in community pharmacies in the Republic of Serbia.

MATERIALS AND METHODS

Qualitative research of factors and capabilities for implementation of telepharmacy services was conducted online via face-to face semi-structured interviews. All interviews were conducted between January and March 2021, after working hours of pharmacists. The research was approved by the Ethics Committee of the Pharmaceutical Chamber of Serbia (Approval Number: 939/4-3-2, December 2020).

Interview design

Conducted interviews were anonymous and on a voluntary basis. Before the interviews, each participant was introduced to the aims and methods of the study, confidentiality and preservation of their data. Each participant signed the informed consent form, was given a unique key and filled out an online personal information questionnaire. Keys were given in order from DASJ201 to DASJ229, based on the order candidates were expressing their interest to participate in the study, and under these keys collected data was analysed and presented. The personal online questionnaire, created as google form, consisted of questions regarding age, gender, years of professional experience, degree of participants' education and workplace properties including ownership type, size of community pharmacy and its location.

The interview guide for semi-structured interview consisted of 15 questions regarding pharmacists' attitudes on the concept, advantages and limitations of telepharmacy, and digital technologies used during the pharmaceutical care provision [Additional file 1]. Researchers who conducted interviews asked questions in the same order, and each interview was planned to last approximately 20 min.

Sampling and recruitment

Pharmacists were recruited from different community pharmacy chains in different geographical regions of the Republic of Serbia using the snowball method.¹¹ At the point at which no new information and themes emerged during interviews, it was agreed that data saturation was reached and no further interviews were needed.¹²

Inclusion criteria involved community pharmacists who provide direct pharmaceutical care to patients and have less than 35 years of work experience, internet access, familiarity with digital technologies and using Webex Meeting software.

Setting, data collection and data management

Collected personal data of pharmacists were stored on google drive of the researcher J.I. and were available only to this researcher. Semi-structured interviews were conducted online via Webex video meetings. During the interviews only a researcher and a participant were present, to ensure a quiet environment. The interviews were conducted by researchers D.O. and J.I., each was recorded and preserved on the Webex recording storage locations of both researchers. Only these two researchers had access to pharmacists' data collected during interviews/meetings. Each interview was transcribed *ad verbatim* and then answers were coded and analysed.

Data analysis

In order to assess factors and capabilities for implementation of telepharmacy services in community pharmacies, a six-step approach of thematic analysis developed by Brown and Clark was applied.¹³ Firstly, (1) familiarisation was performed by continuous listening to the recorded material in order to make notes on any initial analytical observation. Then, the recorded materials were transcribed by researchers D.O. and J.I. while preserving the data privacy. This was followed by steps: (2) generating initial codes, which organised data in meaningful groups; data were coded by researchers D.O. and J.I. using a combination of inductive and deductive coding (inductive codes were derived from the interviews, while deductive codes were from the topics used in the interview guide) and then all codes were reviewed by researcher A.M.G. to make sure that adequate codes were selected from each answer and then properly analysed;¹⁴ After reviewing the recordings, understanding the scope and context, and organising the data into topics, groups of codes were singled out with the aim of mapping key patterns; (3) Searching for themes – sorting the codes in broader themes; (4) Reviewing and refinement of emerged themes - team members analysed data, compared selected themes and resolved disagreements through discussion until agreement was reached on themes;¹³ (5) Final defining and naming of themes; (6) Analysing of data and reporting.¹³

Due to the results presentation in international literature, generated main and sub-categories as well as participants quotes in English were translated with the use of informal language to reflect the actual type of language used during the discussion. The translation was performed by the research team.

RESULTS

Participants' characteristics

The interviews were conducted with 23 pharmacists (19 female and 4 male) dominantly of 25 - 35 years of age (60.9%), and with less than 10 years of professional experience (69.5%). Most of them had master degree ($n=20$, 87.0%), and 3 (13.0%) had higher degree (postgraduate specialisation).

Only one pharmacist was employed in public and all others in private community pharmacy chains. Most of pharmacists were employed in community pharmacy chains with more than 10 pharmacies ($n=18$, 78.3%), and in chains with 5 to 10 pharmacies ($n=2$, 8.7%) and small chains with up to 5 pharmacies ($n=3$, 13.0%). Pharmacies were located near healthcare facilities ($n=14$, 60.9%), in a city centre ($n=8$, 34.8%) and in a city suburb ($n=1$, 4.3%).

Thematic analysis results

According to six-step approach of thematic analysis several key themes were identified. The final mapping of themes and sub-themes is presented in Table 1.

Perception of the service

Remote pharmaceutical care

During the interviews participants described telepharmacy as remote pharmaceutical care. All pharmacists explained that telepharmacy could be used for counselling of patients on medication use, medical condition/disease, supplementation, nutrition, health promotion and disease prevention. However, a few pharmacists mentioned other activities (ordering, purchasing and delivery of medicines, supplements and/or medical devices) that may be delivered using telepharmacy. In addition, pharmacists suggested that telepharmacy may be used as a platform for sharing and analysing patients' e-health records. TV commercials could be of use for advertising a new pharmacy

service "telepharmacy", as pharmacists thought that this service would bring the most value for the population of older patients who mostly use TV as a source of information.

Everything we normally do [services provided to patients] could be provided via telepharmacy, of course, if the services are standardised... the possibilities are incredible - from counselling [patients] on smoking cessation or preventive actions, to counselling in case of chronic non-communicable diseases, medication dispensing, monitoring [health] parameters [of patients] - (DASJ203)

Knowledge transfer and communication

Majority of participants saw telepharmacy as a tool for patient counselling, communication and transfer of knowledge, while outlining that the relationship with patients is of most importance. Some pharmacists added that telepharmacy could be used also for educative purposes of health care professionals (HCP) and interprofessional collaboration/communication with other HCPs.

In my opinion, telepharmacy is a [tool for] remote transfer of knowledge, whether it is the provision of pharmaceutical care from a distance [to patients] or any other type of knowledge transfer, consultation with colleagues, platform for webinars or other forms of education. (DASJ203)

Innovation and Availability

Telepharmacy was also perceived as room for innovation and bringing new pharmacy services and IT solutions while increasing the availability of pharmaceutical care.

It represents an innovation of pharmaceutical services that will bring a positive experience to pharmacists, and facilitate provision of services to patients. (DASJ221)

The majority of pharmacists believed that telepharmacy will change the future of pharmacy services in Serbia. Meanwhile, some pharmacists expressed concerns if such services can be implemented locally, due to requirements of IT support and adequate digital literacy of users. A few participants thought that telepharmacy service is not needed as pharmacists are already very accessible and direct counselling of patients possess numerous advantages, especially for the older patients.

A direct communication means a lot [to patients], when we [pharmacists] are face to face with them [the patients], because in these situations we can see if they understand us,... and patients are most often of older age who may not even know how to use modern technologies and who often need repeating of advices, to be sure that they understand them- (DASJ206)

Table 1: Final thematic framework with major themes and subthemes.

Major theme	Sub-themes
Perception of the service	Remote pharmaceutical care
	Knowledge transfer and communication
	Innovation and Availability
Motivation	Role development and workload optimisation
	Professional identity and satisfaction
	Patient satisfaction
Quality assurance and organisation	Equipment
	Education, competencies and standardisation
	Security and safety
Financial impact	Funding and business models.
	Healthcare system savings
	Profitability

Motivation

Role development and workload optimisation

Participants explained that introduction of telepharmacy services in community pharmacies could enable more time for patient counselling, better workload distribution, service standardisation and improved service delivery and quality. Some pharmacists recognised that implementation of telepharmacy could lead to more job opportunities, and opportunity for patients to choose their community pharmacist for counselling.

-I see it [telepharmacy] as an elevation of the service we are providing to the patients, while trying to meet their needs at a given time in the way that works best for them. We are doing absolutely everything possible to bring the service closer to our patients-(DASJ203)

Almost half of the participants stated that they do not see demotivating factors, while the rest shared concerns surrounding the potential increase of workload while pharmacists already are overworked, and a large amount of time that implementation of telepharmacy services can take due to poor organisation. Finally, a few participants pointed out that they don't see the benefits of introducing telepharmacy in comparison to the current system.

-another obligation in a day that lasts only 24 hr. The biggest reason why a pharmacist would say no to providing such service is time. I think that pharmacists have less and less spare time and that is the biggest problem-(DASJ204)

Professional identity and satisfaction

Participants brought up their concerns surrounding the existing distrust in pharmacists as health professionals, high expectations, poor communication, the lack of real-life interactions (their preference over virtual ways of communication), lack of patience, chance of failure, challenges of coping with innovation and the present demotivation of pharmacists as health professionals. All of those were recognised as limitations to the implementation of telepharmacy. On the other hand, main motivating factors for the participants were the opportunity for growth (personal, professional, with the aim of learning and providing better services), re-establishing the professional identity of pharmacists as health workers, besides the opportunity to help patients in new ways and establishing more effective communication. A few mentioned new acquaintances, personal satisfaction, and adequate compensation.

You know, I love doing this job, and I find satisfaction in being able to help – that's my biggest motivation. (DASJ209)

Patient satisfaction

All participants thought that the introduction of telepharmacy would have a positive effect on patient satisfaction, with one participant stating that there is a risk that patients who will not be able to participate in telepharmacy may feel neglected, but

added that can be surpassed over time. Telepharmacy could lead to increased availability of pharmaceutical care, improved patient follow-up, less crowds and retention time in pharmacies, creating space for building a more open relationship between pharmacists and patients, reducing exposure to potential infections (i.e. COVID-19), and it was recognised as a convenient method for younger patients.

-close contact means a lot to them [patients]...they certainly have questions, and when they are provided with an explanation, when therapy and medical history are being monitored, activities that often is no time for in pharmacies - that would affect their satisfaction, more trust would be in place and patients would be treated with more accuracy. (DASJ211)

Key patient-related limitations which were mentioned were the elderly and uneducated population, digital literacy, difficult coping with technological change and innovation, as well as the lack of required technology in patients. One participant added that these groups are probably the ones who need this type of support the most.

It can hardly come to reality, at least in an area like this, because people are not ready for such technology. They do not have enough experience or education. Of course, there are always people who are looking forward to it, but it is mostly youth. The older patients, who need help the most, find it difficult. Digital literacy would be one of the aggravating circumstances too. (DASJ209)

All participants said they are motivated to provide this type of service, except one who was concerned that remote counselling increases the chance for miscommunication. Most participants believe that their colleagues would share their perspective, but admit that there is a generation gap, differences in priorities, interests and personalities, and maybe not everyone would agree.

Quality assurance and organisation Equipment

Only a few participants believed that special software is needed to provide telepharmacy services, while others explained that pharmaceutical care could be provided online using already available tools (i.e. social media, email), offline by phone (calls / SMS) and by combining these channels of communication. More than a half stated that so far, they have had some experience in providing pharmaceutical services using digital media (counselling patients via email, phone or using available applications such as Skype, Viber and Messenger), on a voluntary basis. Others stated they didn't have such experience or were unsure. The advantages of video calls over classic phone calls were emphasized, as more non-verbal communication can be captured that way, however, many stated that they prefer communication with patients in person.

When we talk about the provision of pharmaceutical care, so far services have been provided via telephone, email and 'Ask a Pharmacist' segment. That's what we did. With COVID we started using Skype, but it was individual, optional and only when the patient actually asked for it. Not as an established service, but as a response to the patient's request. In the last few years, phone and email were used daily. We sent therapy instructions by e-mail, especially when it came to patients who have caregivers., while the telephone services were mostly provided to the patients themselves. (DASJ203)

Education, competencies and standardisation

Participants outlined the need for adequate staff, service standardisation, clear responsibilities, and a large amount of knowledge and experience that pharmacists must have to be able to provide these services. They also presented the idea that if pharmacists specialise in different health areas, they could provide more effective results.

I think we need to take into account how the framework is set, how widely this would be present. Cadre, knowledge and patient safety must come first. There can be tricky areas, and the question would be who will be responsible. (DASJ217)

Security and safety

A few participants confirmed that they believe that the current national regulatory framework supports the implementation of telepharmacy, some answered negatively, while the majority were unsure (Figure 1). The majority of participants explained that they consider telepharmacy as safe as counselling in a pharmacy, as long as the system is properly implemented and everyone understands their limits, experience and competencies (Figure 1). Participants brought up the risk of users with malicious intentions (to say or show explicit content), presentation, perception misrepresentation of these services, abuse potential, data protection issues, misunderstandings and errors, especially if the patient is not seen in person (e.g. in case of skin conditions). Additionally, competition was mentioned, challenges surrounding the cooperation between the state- and privately-owned pharmacy chains, and necessary public health

improvements. However, the majority of participants had a positive attitude, explaining that the challenges will be possible to overcome.

This figure captures responses to Yes/No questions which were asked during the interviews (horizontal axis). Participants further elaborated their responses during the interviews.

[telepharmacy] Safe, in most cases, but I have to distance myself because there is always the possibility of abuse, misunderstanding and mistakes. (DASJ213)

If used properly, it [telepharmacy] can be safe, but there are many risks to use. The main risk is that the patient can misunderstand the advice. We cannot see them in person, for example, in case of skin conditions, because there is no direct contact with patients. (DASJ216)

Financial impact Funding and business models

Participants identified obtaining resources and financial support for the implementation and enforcement of services as a challenge. Majority of participants believe that telepharmacy services should be charged (Figure 1), but free of charge for the patient, as pharmaceutical services in Serbia are not billed to patients. A half pointed out that these services should be charged from the compulsory health insurance, possibly with a minimal participation, or a combination with private insurance. Other financing options which were mentioned were online shopping, overtime compensation, pharmaceutical companies and the employers (pharmacy owners) themselves. Several participants suggested that the implementation could be organised as duty rotation between pharmacy employees, that services could be ranked according to the nature of the problem, service complexity, time spent, and that pharmacists' activity and performance should be monitored and awarded accordingly.

I absolutely believe that it [telepharmacy services] should be free until the moment any of the services we provide in the pharmacy start being charged. Then we can discuss whether a service can / should / has potential to be charged if it is provided remotely. In the current situation, I don't think it can be charged, but I think we should charge for pharmaceutical services, in general. (DASJ203)

Healthcare system savings

Only two participants pointed out that they don't think that implementation of telepharmacy could mean greater savings in the health system. Others responded positively, a few with a dose of uncertainty, and some added that they expect this only in the long run (Figure 1). Participants who answered positively, believe that telepharmacy could prevent further unwanted events and complications that would burden the health system, save resources, reduce treatment costs and detect incorrect therapy use

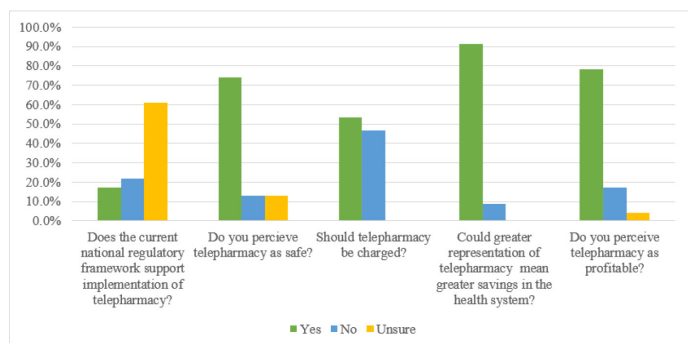


Figure 1: Responses to Yes/No questions which were open for elaboration.

in time by more actively monitoring the patients. More awareness and less effort for patients and doctors could mean savings for the health system.

I think that there could be greater savings in the long run, if patient counselling would prevent a series of events that would burden the health system. (DASJ206)

Greater representation of pharmacists in the health care system could provide huge savings, that means greater representation of telepharmacy would do so too. (DASJ203)

Some participants believed that patients would go to the physician more often because pharmacists would encourage that when recognising patients who are in critical state, with inadequate therapy and/or inadequately controlled condition. On the other hand, the majority believed that patients would be less likely to see a doctor because a pharmacist could identify problems with therapy, assess the need to see a doctor and help, provide information and encourage prevention, therefore the need for additional interventions would decrease. A few participants believed that nothing would change (Figure 1).

I don't think anything would change. An advice is provided in pharmacies, regardless of the fact that we point them to see the doctor when there is an alarming signal. Unfortunately, even now, the health system capacity is not able to accept all patients, so our advice is not crucial either. (DASJ215)

Profitability

Most participants thought that telepharmacy can be profitable, but mostly in big cities and through increased turnover. Some indicated that this could only be profitable in the future, because the current conditions would not allow it.

Since it [telepharmacy] would be done in pharmacies, the profit would probably exist because people pay for the products, but it could be economically profitable for the entire health care system as I see this as increase in efficiency and a common good. (DASJ205)

DISCUSSION

The potential of telepharmacy to facilitate time management and workload of community pharmacists has already been recognised in other European countries. Pharmaceutical services which are being provided online in those countries included support with issuing and documenting products, detection of possible interactions and identification of adverse reactions among dispensed drugs.¹⁵ In our study, the participants brought up that they see the potential for better work distribution within the pharmacy through telepharmacy and, consequently, workload optimisation. Also, the participants saw telepharmacy as a tool that should support pharmacists' work through various services,

as it has been shown to do in European countries where these services have been introduced.

Pharmacists may suffer from job stress that is often the result of high expectations, volume and complexity of work combined with insufficient time, skills, opportunities for advancement, staffing, salaries, support at work and recognition by other health professionals, which leads to the risk of burning out.¹⁶ In our study, participants indicated that they believe that pharmacists in Serbia are overburdened with work, while their knowledge and professional competencies are not adequately utilised, and that the introduction of telepharmacy could facilitate time management and workload within pharmacies which would allow them to pay more attention to patients and provide better healthcare services. Any development should be considered in the context of well-being of health professionals who implement and influence change. If the stress and scope of work in pharmacies are not recognised and reduced, pharmacists and patients may be at risk.¹⁶ The participants in our study highlight the same.

In the United States, pharmacists have access to the Internet during working hours and mostly they are familiar with social networks. E-mail, text messages (SMS) and social networks (Facebook) are used to communicate with other healthcare professionals and patients. The perceptions of pharmacists who communicate with patients using electronic tools on information about drug therapy once a month or more often were more positive than those pharmacists who never or rarely do so.¹⁷ Participants in our study also show familiarity and mention social networks and online applications as something they are willing to use as a communication channel to provide pharmaceutical care.

The European Commission defines telepharmacy as the remote provision of pharmaceutical services such as therapy review, drug dispensing, patient counselling, prescription verification and therapeutic monitoring. Remote health care can be delivered in various formats, using different devices and methods. Also, the integration of telemedicine into IT health systems is envisaged, which would mean access to electronic health records.¹⁸ Perceptions of participants in our research are in line with this definition, but they have put an accent on communication with the patient. However, as almost a quarter of the participants are not sure whether they have had experience in providing pharmaceutical services using digital media, this may indicate that there is uncertainty when it comes to what falls under the term telepharmacy on a practical level.

Advertising in healthcare through the mass media, if well designed and implemented, provides healthcare providers with opportunities to interest and involve current and future patients.¹⁹ This could imply the potential for presenting and promoting telepharmaceutical services. However, how advertising in this way entails great costs and controversial attitudes it is needed to pay special attention to this approach.²⁰

The presence of telepharmacy within specialised units, such as cardiovascular and oncology, has shown its advantages.^{21,22} This could indicate the importance of Serbian pharmacists starting to specialise in different areas of health and thus provide more support to the community.

In a study conducted in Republika Srpska (Bosnia and Herzegovina), chronic diseases were the main reason for seeking teleconsultation with pharmacists, while a smaller percentage of patients reported only acute / subacute conditions, or sought information about COVID-19. Telepharmacy was recognised as a suitable model for pharmacists, as they demonstrated a high level of resilience and ability to address the needs of patients.⁵

Phone calls and video calls are widely used to provide pharmaceutical care, depending on the patients' needs and capabilities.²³ A study about telepharmacy services and outcomes in the U.S. reported that pharmacists recommend the use of webcam because those provide better privacy and longer counselling. The effectiveness was demonstrated when using videos to explain the inhaler use instead of using regular instructions.²⁴ Participants in our study pointed out that they saw the advantages of video calling over a regular call, and expressed their willingness to participate in such counselling.

In Denmark, most pharmacies offer pharmaceutical products online and every pharmacy has a legal obligation to advise patients free of charge. In 2011, the Danish Pharmacy Association provided a central counselling solution as a telepharmacy service through its website. Most of the users were in the age group of 18 to 35, and most of the participants stated that they were satisfied with the services provided and that they would use the service again.²⁵ The majority of the participants in our research believed that teleconsultations with patients should be free for them. They also expected that this set of services would be primarily attractive to younger users.

Participants in our study shared the concern that older patients would not want to accept telepharmacy due to barriers related to the application of technology. This has also been seen as a challenge in the United States, but another barrier to providing pharmaceutical care was that older patients refused to leave their homes, so pharmacists were able to monitor the patients through telepharmacy. This has increased patient trust and satisfaction with the service.²⁴ Certainly, as a result of the COVID-19 pandemic, use of telepharmacy to provide pharmaceutical care and counselling to patients has increased despite geographical area and other challenges.²³

The advantages of telepharmacy include easy access to health services (dispensing drugs, reviewing therapy, counselling and patient education) from distant locations (even when traveling abroad) or outside working hours, on weekends, holidays and during emergencies. There are also economic benefits, patient satisfaction, effective patient counselling and avoiding staff

shortages.^{24,26} Participants in our study agreed with the above and believed that patients in Republic of Serbia would be mostly satisfied with such services.

In response to the pandemic, the number of pharmacists working remotely in the United States has increased to ensure business continuity and social distancing. Although these changes were supposed to be short-term, the continued expansion of telepharmacy suggests a wide range of services that could be carried out remotely. In addition, there are implications of various benefits ranging from improving the work-life balance to alleviating the financial burden after the pandemic. The integration of part-time pharmacists into modern models of practice could be considered in order to optimise the work prioritisation and distribution.²⁷

On the other hand, a global challenge is the lack of adequate regulations.²⁸ Participants in our study were mostly unsure whether the local regulatory frameworks support the development of telepharmacy. In addition, the greater burden placed on one pharmacist and the fact that it takes a long time to financially level out due to the large initial investments required have been documented.²⁸ Implementing telepharmacy (hardware, software, connectivity and operating costs) requires significant time, effort and money. Information security and unauthorised drugs use or the dispensing of drugs without a proper prescription are becoming a concern too.²⁴ Although some participants in our study pointed out that they see telepharmacy as an opportunity to reduce risk, the European Commission recognises different types of risks that can be a barrier in this case, including the risk of equipment malfunction, personal and clinical data protection, validity of healthcare professionals' accreditation, medical liability. In addition, they point out that telehealth safety is rarely examined and it is difficult to form a realistic image.¹⁸

Many participants mentioned limited access to technology and lack of digital literacy as barriers to telepharmacy. The older generations were seen to have more difficulty participating in telepharmacy, like those of lower socioeconomic status.²³

However, the available data when it comes to the financial significance and contribution of telepharmacy are somewhat obscure. It has been reported in the United States that opening a new pharmacy is much more expensive than the costs involved in equipment, employment and training for telepharmacy, especially since one pharmacist can provide services for multiple locations. In addition, it was proven to be more financially acceptable for patients, and that there are significant savings in hospitals with telepharmacy. This saves time and travel costs, which are major obstacles for elderly, rural areas and citizens with disabilities. Finally, significant savings were shown when telepharmacy was used to support older patients in drug management, as an alternative to delaying treatment when pharmacists were not present on site.²⁴ It has been shown that the number of interventions

by pharmacists with telepharmacy is increasing, but significant cost savings have been estimated as a result of preventing, identifying and resolving drug-related problems.²⁹ Pharmacists in our study mostly agree that telepharmacy could mean significant savings for the health system and its participants, and expect an increase in the number of timely health interventions that would lead to better disease prevention and control, as well as a possible reduction in health interventions overall. Although it remains a challenge to form a business model that could make telepharmacy profitable, there are results that indicate that the service becomes profitable when several pharmacy locations are united with a sufficient number of users.³⁰

Strengths and limitations of the study

This qualitative study was performed with the use of individual semi-structured interviews. This format presented participants with a chance to comfortably and equally share their personal experience and attitudes and is the reason it was chosen over a focus group discussion. Additionally, the interviews were conducted remotely which was a more time and money efficient way of gathering data, especially due to regional spread of involved participants and the circumstances of the COVID-19 pandemic. Included pharmacists were experienced and proactive community pharmacists and addressing pharmacists' views first offers a good starting point for exploring the views of other stakeholders in the future. This study supports the importance of implementation research as an essential part of introducing pharmaceutical services into pharmaceutical practice. It also shows an example of a service implementation in Republic of Serbia which is rarely found in the literature.³¹

On the other hand, sampling was done as enrolled research participants helped recruiting subjects for the study (snowball sampling), therefore conducting interviews within a particular network could have led to bias and insufficient distribution of the target population.³² Additionally, we have not returned the transcript and quotes to participants for validation. This might have decreased the level of results credibility.³¹ Data analysis was conducted manually which also could have created a chance for bias,³³ and made the coding process significantly longer. Another limitation of this study was the extended duration of the trial, which could have caused difficulties in recalling the interviews. This could have affected the reliability of the results and must be considered in future studies.³⁴ Finally, lack of available data and literature on financial development and impact of telepharmacy, including income of pharmacists involved with telepharmacy in Serbia, but other countries as well, makes it more challenging to justify the research, however it creates an opportunity for further research. To assess the effectiveness of telepharmacy in the region, it is necessary to conduct research on pilot projects on a larger sample which should include more stakeholders, taking into account the benefits for the patient, but also for the health system and health professionals.

CONCLUSION

Community pharmacists in Republic of Serbia have a good theoretical understanding of the concept of telepharmacy, as well as its potential. They are open and ready to introduce new standardised services that could improve local pharmaceutical care, especially since they are already providing remote pharmaceutical services on their own. However, as a lack of regulatory, financial and organisational solutions was recognised, pharmacists believe that this is still not possible. Besides wanting to contribute to the healthcare system more and optimise their workload, community pharmacists were hoping that the implementation of telepharmacy could help them recover their professional identity, as they feel unappreciated, misused and overworked. Although many pharmacists have been willing to support patients remotely, additional initiatives and further research in the region are necessary to introduce structured and standardised telepharmacy services.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

COVID-19: Coronavirus disease 2019; DASJ201 to DASJ229: Participants codes; D.O., J.I. and A.M.G.: Authors' names, abbreviated; HCP: Health Care Professional; SMS: Short message service (text messaging); U.S.: United States (of America).

SUMMARY

Community pharmacists are showing a lot of initiative when it comes to expanding options to provide pharmaceutical care to patients. Providing remote pharmaceutical services is one way of doing that, however telepharmacy still hasn't been introduced as a standardised pharmaceutical service in the Republic of Serbia, therefore, this study assessed the potential for its local implementation by exploring the perspectives of pharmacists. Participants shared their understanding of telepharmacy, its application, benefits and risks, motivating factors, ideas, and views on overall capacity to introduce such services. They were mostly open and ready for the introduction of new services, but due to the lack of regulatory, financial and organisational solutions, participants believed that this is still not possible, especially since remote healthcare services still aren't recognised by the national law. Further initiatives are needed in order to

introduce structured and standardised telepharmacy services in the Republic of Serbia.

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