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Experience and perspectives of users and non-users of the Ask your pharmacist teleconsultation platform

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ABSTRACT

Background: There is a growing trend concerning the use of information and communication technologies (ICT) for seeking health-related information such as information on medications and side effects. However, people looking online for health information cannot always judge the credibility of the information.

Objective(s): This study aimed to describe patients' and pharmacists' experience using an asynchronous teleconsultation platform entitled "Ask Your Pharmacist" (AYP) and gather their perspectives and those of various healthcare and social services professionals providing primary care.

Methods: We performed semi-structured individual interviews over the telephone with patients having used the platform, pharmacists providing teleconsultation services on the platform, and various professionals delivering healthcare and psychosocial services to ambulatory patients. The questions explored specific themes, such as the perceived utility and impacts of the platform. We transcribed the interviews and performed a content analysis.

Results: We interviewed eight patients, six AYP pharmacists, and 15 healthcare and social services professionals. Participants perceived that the platform was simple to use and accessible. They also perceived that AYP promoted the visibility and the value of pharmacists' services. Some constraints were also shared, notably regarding questions requiring immediate attention or about complex situations.

Conclusions: The experience and perspectives of users and non-users of the AYP platform are mostly positive, but concerns were also raised regarding patients' safety. Results suggest that AYP could be a complementary tool to offer to ambulatory patients for simple, general and non-urgent problems.

1. Introduction

There is a growing trend concerning information and communication technologies (ICT) for seeking health-related information. In 2012, 59% of American adults had used the Internet within the last year to seek health information, and 35% went online to figure out what medical condition they have by searching for symptoms they experienced.¹ These figures certainly grew in 2020–2021 due to the pandemic and an increased reliance on remote healthcare services to comply with social distancing. Information on medications^{2,3} and side effects⁴ are topics frequently searched on the Internet. People looking online for health information often visit websites of questionable quality,² and their ability to judge the credibility of information sources may be limited. Indeed, Peterson et al.³ found that people had limited awareness of how they found and evaluated Internet-based information on medications and had not paid conscious attention

to how they selected information. Ek et al.⁵ reported that approximately one-third of people have no conception about the reliability of health information available online. A systematic review also revealed that the quality of online health information is suboptimal.⁶ This evidence highlights the need to provide credible online sources of health information, and the application of ICT to the health sector opened new perspectives in this regard.

In the province of Quebec, Canada, community pharmacists are currently well-positioned for providing primary care.^{7,8} Considering the difficulties in accessing medical resources,⁹ their scope of practice was enlarged in 2015 to include clinical activities such as prescribing for minor ailments.^{10,11} In March 2020, new rights were granted in the COVID-19 pandemic context and allow additional clinical activities such as vaccination.¹² The population also perceives that pharmacists' role is increasingly focused on providing clinical care rather than dispensing medications.¹³ Moreover, a study by Crilly et al.¹⁴ suggests

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that the population is opened to incorporating ICT tools into pharmacy services.

Given this context, in 2015, a pharmacist developed an online platform entitled “Ask Your Pharmacist” (AYP: www.askyourpharmacist.ca).¹⁵ The aim was to provide credible health information to the population and promote the appropriate use of medications. In October 2018, 246 pharmacists in Quebec were available for asynchronous teleconsultation services through this platform, and this number continues to grow with more than 500 pharmacists involved in 2021. It is free of charge, and anyone aged 14 years or older can ask a question in French or English after a quick registration, including information about the region of residence, medications, and allergies. Participating pharmacists volunteer their time to provide this service to their clients or acquire new ones by connecting with patients living near their pharmacy. The AYP platform is managed by a company owned by pharmacists and funded by displaying ads to users. The platform functions the same way as short text messaging. When a person asks a question, it is simultaneously sent to three participating pharmacists practicing in their region or nearby. When one of these pharmacists replies to the question, the person receives a notification email to return to the platform to read the answer. If necessary, a discussion in text messaging can occur between the pharmacist and the patient. Every question is usually answered within 24 h. The responding pharmacist can then anonymize its answer and publish it on the platform. Those published answers are available for browsing by other patients with similar questions. In 2021, the platform comprised more than 12,500 published answers. Here is an example of a published question and answer: “Hi. I take Eliquis morning and evening. Do I have to stop it the day before I get the Moderna vaccine for Covid-19? – Pharmacist: Hi! You do not need to stop your medication before the vaccine. Warn the vaccinator that you are receiving this medication so special care will be used to reduce the risk of bleeding”.

Since the creation of the AYP platform, a few other teleconsultation services offered by pharmacists have been published online. To our knowledge, AYP is currently the only asynchronous telehealth service provided by pharmacists. This study's objective was to describe patients' and pharmacists' experience using the AYP platform. We also sought perspectives of various healthcare and social services professionals who meet ambulatory patients and had not used this platform yet. This was done to explore their views on the possibility of referring their patients to the AYP platform in the future. The perceived utility, advantages and disadvantages, facilitators and constraints, and impacts of the use of this platform were obtained.

2. Methods

2.1. Study design and population

This paper reports the qualitative part of a mixed method (quantitative and qualitative) study. The quantitative component, an online survey, has been published elsewhere.¹⁶ Briefly, this survey comprised closed-ended questions, with multiple-answer choices or 4-point Likert scales. Patients who used the AYP platform and pharmacists who answered a question on the platform, recently, were eligible to participate. The survey was available in French since it is the language most frequently spoken by users (77% of the population in the province of Quebec speaks French). At the end of the survey, participants were asked if they were interested to share their experiences and thoughts in depth during an individual telephone interview.¹⁶ From October 2018 to April 2019, individual semi-structured interviews were conducted over the telephone with some of these interested patients and pharmacists (i.e., users), and with various professionals delivering healthcare and psychosocial services to ambulatory patients (i.e., non-users). The telephone was the preferred mean for the interviews as participants came from various regions in the province of Quebec. A research professional experienced in qualitative research and unrelated to the AYP platform performed the telephone interviews.

2.2. Recruitment

We recruited AYP users among respondents to the online survey agreeing to share their experience with the AYP platform in an interview. Those respondents had used the AYP platform during three different periods in 2018–2019 (i.e., in summer, fall, and winter). To collect a variety of experiences from a wide spectrum of questions, we selected patients and pharmacists from the three periods and according to some characteristics gathered in the survey (i.e., level of education, age, sex and region of residence for patients, and region of practice, age, sex and number of questions answered for pharmacists). We recruited non-users by diffusion of an invitation email to the University Laval's staff, the *Conseil des médecins, dentistes et pharmaciens* of the *CHU de Québec-Université Laval*¹⁷ members, and among the research team's networks. To be eligible, these professionals had to practice in a primary care setting (e.g., family medicine group, community pharmacy, local community service center, private clinic) and be either a healthcare professional (e.g., physician, pharmacist, nurse, nutritionist, physiotherapist, occupational therapist, kinesiologist, speech therapist) or a social services professional (e.g., social worker, psychologist). Family physicians who practiced in other care settings such as emergency services were also eligible. Those interested to participate were invited to contact the research team. A research professional provided details on the study to all potential participants, obtained verbal consent that was audio-recorded and scheduled the telephone interview. Non-users were invited to watch a short video introducing the AYP platform, and to navigate on the platform prior to the interview. Participants received monetary compensation of CAN\$50 for their time. The Ethics in Research Committee of the CHU de Québec-Université Laval Research Center approved the study (#2019-4220).

2.3. Data collection

The research professional conducted the interviews following a semi-structured guide. This guide was developed by the research team in collaboration with a patient-partner and based on relevant items for quality of care assessment from the framework of Mosadeghrad.¹⁷ We designed this guide to cover all aspects of users' and non-users' experiences and perspectives with the platform and tailored it for each type of respondent. Open-ended questions sought information on the accessibility of the service, including facilitators and constraints to the platform's use, satisfaction, perceived efficiency, efficacy and acceptability, perceived utility, advantages and disadvantages, and perceived impacts. We also asked participants their recommendations to optimize the platform use. The interview guide for pharmacists using the platform also included items from the framework of Law et al.¹⁸ to evaluate their satisfaction in delivering teleconsultations. The questions covered their motivations for participation and experiences with a teleconsultation service.

To describe patients' and pharmacists' characteristics, we used information gathered during the online survey. Otherwise, we gathered information at the beginning of the interviews. The research professional took field notes at the end of each interview (e.g., a summary of principal information, thoughts, distinctive characteristics) and used it for a preliminary data analysis. The number of interviews with patients and AYP pharmacists was increased until this preliminary analysis revealed a data saturation (i.e. until no new salient ideas were obtained).¹⁹ Regarding the other healthcare and social services providers, a small number of each of them was targeted to collect a diversity of perspectives. All interviews were audio-recorded and transcribed verbatim. We conducted all interviews in French, and a professional translator translated the quotations presented in this article in English.

2.4. Analysis

We performed a content analysis with the assistance of the NVivo12 software (QSR International) and following an inductive and deductive approach.²⁰ First, the research professional who performed the interviews

proceeded to data segmentation and categorization and elaborated a codebook. Second, another research professional independently categorized 25% of interview extracts using the codebook. Third, the two research professionals compared their categorizations, and discussed all coding mismatches until a consensus was reached. When a consensus could not be reached, a third person of the research team was solicited for the final decision about categorization.

Once the codification and preliminary analysis was completed, a summary of the main results was sent by email to all healthcare and social services professionals who participated in an interview. They were invited to provide their comments and reactions about the results, and to participate in a deliberative dialogue workshop.²¹ Different stakeholders involved in primary care who did not participate in the individual interviews were also invited to participate in this workshop through the diffusion of an invitation email to the University Laval's staff, and the *Conseil des médecins, dentistes et pharmaciens* of the *CHU de Québec-Université Laval* members, and among the research team's and AYP platform's networks. This dialogue enabled the research team to discuss and validate their interpretation of key results and to prioritize recommendations to ensure the AYP platform is safe and well adapted to users' needs. The deliberative dialogue lasted half a day, and was audio-recorded. Three research team members were present: one presented the synthesis of results, one guided the discussion and one observed the discussion process and took notes. After the deliberative dialogue, a research professional synthesized the key points discussed by using the observer's notes and listening to the recording. This synthesis was reviewed and validated by the principal investigator.

3. Results

3.1. Characteristics of participants

Among the potential participants contacted, one professional (5%) and four patients (33%) were not interested in participating in an interview. Twenty-one professionals (95%) and eight patients (67%) agreed to participate and were interviewed. The average interview length was 46 ± 12 min for professionals and 24 ± 9 min for patients. Table 1 presents the characteristics of the participants. Most of professionals were female (71%) and had 12 ± 9 years of experience in their current discipline on average. The patients were aged from 18 to 64 years old. Most of them were female (87%) and had a university diploma (63%). Four professionals participated in the deliberative dialogue workshop: one social worker, one physician, one nurse, and one health manager.

The experiences and perspectives shared by participants were sorted by the main themes extracted from the interview guide: perceived advantages, and utility; perceived disadvantages, constraints, and concerns; perceived impacts; and recommendations.

3.2. Perceived advantages, and utility

3.2.1. Accessible and easy to use

Participants saw the AYP platform as a way to adapt to the growing presence of ICT. It is easy to use or understand and accessible for vulnerable people such as people with disabilities and reduced mobility. Patients may feel more comfortable asking their questions anonymously, behind a screen, rather than at the pharmacy where confidentiality is not always guaranteed, as this pharmacist not involved on the AYP platform (PHO) reported:

[...] I think it's good for those people who aren't really comfortable going to a pharmacy. And besides, you have to admit that in some instances, confidentiality is still not always assured in pharmacies because it is not yet common practice to go into an office to answer questions [...] (PHO01).

Some participants also suggested that the AYP platform could be useful for populations having limited access to healthcare services, such as aboriginal populations.

Table 1
Characteristics of professionals and patients who took part in a telephone interview.

Variable	Category	Professionals (n = 21)		Patients (n = 8)	
		n	%	n	%
Sex	Male	6	28.6	1	12.5
	Female	15	71.4	7	87.5
Age	18–24	–	–	2	25.0
	25–34	–	–	1	12.5
	35–44	–	–	3	37.5
	55–64	–	–	2	25.0
Region	Capitale-Nationale	11	52.5	2	25.0
	Laurentides	2	9.5	1	12.5
	Montréal	2	9.5	1	12.5
	Estrie	–	–	2	25.0
	Centre-du-Québec	–	–	1	12.5
	Montérégie	–	–	1	12.5
	Chaudières-Appalaches	1	4.8	–	–
	Outaouais	1	4.8	–	–
	Bas-St-Laurent	1	4.8	–	–
	Mauricie	1	4.8	–	–
	Lanaudière	1	4.8	–	–
Education level	Côte-Nord	1	4.8	–	–
	High school diploma	–	–	1	12.5
	Professional studies certificate/diploma	–	–	1	12.5
	Technical or college diploma	–	–	1	12.5
	University certificate	–	–	1	12.5
	Bachelor degree	–	–	1	12.5
	Master or doctorate degree	–	–	3	37.5
Employment	AYP registered pharmacist	6	28.6	–	–
	Non-AYP pharmacist	3	14.3	–	–
	Nurse	6	28.6	–	–
	Physician	2	9.5	–	–
	Psychologist	2	9.5	–	–
	Social worker	1	4.8	–	–
	Nursing assistant	1	4.8	–	–
Years of practice	Mean (SD)	12.3	(9.2)	–	–
	Care setting(s) ^a				
	Community pharmacy	7	33.3		
	Family medicine group	4	19.0		
	Emergency services	4	19.0		
	Local community services centre	3	14.4		
	Home care	2	9.5		
	Private medical clinic/office	2	9.5		
	Seniors residence	1	4.8		

SD: standard deviation.

^a One professional could practice in more than one care settings.

3.2.2. Credible, simple, specific, comprehensive, personalized, and timely information

The AYP users may get credible and concrete information from a healthcare professional. This feature is perceived as beneficial for patients, as they do not always have the skill to judge the credibility of information found online. The answers provided on the platform are also clear, simple, and well vulgarized as perceived by this social worker (SW):

[...] when I looked over the answers a bit [...], they had responded clearly and simply and in plain language [...] they avoided endless medical terms. They also answered the question fairly directly, without necessarily going into how the medication works and giving information that most people, myself included, are not able to understand (SW01).

Participants felt that pharmacists could devote more time to questions asked through the AYP platform than in-person or telephone questions at the pharmacy. Participants also thought that the answers were adapted to the individual situation or some of their characteristics. Volunteer pharmacists shared that they could perform this task when they had time, searched for information if needed, and consequently provided accurate, comprehensive, specific, and up-to-date facts. This patient (PT) expressed this:

I said to myself, well, it probably won't go very far, and then it'll end with "You should consult a doctor or a pharmacist directly" [...] to

my surprise no, in fact, the pharmacist's answers were detailed and precise enough to make it worth it for me to use the service again (PT35).

Participants also perceived the possibility to consult anonymized answers published on the platform as a useful feature. It avoids the repetition of questions “over and over” and enables patients to get quick answers to their questions. They thought the AYP platform could save time, notably by avoiding waiting times for in-person services at the pharmacy or by telephone. As reported by a physician (MD), patients can “ask the questions about what is worrying them, when it's worrying them” (MD02).

3.2.3. Interactive and flexible platform

Pharmacists involved on the AYP platform shared that questions are generally straightforward, easy, and quick to answer. As the platform is interactive, they can ask for clarification if the question lacks the necessary details to provide an adequate answer. This feature was seen as an advantage by many participants as it enables AYP pharmacists to provide quality answers to patients.

As the AYP pharmacist usually practices close to the patient's residence, they can invite the patient for an in-person consultation at the pharmacy if there is a need to explore the situation in greater depth or offer more personalized consultation. Participants also perceived that a consultation made on the AYP platform is comparable to a verbal consultation delivered in person or by telephone. Even though the consultation was online and asynchronous, the patients felt that pharmacists expressed sympathy in their answers and showed an open-minded and welcoming attitude.

3.2.4. Facilitating medication-related information sharing and complementing the education

Professionals saw the AYP platform as a source of information for other healthcare and social services professionals, for instance, when they receive medication-related questions from their patients or need an update, reminders, or a non-urgent validation regarding medications. Healthcare professionals also identified AYP as an additional tool they could offer to their patients having questions or for providing a complement to the education they have delivered them regarding self-care and medication, as this physician (MD) shared:

[...] if they have concerns regarding their medication, well as a doctor, you haven't always answered all the questions. You haven't always taken the time to properly explain some things or certain side effects. For sure, it can be interesting to discuss it with the pharmacist [...] (MD02).

3.3. Perceived disadvantages, constraints, and concerns

3.3.1. Limited to non-urgent, general, and simple questions

Many professionals shared concerns for questions requiring immediate attention, depending on their level of urgency, or about complex situations requiring more details than provided by patients. Some also expressed concerns regarding personalized situations for which a general answer may not apply and may even be unsafe. A pharmacist involved on the AYP platform explained in this regard: “Sometimes, [patients] will tell us that they're taking something, but they'll forget one [medication]. You know, there is a greater risk of errors because the information is missing. [...] and you know, I still find it troubling that we don't have access to the complete information on the patient” (PHU24).

3.3.2. Limited interactivity

The consultation format, using short text messaging, was seen to carry some disadvantages. The pharmacist does not have access to crucial subtle information that can only be shared through face-to-face interactions, such as non-verbal behaviour. The relationship may be more challenging to establish. A long delay between the questions and the answers or a long chat time for clarification and to ensure an adequate answer was perceived

as a constraint. A pharmacist not involved in the platform thought that “something that starts at the beginning of the day should be finished the same day” (PHO03).

3.3.3. Liability concerns regarding this new type of practice

Some pharmacists showed some reluctance regarding their professional responsibility and reported being sometimes worried to exceed their scope of practice while answering questions as this AYP pharmacist explained: “[...] ...sometimes I feel a little bit stumped ... by certain questions. [...] and since the answers are written and can also be shared anywhere on the Internet, well, from a professional liability standpoint, I don't want to get myself into any trouble” (PHU26).

3.3.4. Limited participation and access

According to some professionals, the number of pharmacists volunteering on the platform is limited, and only registered pharmacists can provide answers. Access to the platform is also perceived to be limited to literate patients who are comfortable with technology.

3.4. Perceived impacts

3.4.1. Valuing pharmacists' role and expertise

Interviewees perceived the AYP platform could promote the visibility and accessibility of pharmacists, value their expertise, and make their role better known, as this patient reported: “...it kind of opened my eyes to other sources of help that maybe I hadn't thought of, like consulting pharmacists. So, I feel that maybe it helps make the role of pharmacists better known” (PT78). This aspect may enable patients and healthcare and social services professionals to be more inclined to refer to pharmacists. Pharmacists said their involvement on the AYP platform was gratifying and brought them a sense of usefulness and achievement. Some pharmacists shared that it led them to be updated and enhanced their knowledge.

3.4.2. Optimizing pharmacy practice and services

Interviewees thought that using the AYP platform could optimize pharmacists' time and services. It may decrease the need for pharmacists to repeatedly answer the same questions and the number of consultations they receive at the pharmacy or by telephone. It may serve as a complement to the services they offer at their pharmacy and favour a trusted relationship between them and their patients. It may also bring new patients to their pharmacy.

3.4.3. Reassuring patients, and empowering them to self-manage their health and medication, and make informed decisions

Patients seemed satisfied regarding answers received on the platform. Using this service may reassure them, normalize their questions and diminish their worries and anxiety, as expressed by this patient: “[...] we get an answer that's clear and precise, so we're much less worried...well, you know, it's a pharmacist, it's not someone who doesn't know what they're talking about. The fact that it's a healthcare professional is reassuring” (PT58). Some respondents believed that AYP might help patients enrich their reflection and make better-informed decisions. Patients can show answers to other persons, get another opinion from a pharmacist, or confront different healthcare professionals' opinions. According to one nurse and one physician, the AYP platform's use may also enable patients to know better the medications they use and their side effects, and the way to take them. It may optimize medication utilization and improve safety, as enunciated by this physician: “Well, I think it can make [...] the use of medication safer too. Sometimes people don't take it the right way, or they have questions, and then they don't even go to the pharmacist, and so they end up taking their medication the wrong way, and that causes problems” (MD02).

According to a social worker, a psychologist (PSY), and a patient, AYP may empower patients, allowing them to take responsibility for their health problems and facilitate their medication self-management. It may also enable patients to react more quickly when facing a problem related to their medication, as expressed by this patient:

OK, suppose I'm taking incompatible medications, and I wasn't warned about it, and then I feel unwell, but my doctor prescribed it, so I take it anyway, but it gets worse, and then I don't feel well, and then... So I access this site, I ask a pharmacist there, and they answer me very quickly. I can react right away, stop the medication or go back to see the pharmacist, in my usual pharmacy, or call my doctor. You know, I can react instead of having the problem drags on (PT64).

3.4.4. Optimizing healthcare resources use and the continuity of information and care

Many respondents perceived that using the AYP platform might optimize healthcare resources use by avoiding unnecessary consultations to emergency facilities and medical clinics. It may enable more fluidity in the healthcare system and decrease waiting time for patients needing care, as reported by this physician:

[...] there would be a lot of fluidity [...] in the system, less waiting time for, you know, the patients. [...] You know, to my way of thinking, pharmacists are underused in the system right now. So I believe that this could prevent many consultations, in a very safe way, because it does seem to be well organized (MD01).

According to nurses, AYP could also reduce nurses' and physicians' workload, notably about educating patients on their medication and reduce the number of calls they receive. According to two hospital pharmacists, AYP could facilitate their collaboration with community pharmacists and, by doing so, the continuity of information and care, especially following a patient's discharge from the hospital.

3.5. Recommendations

3.5.1. Warnings on the limits of AYP and possible solutions

Many respondents recommended including red flags on the platform to warn users seeking information about symptoms that might be serious and refer them to the provincial Quebec ministry of health 8-1-1 telephone consultation service provided by nurses (entitled *Info-Santé*) or to emergency services.

Questions could be sorted and prioritized according to an automated analysis of their urgency level. Respondents thought AYP is appropriate for simple and general situations, not requiring a large amount of personal information or a physical evaluation. If the situations appear complex, severe or urgent, it would be preferable to refer patients notably to their usual pharmacist, as recommended by this pharmacist: *"For me, 'Ask your pharmacist' has to be simple, must be for more minor concerns, at an early stage, everything non-pharmacological. If it's too serious, related to the patient's medication, interactions, I think that [...] it should be redirected to the patient's usual pharmacist" (PHO02).*

Many respondents reported it is essential to respect the anonymity, confidentiality and security of information shared on the platform and ensure that the answers provided are accurate and evidence-based. Pharmacists should take sufficient time to answer, after having done the research, if needed, to validate the information provided to patients. Regular random validation of answers provided by AYP pharmacists should also be done, as this psychologist recommended: *"We should still monitor from time to time what the pharmacists write. [...] it could be people [patients] who are vulnerable [...] there really should be a pharmacist who checks this in terms of, 'Are the answers always from a best practice perspective, backed-up by research?' [...]" (PSY02).*

Some respondents suggested asking for more patients' information in the registration form to enable pharmacists to have a complete picture. As well, the pharmacists involved on the platform should respect the limits of their scope of practice and not hesitate to refer patients to another pharmacist or healthcare professional if needed, as recommended by this physician:

As long as they [the pharmacists] are able to stay within their limit of specialty [...], sometimes you want to go beyond it, but you know, there is no such thing as a risk-free situation, right? [...] Well, when you don't know the answer, then, you know, you shouldn't give an answer [...] You should consult either the doctor or another healthcare professional who will know the right answer (MD01).

In this regard, respondents suggested that questions could be relayed to other types of professionals such as physicians, nurses or physiotherapists, depending on the nature of questions. Questions could be sorted by a professional, an algorithm using keywords, or patients could complete a questionnaire to guide toward the right professional. Some respondents also suggested a partnership with *Info-Santé* (the 8-1-1 telephone consultation service), as this service and the AYP platform were perceived as complementary, as shared by this nurse:

[...] I think that *Info-Santé* would benefit to join such a platform, to have the possibility to chat [with a pharmacist] versus the platform where a pharmacist would benefit to have access to a nurse for a physical or common health problem [...] I did not see a contradiction, it would even be complementary (INF03).

Respondents also recommended publicizing the AYP platform more broadly to patients, healthcare, and social services professionals to raise awareness of this service. As well, pharmacists should be encouraged to register on the platform to increase AYP capacity to provide teleconsultation services across the Quebec province.

4. Discussion

Participants perceived many advantages of the asynchronous AYP teleconsultation platform. They thought it is a credible source of information, easily accessible and relatively timely and flexible. The AYP platform is seen as a way to favour patients' autonomy and empowerment by making them more responsible regarding their health and facilitating their medication self-management. A study by Bujnowska-Fedak²² also revealed similar results with the use of the Internet for health purposes. Some respondents in the current study believed that using AYP might help patients enrich their reflection and make better-informed decisions. Some said it helped them get another opinion and confront different healthcare professionals' opinions. Prior qualitative studies also found that reasons for seeking online information included obtaining a second opinion about a health issue and supplementing other health information.²³⁻²⁵ According to the current study participants, using AYP could reassure patients, normalize their questions and diminish their worries and anxiety. This observation is consistent with a study by Powel et al.,²⁵ which found that online health information seekers were motivated by the desire for reassurance. Another advantage perceived by the participants regarding the AYP platform is asking questions anonymously, from their home, and hence feel more comfortable, especially for sensitive matters. Prior studies also identified saving time,¹⁴ anonymity,^{14,25} less embarrassment,¹⁴ and convenience^{14,25} as benefits of ICT to seek health information. The AYP platform may also be a useful and credible medication-related information source for other healthcare and social services professionals. Similarly, in a study by Ruter and Ruter,²⁶ a pharmacy information service was perceived by healthcare professionals as a "safety net" and enabled them to check, reassure or confirm what actions to take regarding the use of medications.

Using the AYP platform could lead to better use of pharmacists' expertise and optimize healthcare resources use, notably avoiding unnecessary consultations to medical clinics or emergency facilities. Another study conducted in Quebec²⁷ revealed that face-to-face and telephone consultations with pharmacists avoided unnecessary appointments with family physicians or visits to a medical clinic or a hospital emergency facility. This observation is critical considering that more than 60% of patients visiting emergency departments in Quebec have a priority level of 4 or 5 (less urgent and not urgent) and could be managed in primary care.²⁸ Healthcare

and social service professionals who participated in the current study also perceived the AYP platform could complement the education and services they currently deliver. This result is in line with a study by Lee et al.⁴ that highlighted healthcare professionals' role in guiding their patients to quality online health information. As well, a pilot study has just been launched with the provincial Quebec ministry of health to prompt nurses of the 8-1-1 telephone consultation service to redirect patients having medication-related questions to community pharmacists through the AYP platform. Pharmacists participating in this pilot study will be remunerated as the current study, and the survey suggest this service is valuable and could reduce the need for further consultations.¹⁶

Despite all the advantages and benefits expressed through this study, the participants also expressed some concerns about patients' safety when using the AYP platform. They emphasized that AYP should be restricted to non-urgent, general, and simple questions. Participants recommended displaying a general warning advising patients to seek other services for questions related to severe, complex, or urgent matters to mitigate this issue. Pharmacists already delivered warnings in their answers, for instance, by referring patients to their usual pharmacist for questions requiring access to their complete pharmacological profile. As well, participants suggested that questions could be sorted and prioritized according to their level of urgency. The use of an automated or self-triage tool could be useful in this regard. For example, *Zervantvoort et al.*²⁹ found that a smartphone application entitled "Should I see a doctor?", allowing self-triage may be used efficiently to advise patients whether to contact a primary care clinic. Since the study, a pharmacy technician experienced in community and emergency care now sort the questions asked by category (e.g., pediatrics, gynecology). This process helps determine which pharmacist (e.g., having a specialty in pediatrics) or professional type (e.g., physiotherapists, physicians, and dietitians) should answer the question. Indeed, other types of professionals are interested in joining the platform.

Participants also pointed out the downside of the AYP platform in terms of interactivity and response delay. The asynchronous format certainly eases the AYP platform's use by volunteer pharmacists who are not constrained to offer appointment availability and may answer questions on their spare time. It also allows them to take their time to provide complete and evidence-based answers. This asset is likely to increase pharmacists' engagement in telepharmacy. Integrating this new type of telepharmacy services could also help pharmacies expand clinical services as well as improve employees' health and wellness by allowing telecommuting.³⁰ However, the main drawback of such a format is the delay in responses for patient-users. This type of on-demand information services is more time-sensitive than other telepharmacy services and requires prompt responses.³⁰ To attenuate this disadvantage, notification emails are sent to alert users when a new interaction with their question occurred on the AYP platform, and questions are usually responded to within 24 h. As well, patients who are inclined to use the platform usually do not have urgent problems or questions requiring an immediate answer.

Participants highlighted other limits of the AYP platform in terms of pharmacists' involvement and access. Enhancing the promotion of the AYP service among patients and healthcare professionals could alleviate this issue. AYP developers achieved a lot in this regard since the study and the COVID-19 pandemic also sped up adoption by users. Indeed, display boards in more than 50 medical clinics across Quebec now advertise the platform. Various journals and radio broadcasts also disseminate publicity. Moreover, about 75 new pharmacists per month volunteer to the AYP platform, and the AYP developers are currently in the process of establishing partnerships with the association representing all owner-pharmacists in Quebec (*Association québécoise des pharmaciens propriétaires*) and other associations. Another concern shared by participants was related to privacy, confidentiality, and security of information shared on the platform. The AYP platform managers make sure all questions and answers published are anonymized before their publication. Moreover, all personal

health information exchanged between patients and pharmacists is hosted in Canada and not shared with third parties.

This qualitative study has several strengths and was carried out with rigorous qualitative methods. First, different perspectives of users and non-users from various professions were gathered, which enabled a comprehensive assessment of experiences and perspectives on the AYP platform. Participants were also given an opportunity to review preliminary results and conclusions, as suggested by Lincoln and Guba,³¹ to ensure data were interpreted correctly. Second, a neutral professional interviewer uninvolved with the AYP platform, using a semi-structured interview guide, carried out the telephone interviews. This approach enabled participants to express their opinions or concerns regarding the AYP platform openly. Third, the interviews with patients and pharmacists registered on the platform took place after they had used the platform at least once. However, recalling their experience might have been difficult for some, particularly patients. Indeed, some months may have passed since their use of the platform at the time of the interview.

Other limitations must also be acknowledged. As the telephone was the mean used to collect the participants' experience and perspectives, the interviewer did not have access to nonverbal information that could have helped probing and interpretation of data. However, as reported by Novik,³² there is little evidence that interpretation or quality of findings is compromised when interview data are collected by telephone. Another limitation is that the AYP platform's developer was involved in the study, but he did not participate in the data collection and data analysis to ensure neutrality. Nonetheless, we benefited from his thorough knowledge on the AYP platform and the culture of pharmacists' teleconsultation when interpreting the results, which can be seen as a strength.³² The perceptions shared regarding the AYP platform might not be generalizable to all users and healthcare and social services professionals. Some characteristics of the patients (e.g., their high level of education) and the professionals (e.g., their experience and personal beliefs) may have influenced the results. The results are also only generalizable to users and healthcare and social services professionals speaking French. Lastly, findings on the AYP platform's impacts are based on participants' perceptions and should be explored in further studies.

5. Conclusion

Despite a growing interest toward telepharmacy services, this is one of the first studies to assess an online remote consultation service offered to patients by pharmacists. Overall, the patients and volunteer pharmacists seemed satisfied regarding their experience with the AYP platform. Respondents perceived that AYP is a useful service to provide credible and reliable health and medication-related information to patients by using the pharmacists' expertise and empowering patients to effectively self-manage their health and medication. It could also be a tool that different healthcare and social services professionals offer to their patients as a complement to their consultation and advice. The AYP platform seems promising to optimize healthcare resources use, notably by diminishing demands for simple, general and non-urgent problems. The study results led to recommendations to enable the platform to meet the users' needs better and optimize its use. It could also facilitate the development of similar initiatives.

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Declaration of Competing Interest

Alexandre Chagnon is the pharmacist who developed the AYP platform and is one of the owners. The other authors have no conflict of interest to declare.

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