JOURNAL OF PHARMACEUTICAL POLICY AND PRACTICE
2025, VOL. 18, NO. 1, 2456382
https://doi.org/10.1080/20523211.2025.2456382

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RESEARCH ARTICLE

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Pharmacist prescriber in Italy and possible changes to current legislation: *survey* of attitudes among pharmacists, family doctors and users

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ABSTRACT

Background: In many countries in Europe and in the world, pharmacists are allowed to prescribe or modify therapies. In Italy, the only healthcare professions authorised to prescribe are medical doctors and veterinary surgeons. The extension of the duties of the Italian pharmacist to include prescribing would be extremely important considering the challenges the National health system is facing regarding the shortage of healthcare workers.
Methods: In this article, we report the findings of a survey on the role of the pharmacist prescriber conducted among pharmacists, family doctors, and pharmacy users in the North-West of Italy. The investigation was conducted by means of interviews carried out, using category-specific questionnaires.
Results: Interviews were conducted with 234 pharmacists, 926 users and 9 family doctors. The majority of pharmacists and users would agree to the introduction of the prescribing pharmacist. In return for taking on the increased responsibility, the pharmacists stressed the need for appropriate legal status and additional training. The reasons most commonly indicated by pharmacists for introducing such a service are the ability to respond immediately to a pathology or minor condition, and the prevention of inappropriate self-medication by patients. More than three-quarters of pharmacists and family doctors feel that the most suitable pharmacist prescribing procedure would be that within a clinical management plan. The family doctors, expressed reservations regarding the pharmacist prescriber: the cases in which they were really open to a change were the renewal of a prescription.
Conclusions: This study highlights the fact that both pharmacists and pharmacy users tend to be favourable to the introduction of the figure of the pharmacist prescriber in Italy. Many obstacles remain to be overcome but, based on the procedures already experimented in other European countries and worldwide, a route leading to the introduction of the pharmacy prescriber role may be hypothesised.

ARTICLE HISTORY Received 4 April 2024; Accepted 13 January 2025

KEYWORDS Pharmacist prescriber; community pharmacy; Italy; healthcare professionals

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Introduction

In many countries in Europe and around the world, pharmacists are already among the healthcare professionals authorised to prescribe medicines (Canadian Pharmacists Association, 2011; College of Pharmacists of British Columbia, 2017; Collins-Doijode et al., 2022; Community Pharmacy England, 2024; Conseil national de l'Ordre des pharmaciens, 2021; General Pharmaceutical Council, n.d.; General Pharmaceutical Council, 2019; National Alliance of State Pharmacy Associations, 2018; New Zealand Ministry of Health, 2021; New Zealand Pharmacy Council, n.d.; Pharmacy Council of New Zealand, 2013; Service-Public.fr, n.d.). This procedure takes different forms in each country. These can be divided into two main categories: independent prescriber, and supplemental prescriber. In the former case, the pharmacist is wholly responsible, with the same legal implications that the prescribing medical doctor would have, for evaluating the health of the patient, initiating the therapy, and managing the clinical outcomes without the supervision of another healthcare professional. In the latter case, the pharmacist, operating within a clinical management plan, can monitor and adapt the therapies prescribed by an independent prescriber such as a medical doctor. In particular, the supplemental prescriber activity leads to a voluntary partnership between the responsible independent prescriber (a medical doctor) and a supplementary prescriber (the pharmacist). This is intended to implement a specific patient management plan in relation to the prescription for a non-acute medical condition. The management plan concerns the medicines to be prescribed and it must be drawn up for each patient in agreement between the independent prescriber, the additional prescriber and the individual patient. This operating mode certainly involves less assumption of responsibility for the pharmacist (Famiyeh & McCarthy, 2017). Another procedure represents a mix of the above methods: in this third form, the prescription is by protocol or collaboration which foresees the prescription by the pharmacist being made independently because physician will delegates prescribing authority to the pharmacist on specific medications for specific groups of patients or classes of patients (Elnour et al., 2022).

There are frequently additional legal safeguards for the pharmacists offering this prescription service (Law et al., 2012; Saskatchewan College of Pharmacy Professionals, 2021; UK Independent Community Pharmacist, 2018; UK National Pharmacy Association, n.d.), whereas remuneration for prescribing is not foreseen in most cases (VIDAL France, 2021).

There is growing evidence that prescribing by professionals other than medical doctors is both safe and efficacious. In fact, the data currently available suggest that pharmacy prescribers, who practice with variable levels of prescriptive autonomy in relation to the regulations in force in their specific country, are as effective as regular medical prescribers (Jebara et al., 2018; MacVicar & Paterson, 2023; Weeks et al., 2016; Zhou et al., 2019). Moreover, it has been

demonstrated that, pharmacy prescribers can enhance care by lowering morbidity and mortality rates, minimising adverse medication events, and lowering healthcare expenditures (Elnour et al., 2022). Some studies have also investigated the opinions of various stakeholders involved in the healthcare sector (patients, pharmacists, medical doctors and political decisionmakers) regarding the figure of the pharmacist prescriber (Auta et al., 2018; Famiyeh & McCarthy, 2017; Jebara et al., 2018; Tonna et al., 2007). Among the main factors in support of the introduction of this role are the positive attributes of pharmacists (communication skills, experience, and training), and the infrastructure (capillary network covering the entire territory, long opening hours, meeting spaces ensuring privacy, and the possible authorisation to access medical records). Instead, the main challenges are the lack of clinical skills among pharmacists (who require thorough training in this field), the need for more resources both in terms of remuneration and additional staff, the requirement for access to patients' data, the widespread opposition of medical doctors, and logistical issues (definition of responsibilities, potential conflicts of interests, drafting procedures) (Jebara et al., 2018; Zhou et al., 2019).

In Italy, the only professionals currently authorised to prescribe are medical surgeons and veterinary surgeons. Since 2009, Italian pharmacies have been authorised to provide some services through the use of specific means such as POCT (Point-of-Care Test), telemedicine, or in collaboration with other healthcare professionals such as nurses and physiotherapists (Italian Presidency of the Council of Ministers, 2009). As a consequence of the pandemic, the range of services available in pharmacies widened considerably: rapid testing for SARS-CoV-2, and Streptococcus Group A, and vaccination: SARS-CoV-2, influenza, and Herpes Zoster, all done independently by pharmacists (Farrmacista33, 2024; Italian Presidency of the Council of Ministers, 2009, 2020).

The extension of the duties of the Italian pharmacist to include prescribing seems to be a distant objective in legislative terms. Such a figure would, however, be extremely important considering the advantages outlined above, and the challenges the National health system is facing regarding the shortage of healthcare workers (Farrmacista33, 2023).

Given the above points, the objective of the present study is to investigate the opinions of various stakeholders regarding the figure of the pharmacist prescriber in Italy.

Methods

The investigation was conducted by means of interviews with pharmacists, pharmacy users and family doctors in two areas in Piedmont (metropolitan area of Turin, and the province of Cuneo between June and December 2021)

The pharmacies were selected to obtain as wide a range as possible of locations, number of customers per day and business turnover. As regards the respondents, all users who entered the pharmacy and agreed to take part in survey were interviewed. Family doctors were recruited by a phone campaign. The family doctors were recruited among those practising in the same areas as the pharmacies selected for the investigation.

Three questionnaires were employed, one for each of the categories of interviewee, mainly using multiple-choice questions; of these, some questions were single answer, while others were multiple answer (Figure 1). The

Pharmacy user version	
Pharmacy post code	_ _ _ _ _
Sex	o Male o Female
Age	_ _
Occupation	o Student o In work o unemployed o Retired
Level of education	o Primary school o Middle school o Secondary school diploma o Third level degree
How far is your doctor's surgery from your home?	o Less than 500 m o 500 m - 1 km o 1 km - 5 km o More than 5 km
How do you usually travel to your family doctor's surgery?	o Alone by bicycle/on foot o Accompanied on foot o Alone by public transport o Accompanied by public transport o Alone by car o Accompanied by car
How far is your home from the nearest pharmacy?	o Less than 500 m o 500 m - 1 km o 1 km - 5 km o More than 5 km
How so you usually travel to your pharmacy?	o Alone by bicycle/on foot o Accompanied on foot o Alone by public transport o Accompanied by public transport o Alone by car o Accompanied by car
Usually, to collect the prescription:	o I collect the paper copy from my doctor's surgery o I receive it in electronic form on my computer or mobile phone o Other
Have you ever asked your pharmacist for prescription medicines without getting a prescription from your family doctor?	o Yes o No
Would you feel confident asking a pharmacist to prescribe medicine for you?	o Yes o No

Figure 1. Questionnaire prescribing pharmacist.

If you replied yes to the previous question, in which cases would you feel confident asking a pharmacist for a prescription? (More than one option is possible)	o Only to continue a therapy which my doctor prescribed before o Only to prescribe medicine for minor pathologies or ailments (cystitis, toothache, ...) o Only to modify the doctor's prescription o In all cases
Would it be a benefit, in terms of convenience, if your pharmacist could prescribe medicine?	o Yes o No

Pharmacist version	
Pharmacy post code	_ _ _ _ _
Sex	o Male o Female
Age	_ _
Pharmacist interviewed:	o Owner o Manager o Staff pharmacist
How often do you receive requests for prescription medicines from users without a prescription?	o More than once a day o Once a day o A few times a week o Rarely
If pharmacists could prescribe medicines, would you agree?	o Yes o No
If the pharmacist prescriber becomes a reality, what is the most important thing you would like in return for the added responsibility? (Please choose just one option)	o Nothing o A fee o Further training o Legal safeguards o Other: _____
Based on your experience, why should the pharmacist be allowed to prescribe medicine? (More than one option is possible)	o To help chronic patients o To respond immediately to pathologies or minor ailments o To prevent patients self-medicating inappropriately o Pharmacists should not be allowed to prescribe medicines o Other: _____
Based on your experience, how do you think the pharmacy prescriber could benefit the public? (More than one option is possible)	o Great access to treatment o Better knowledge of medicine o Lightening the workload on family doctors o I disagree that the pharmacy prescriber could benefit the public o Other: _____
Which prescription method do	o Independent prescribing

Figure 1 *Continued.*

you feel would be most suitable and safest for the pharmacist?	o Prescribing after consulting the patient's doctor o Prescription in compliance with a strict procedure, based on protocols developed with the family doctor and/or other specialists
In which case(s) would you feel confident prescribing medicines? (More than one option is possible)	o In all cases o In all cases except for certain classes of medicines (e.g., narcotics, anti-cancer drugs, biotechnological treatments etc.) o Only to continue therapies/treatments underway previously prescribed by a doctor o Only to prescribe medicines for minor pathologies or ailments o Only to modify a doctor's prescription o Only for reimbursable medicines prescribed in hospital discharge forms o Only to prescribe medicines currently included in the list of repeat prescription medicines o None of the above: prescribing is a doctor's job
Which type of prescription do you think a pharmacists should be allowed to issue?	o Only private prescriptions o Both private and national health prescriptions o Neither: a pharmacist should not prescribe medicine
Do you think it would be useful for the pharmacy prescriber to have access to the patient's health records when prescribing?	o Yes, to the section concerning the patient's history of medicines prescribed and dispensed. o Yes, to the section concerning the clinical history of the patient. o Yes, to the sections above. o No
If pharmacists were allowed to prescribe medicines, would you be willing to collaborate with the family doctor to create a collaborative clinical management team?	o Yes o No o Other: _____
Family doctor version	
1. Surgery post code	_ _ _ _ _
2. Sex	o Male o Female
3. Age	_ _
4. How many patients come to your surgery, or contact you for a consultation/prescription each week?	_ _
5. What percentage of your patients request only the renewal of a prescription?	o 10-30% o 30-50% o 50-70% o 70-90% o > 90%

Figure 1 *Continued.*

6. After the COVID health emergency, what percentage of prescriptions are delivered in electronic format to a computer or phone?	○ 10-30% ○ 30-50% ○ 50-70% ○ 70-90% ○ > 90%
7. In which case do you think a pharmacist should be allowed to prescribe medicines?	

	Yes	No
In all cases and for all classes of medicines		
In all cases except for certain classes of medicines (e.g., narcotics, biotechnological drugs etc.)		
Only to continue therapies/treatments already underway and previously prescribed by a doctor		
Only to prescribe medicines for minor pathologies or ailments		
Only to modify the doctor's prescription		
Only for reimbursable medicines prescribed in hospital discharge forms		
Only for medicines currently subject to repeat prescriptions		

8. If you answered yes to any of the previous categories: Why should the pharmacist be allowed to prescribe medicine? (More than one option is possible)	○ To facilitate chronic patients ○ To respond immediately to minor pathologies or ailments ○ To prevent patients self-medicating inappropriately ○ Other: _____
9. Which prescription procedure do you feel is most appropriate and safest?	○ Independent prescription with the task of diagnosis and therapy start-up ○ Prescription in consultation with the family doctor ○ Prescription in compliance with a strict procedure, based on protocols developed in collaboration with the patient's doctor and/or other specialists
10. How do you think that the medical profession could benefit from the introduction of the role of pharmacy prescriber? (More than one option is possible)	○ Reduce the doctor's workload, especially repetitive tasks ○ Reduce the number of non-essential examinations ○ Improve the quality of health care for the users
11. How do you think the pharmacy prescriber could be beneficial for the public? (More than one option is possible)	○ Increase accessibility ○ Better knowledge of medicine ○ Reduce the family doctor's workload ○ The pharmacy prescriber would be of no benefit to the pubic ○ Other: _____
12. If the pharmacy prescriber becomes a reality, would you be willing to collaborate in the creation of a support team?	○ Yes ○ No ○ Other: _____
13. If there were to be a training course for pharmacy prescribers, which topics do you think are most important to deal with to obtain the qualification?	○ Further training in the main chronic pathologies and the relevant management of the therapy ○ Further training in the main minor pathologies (e.g., urinary tract infections without temperature, rhino pharyngitis, traveller's diarrhoea, morning sickness, altitude sickness, acne, rashes and eczema, oral herpes, conjunctivitis and nasal allergies, menstrual cramps, …) ○ Further training to acquire the skills to interpret data from laboratory tests and/or self-analysis ○ Other: _____

Figure 1 *Continued.*

questionnaire for pharmacists was made up of two sections. The first regarded details of the pharmacy and the pharmacist. The second asked if the respondent agreed with the concept of the pharmacist prescriber. Furthermore, the questionnaire examined the requisites regarded as essential for prescribing, as well as the potential benefits for the public. The pharmacists were then asked about the prescribing procedures, the conditions, and types of prescriptions they would feel confident issuing. The questionnaire also investigated whether they would be willing to collaborate with a doctor to create a collaborative clinical management team.

In the questionnaire for pharmacy users, they were asked if they would feel confident being prescribed medicines by a pharmacist, in which cases they would feel so, and whether this had benefits in terms of convenience. As for family doctors, they were asked to select the cases in which they would agree to a pharmacist being authorised to prescribe; the reasons for this opinion; the safest and appropriate methodologies; and the benefits for the doctor and the patients. Furthermore, they were asked if they would be willing to collaborate with pharmacists in the creation of a collaborative clinical management team.

The data were gathered by specifically trained experimenters. The interviewees participated in the study on a voluntary basis, and they were orally informed of the characteristics and the purpose of the study. The questionnaire was anonymous. Personal data were not collected and there is no way to trace back the answers to a specific respondent. The interviewees expressed their consent to participate in the study orally. No written consent was produced to ensure anonymity for the participants. No medical interventions were performed on the interviewed patients. Therefore, according to Italian legislation on the protection of personal data, no ethics approval was required.

Descriptive statistics were performed. Comparisons between proportions were evaluated using Pearson chi-squared and Prevalence Ratio (PR). The PR was calculated using a modified Poisson regression with robust standard errors. The level of significance was fixed at 0.05; IC at 95%. The normality of data distribution was evaluated by performing the Shapiro–Wilk test. Statistical analysis was performed using Stata14 ® (Corp. 2015. Stata Statistical Software: Release 14. College Station, TX: StataCorp LP)

Results

In total, interviews were conducted with 234 pharmacists, 926 users and 9 family doctors. The tables of the complete results of the survey are reported in Table 1.

Out of the 234 pharmacists interviewed, more than half (67.52%) were female, the majority (77.78%) were between the ages of 31yo and 65yo (average age 43.15 years old, IQR 68-25), and half are staff pharmacists

Table 1. Complete results of the survey.

Variable		*N* (%)	Respondents
Results of questionnaire for pharmacists			
Sex	Male	76 (32.48%)	234
	Female	158 (67.52%)	
Age	<30 years	45 (19.23%)	234
	31–65 years	182 (77.78%)	
	> 65 years	7 (2.99%)	
Pharmacist	Owner	77 (38.31%)	201
	Manager	21 (10.45%)	
	Staff pharmacist	103 (51.24%)	
Requests without prescription	More than once a day	215 (91.88%)	234
	Once a day	9 (3.85%)	
	A few times a week	10 (4.27%)	
	Rarely	0 (0%)	
Favourable towards the pharmacy prescriber	Yes	195 (83.33%)	234
	No	39 (16.67%)	
Requests for new responsibility	Nothing	2 (0.85%)	234
	A fee	30 (12.82%)	
	Further training	91 (38.89%)	
	Legal safeguards	106 (45.3%)	
	Other	2 (0.85%)	
	All of the above	3 (1.28%)	
Benefits of the pharmacy prescribers (more than one option)	To facilitate chronic patients	112 (47.86%)	234
	To respond immediately to minor pathologies or ailments	174 (74.36%)	
	To avoid the user resorting to improper self-medication	160 (68.38%)	
	A pharmacist should never prescribe medicines	13 (5.56%)	
	Other	3 (1.28%)	
Benefits of the pharmacy prescriber for the public (more than one option)	Greater access	187 (79.91%)	234
	Better knowledge of medicine	91 (38.89%)	
	Reduce the doctor's workload	69 (29.49%)	
	No benefits	9 (3.85%)	
	Other	4 (1.71%)	
Most appropriate prescription procedure	Independent	22 (9.4%)	234
	Consultation with patient's doctor	30 (12.82%)	
	In accordance with procedures and protocols	182 (77.78%)	
Collaboration with family doctor in support team	Yes	194 (96.52%)	201
	No	7 (3.48%)	
Cases in which you feel confident prescribing (more than one option possible)	In tall cases	9 (3.85%)	234
	In all cases except for certain classes of medicines (e.g. narcotics, biotechnological drugs etc.)	70 (29.91%)	
	To carry on therapies/treatments underway and initially prescribed by a doctor	170 (72.65%)	
	To prescribe medicines for minor pathologies or ailments	135 (57.69%)	
	To modify the doctor's prescription	66 (28.21%)	
	For reimbursable medicines already prescribed in hospital discharge forms	118 (50.43%)	
	To prescribe medicines currently included in the repeat prescription class	80 (34.19%)	

(*Continued*)

Table 1. Continued.

Variable		*N* (%)	Respondents
	In no cases: prescribing is solely a doctor's job	8 (3.42%)	
Which type of prescription should the pharmacist be able to use?	Private	82 (35.04%)	234
	Private e National Health System	139 (59.4%)	
	Should not prescribe	13 (5.56%)	
Usefulness of access to patient's records	Yes, medicine records	65 (27.78%)	234
	Yes, clinical records	19 (8.12%)	
	Yes, both	148 (63.25%)	
	No	2 (0.85%)	
Results of questionnaire for users			
Sex	Male	373 (40.28%)	926
	Female	553 (59.72%)	
Age	<30 years	65 (7.02%)	926
	31–65 years	494 (53.39%)	
	> 65 years	367 (39.63%)	
Occupation	Student	25 (2.7%)	926
	Employed	423 (45.68%)	
	Unemployed	100 (10.8%)	
	Retired	378 (40.82%)	
Level of education	Primary school	117 (12.63%)	926
	Middle school	221 (23.87%)	
	Secondary school diploma	414 (44.71%)	
	Degree or above	174 (18.79%)	
Distance from home to family doctor	< 500m	267 (28.83%)	926
	500m–1km	409 (44.17%)	
	1km–5km	201 (21.71%)	
	>5km	49 (5.29%)	
Means of transport to family doctor	Alone, by bicycle/on foot	557 (60.15%)	926
	Accompanied on foot	0 (0%)	
	Alone by public transport	21 (2.27%)	
	Accompanied by public transport	1 (0.11%)	
	Alone by car	337 (36.39%)	
	Accompanied by car	10 (1.08%)	
Distance from home to pharmacy	< 500m	517 (55.83%)	926
	500m–1km	311 (33.59%)	
	1km–5km	86 (9.29%)	
	>5km	12 (1.29%)	
Means of transport to travel to pharmacy	Alone by bicycle/on foot	695 (75.05%)	926
	Accompanied on foot	1 (0.11)	
	Alone by public transport	3 (0.32%)	
	Accompanied by public transport	0 (0%)	
	Alone by car	221 (23.87%)	
	Accompanied by car	6 (0.65%)	
Collection of prescription	Collect paper form from the doctor's surgery	393 (42.44%)	926
	Electronic form	500 (54%)	
	Other	33 (3.56%)	
Request for medicine without a prescription	Yes	702 (75.81%)	926
	No	224 (24.19%)	
Confident in prescription from pharmacist	Yes	901 (97.3%)	926
	No	25 (2.7%)	
If so, in which cases? (more than one option possible possible)	To continue therapies/treatments authorised by a doctor	126 (13.95%)	903
	T prescribe for minor pathologies or ailments	77 (8.53%)	
	To modify the prescription	6 (0.66%)	

(*Continued*)

Table 1. Continued.

Variable		*N* (%)	Respondents
	In all cases	757 (83.83%)	
Pharmacy prescriber beneficial in terms of convenience	Yes		926
	No	844 (91.14%)	
Results of questionnaire for family doctors			
Sex	Male	4 (44.44%)	9
	Female	5 (55.56%)	
Age	<30 years	1 (11.11%)	
	31–65 years	6 (66.67%)	
	> 65 years	2 (22.22%)	
Renewal of prescription	10–30%	1 (11.11%)	9
	30–50%	4 (44.44%)	
	50–70%	4 (44.44%)	
	70–90%	0 (0%)	
	>90%	0 (0%)	
Percentage of prescriptions in electronic format after the pandemic	10–30%	1 (11.11%)	9
	30–50%	1 (11.11%)	
	50–70%	2 (22.22%)	
	70–90%	5 (55.56%)	
	>90%	0 (0%)	
In favour of pharmacists prescribing medicine:	All classes of medicine	0 (0%)	9
	All types of medicine except for certain classes	0 (0%)	
	Treatments underway prescribed by a doctor	8 (88.89%)	
	For minor pathologies and ailments	5 (55.56%)	
	To review doctor's prescription	2 (22.22%)	
	For reimbursable medicine prescribed by hospital discharge forms	8 (88.89%)	
	Only for medicines with reimbursement	7 (77.78%)	
Reasons a pharmacist should be allowed to prescribe (more than one option possible)	To facilitate chronic patients	8 (88.89%)	9
	To respond immediately to minor pathologies and ailments	2 (22,22%)	
	To prevent patients self-medicating inappropriately	5 (55,56%)	
	Other	1 (11.11%)	
Most suitable prescription procedure	Independently	0 (0%)	9
	Consulting with the patient's doctor	1 (11.11%)	
	In accordance with a procedure or protocol	8 (88.89%)	
Benefits to medical professionals of the pharmacy prescriber (more than one option possible)	Reduce doctor's workload, especially repetitive tasks	6 (66.67%)	9
	Reduce non-essential examinations	4 (44.44%)	
	Improve quality of healthcare	6 (66.67%)	
Benefits to the public of the pharmacy prescribers (more than one option possible)	Greater access	9 (100%)	9
	Better knowledge of medicine	3 (33.33%)	
	Reduce doctor's workload	4 (44.44%)	
	No benefits	0 (0%)	
	Other	1 (11.11%)	
Collaboration with pharmacist in support team	Yes	9 (100%)	9
	No	0 (0%)	
Areas to be dealt with in training for pharmacy prescriber (more than one option is possible)	Training in chronic pathologies and therapy management	6 (66.67%)	9
	Training in minor pathologies	7 (77.78%)	
	Training in interpretation of laboratory test results	1 (11.11%)	
	Other	0 (0%)	

(51.24%). The request for prescription medicines without a prescription is a frequent occurrence: 91.88% affirm that this happens more than once a day, and only about 4% declare that this happens a few times a week. Most (83.33%) would agree with the introduction of the figure of the pharmacist prescriber in Italy. There are no statistically significant differences between the characteristics of pharmacists (sex, age, type of pharmacist) and the opinion expressed regarding the introduction of the pharmacy prescriber.

No statistically significant differences were found between different types of pharmacy (rural/urban), or the location (Turin metropolitan area/ province of Cuneo) and the respondents' opinions with regard to the introduction of the pharmacy prescriber. The main conditions many respondents deem essential in return for taking on these added responsibilities were legal safeguards (45.3%), and further training (38.89%), while others feel that this service should be remunerated appropriately (12.82%). Concerning the reasons for which the pharmacist should be allowed to prescribe, the majority (74.36%) responded that the ability to prescribe immediately for a pathology or minor ailment is the main reason. Many also affirmed that pharmacists should be allowed to prescribe in order to prevent patients self-medicating inappropriately (68.38%), or to offer a better service to chronic sufferers (47.86%).

More than three-quarters of the pharmacists interviewed feel that the pharmacist prescriber would be of benefit to the general public thanks to the greater accessibility of pharmacies. Approximately 40%, moreover, believe that it may favour a greater knowledge of medicines, while about 30% feel it would lighten the load on family doctors. More than three-quarters of pharmacists think that the most suitable prescription procedure for the pharmacist consists of procedures and protocols developed in collaboration with family doctors. Only approximately 10% felt that the pharmacist should act independently.

The near entirety of respondents declared that, should the pharmacist prescriber role become a reality, they would be willing to work with family doctors in the creation of a collaborative clinical management team. The pharmacists interviewed declared that they would feel confident prescribing therapies/treatments already underway initially authorised by the doctor (72.65%). Many would feel confident prescribing medicines for minor conditions or ailments (57.69%), or in cases of hospital discharge regarding reimbursable medicines by the health service (50.43%).

More than half of respondents feel that the pharmacist should be able to prescribe for both the private health system and national health system. The vast majority agreed that it would be useful, when writing a prescription, to have access to the medical data of the patient.

As for the pharmacy user group, approximately 60% of the users interviewed are female, and just over 50% are between the ages of 31 years old and 65 years old (average age 58.77 years, IQR 87-19). The majority are

employed (45.68%), or retired (40.82%). We also investigated the distance from the user's home to their doctor's surgery and nearest pharmacy. It was found, on average, that the doctor's surgery was further away than the pharmacy. Regarding the means of transport used to travel to the two locations, the majority of respondents travel independently by bicycle or on foot to both. The users collect the prescription in paper format from the doctor's surgery (42.44%) or receive it in electronic format (54%).

75% of respondents admitted having requested prescription medicine in a pharmacy without having a prescription. Almost all (97.3%) declared that they would feel confident with a pharmacist prescribing medicines, and the majority of these would feel confident in all the proposed cases of prescription. Analysing the associations between opinions regarding the pharmacy prescriber and the characteristics of the users, just one significant difference was identified: this was age; older users seemed to be more favourably inclined towards the figure of the pharmacist prescriber compared with younger users (<30 years) even though the strength of this association is quite weak. More than nine users out of ten declared that the pharmacist prescriber represents a benefit in terms of convenience.

The group of family doctors participating in the survey is small (out of the 30 doctors contacted by the surveyors, only 9 agreed to take part), and does not constitute a representative sample of the overall situation. The family doctors who declined to take part in the survey most commonly cited the reason that they were opposed to the idea that pharmacists be allowed to prescribe therapies, even in cases of chronicity. Concerning the family doctors who agreed to participate in the survey, 4 stated that about 30%–50% of their patients came/contacted them 'only' to renew a prescription, another 4 respondents declared that this figure was about 50%–70% of their patients. More than half of the family doctors interviewed declared that 70%–90% of prescriptions are sent to patients in electronic format.

All of the family doctors were opposed to the proposal of pharmacists prescribing all classes of medicines, while only one respondent was against the idea of allowing pharmacists to prescribe for therapies already underway and initially prescribed by a doctor. The majority of family doctors declared that pharmacists should be permitted to prescribe in order to facilitate chronic patients guaranteeing prescriptive continuity in the case of existing therapies. Family doctors also declared that the most suitable prescription procedure is the one that allows pharmacists to act in consideration of a specific prescription protocol. The family doctors, furthermore, similar to pharmacists, recognise the as the main benefit of the pharmacy prescriber the greater accessibility of the pharmacy. All the family doctors interviewed declared that they would be willing to collaborate with pharmacists in instituting a collaborative clinical management team. According to the interviewees, the main fields in which pharmacy prescribers would require training

are chronic diseases and the management of the relevant therapies as well as minor ailments.

Discussion

This study enabled the researchers to evaluate attitudes to the prospective introduction of the figure of the pharmacy prescriber in Italy. Interviews were carried out with some of the stakeholders who would be directly affected, i.e. pharmacists, pharmacy users and family doctors.

The users are those who proved to be most favourable to the introduction of this figure with almost the entirety of the interviewees expressing their agreement with the proposal.

What emerges from the survey is that pharmacist feel that they would require, should the pharmacist prescriber role become a reality, greater legal safeguards, or further training. In the UK, for example, it is possible to become an independent pharmacist prescriber only after having practised the profession for at least two years and having attended a specific training course (Canada General Pharmaceutical Council, n.d.). The training, both theoretical and practical, must be run by an accredited training organisation (General Pharmaceutical Council, n.d.). Instead, in France, the *pharmacien correspondent* may facultatively attend a specific training course, but must become a member of a team which includes the patient's doctor (Conseil national de l'Ordre des pharmaciens, 2021).

Certainly, there will be many regulatory changes to be implemented in Italy to introduce and regulate the figure of the pharmacy prescriber starting from the 'Consolidated Text of Health Laws' (Italian Presidency of the Council of Ministers, 1934) which dates back to the 1930s and which provides for the doctor as the only professional figure authorised to prescribe medicines.

As regards legal safeguards, this is also an issue considered in many of the countries in which the pharmacist prescriber is already a reality: the professional unions offer pharmacists the extension of their occupational insurance to cover this role, and, in many cases, this is compulsory for those who wish to prescribe (General Pharmaceutical Council, 2019; UK National Pharmacy Association, n.d.). Some of the pharmacists interviewed in this study declared that they wanted a remuneration system for this service. The lack of adequate compensation for this service could therefore represent a barrier to the growth of this role: this fact must be borne in mind when considering the start-up of this service (Italian Presidency of the Council of Ministers, 2020; Jebara et al., 2018; Zhou et al., 2019).

The principal benefits of the role of pharmacy prescriber that came to light in this study are the ability to respond immediately to minor pathologies and conditions do not require medical intervention so as to prevent the patient's recourse to inappropriate self-medication, and to make treatment more

accessible. Similar reasons have also been found in other studies (Famiyeh & McCarthy, 2017; Grant et al., 2023).

The accessibility of pharmacies, both in terms of capillarity over the territory and opening hours, is the predominant characteristic identified by the pharmacists and family doctors interviewed. Furthermore, this was also confirmed by the fact that for nearly all of the users interviewed the pharmacy was nearer than the doctor's surgery and many could reach it on foot.

Both family doctors and pharmacists declared, in the present study, that they were more favourable to a supplementary prescription issued in accordance with a procedure and protocols. This could be modelled on the French system, in which the pharmacist, in specific cases (cystitis and dysphagia), is allowed to prescribe medicines from a list of authorised medicines (Republique Francaise, 2021). The pharmacists interviewed would, mainly, feel confident prescribing after a medical diagnosis and, hence, carrying on therapies underway.

This is the system in many provinces in Canada (Law et al., 2012). On the other hand, almost all of the users interviewed would be in favour of pharmacists prescribing for all cases. That is different from what emerges in other studies in which patients felt more confident receiving a prescription from a pharmacist only after a prior diagnosis by a doctor (Zhou et al., 2019).

The introduction of the figure of a healthcare professional, other than a doctor, who may in certain cases renew a prescription would have enormous benefits for the national health system. Family doctors themselves stated that a large part of their working time is taken up with renewing therapies, and that, after the pandemic, they very often renew therapies in electronic format without examining the patient.

Both family doctors and pharmacists agree that it is necessary to institute a shared and accessible databank of health records for patients in order to be able to take the most appropriate decisions. Moreover, both categories declared themselves favourable to the establishment of interdisciplinary support teams, an essential component for good patient management as emerges in other studies (Famiyeh & McCarthy, 2017; Italian Presidency of the Council of Ministers, 2009; Woolf et al., 2016).

Limits

Some limits may have affected the results of this study. In particular, few family doctors agreed to participate in this study, and, consequently, the results obtained through these interviews cannot be considered significant. One of the future developments is to increase the number of interviewed family doctors. Moreover, the pharmacists, family doctors, and users were interviewed in only two areas of the Piedmont region.

Conclusions

This study highlights that pharmacists and users generally seem to be in favour of the introduction of the figure of the pharmacist prescriber in Italy. The prerequisites for pharmacists' participation in this programme are, first and foremost, legal safeguards and further training. The most achievable proposal in the short term, as occurred in other states, could be the renewal or review of therapies already prescribed by family doctors or hospitals. Based on the systems already experimented in other countries in Europe and the world, a route that leads to the introduction of the figure of the pharmacy prescriber in Italy can be envisioned. Naturally, if this system includes procedures other than the simple renewal of therapies underway, a set of guidelines must be drawn up to prevent any conflict of interest between the prescribing process and that of the dispensation of the product. Furthermore, if the prescribing pharmacist figure will become a reality in Italy, the importance of adapting the University training courses on this aspect cannot certainly be underestimated as well as the importance to guarantee continuous updating courses for community pharmacists.

Acknowledgements

The authors would like to thank the thesis students Margherita Marchetto, Isabella Ambrois and all the pharmacists, users and family doctors who participated in the survey. The authors also wish to thank Dr. Tom O Byrne for the linguistic revision of the text.

Funding

The study was supported by the fund 'Fondi Ricerca Locale (ex 60%)' of the University of Turin provided by the MIUR (Ministry of Education, Universities and Research).

Author contributions

PB performed the coordination of the work. FB and IP performed the investigation and took care of the data. LRE performed statistical analysis. FB and IP wrote the manuscript. All authors approved the final version of the study.

Ethics statement

The interviewees participated in the study on a voluntary basis, and they were orally informed of the characteristics and the purpose of the study. The questionnaire was anonymous. Personal data were not collected and there is no way to trace back the answers to a specific respondent. The interviewees expressed their consent to participate in the study orally. No written consent was produced to ensure anonymity for the

participants. No medical interventions were performed on the interviewed patients. Therefore, according to Italian legislation[1] on the protection of personal data, no ethics approval was required.

Data availability statement

Data are contained within the article.

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