



Evaluating Greek pharmacists' attitudes and barriers regarding medicines adherence

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ABSTRACT

Adherence constitutes an integral aspect of achieving consistently good clinical results. Understanding pharmacists' perceptions and attitudes, along with existing barriers is essential on the roadmap of enhancing patient adherence. This constitutes the goal of this study.

Methodology: A validated questionnaire was sent to a sample of 280 community pharmacists. Pharmacists were notified both by email and telephone. A response rate of 55% was achieved.



Results: Most pharmacists agree that the identification of patients' suboptimal adherence falls under their professional responsibility and they engage in activities to promote it. There is evidence to support that the most popular interventions were self-management and indirect methods. Specific tools were used to a lesser degree. Finally, the current study illustrated that the most commonly identified barriers were the preference of patients for physicians regarding adherence, lack of information from patients and lack of time.

Conclusion: Although the important role of pharmacists in adherence is ascertained, significant discrepancies in the tools used to control and promote adherence among pharmacists were identified, and also in obstacles faced by themselves and their patients. The interventions should be more consistent and the notion of cooperation among health care professionals should be nurtured.

KEYWORDS Community pharmacists; communicating with patients; adherence

Introduction

One of the fundamental challenges in healthcare is to safeguard that patients are willing and able to take the prescribed medicines in the proper prescribed manner, commonly described as adherence to medicines. Specifically,

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adherence is defined as ‘the degree to which an individual’s behaviour in taking medication, followed by diet and/or making lifestyle modifications, meets an agreed upon recommendation by a health care provider care’ (Sabaté & World Health Organisation, 2003). Adherence is nested on four fundamental pillars, which entail disease-related factors, patients’ beliefs, patients’ financial burden and sociodemographic aspects and barriers (Birand et al., 2019):

Adherence also involves lifestyle changes for long-term disease management, such as self-monitoring for diabetic patients, which are usually ingrained in the provision of holistic guidance from pharmacists to patients (Jia et al., 2020; Kandasamy & Sundaram, 2019; Mansoor et al., 2014; Presley et al., 2021).

Adherence for chronic patients remains suboptimal, even in developed countries (around 50%), while in developing countries, this percentage is substantially lower (Ghimire et al., 2019; Jia et al., 2020; Lemstra et al., 2018). Sub-optimal adherence is associated with disease relapse (in the form of worse glycemic index, more MS relapses) increased healthcare expenditures due to the need for provision of hospitalisations and emergency room visits and increased morbidity and mortality (Ahmad et al., 2010; Ghimire et al., 2019; Lemstra et al., 2018; Mansoor et al., 2014; Patton et al., 2021).

Mansoor et al. (2014) posited that lack of adherence is nested in communication barriers between patients and physicians, the occurrence of adverse events and a flawed patient’s perspective with regard to medicine efficacy.

The identification of these barriers has significantly influenced the development of a range of strategies aimed at improving treatment adherence.

Against this backdrop, the role of pharmacists is pivotal. Pharmacists play an important role in patient care by providing medication information, while they are more accessible to patients, and this enables pharmacists to collaborate with other healthcare professionals, acting like an information hub (Ahmad et al., 2010; Petkova, 2006; Presley et al., 2021). However, certain obstacles were observed that moderate the efficiency of pharmacists and include, among others, the lack of specific practical instruction, lack of clinical pharmacists with sufficient qualifications, lack from patients’ perspective, the willingness to disclose all medical issues to the pharmacist and lack of cooperation between health professionals (Ahmad et al., 2010; Ghimire et al., 2019; Patton et al., 2021; Petkova, 2006; Said et al., 2020).

So far, and despite the acknowledgment of the pharmacist’s role, only a handful of studies have focused on pharmacists’ perceptions of patients’ adherence. A recent string of systematic reviews concluded that pharmacist’s interventions are effective, and pertinent to adherence enhancement in conditions, such as hyperlipidaemia, HIV, coronary disease, dementia, blood pressure, and asthma-COPD, while in diabetes the results are rather conflicting, a finding which was attributed to the frequency of provided guidance

(Abdulsalim et al., 2018; Balli et al., 2021; Govender, 2011; Gutermann et al., 2021; Milosavljevic et al., 2018; Moulin et al., 2017; Nhi Tran et al., 2022; Oñatibia-Astibia et al., 2019; Picariello et al., 2020; Saleem et al., 2012; Wheat et al., 2020). Of interest is that non-adherence was imputed to revised instructions by the prescribing physician, difficulties with follow-up and time constraints (Ghimire et al., 2019; Witry, 2018).

Mansoor et al. (2014) concluded that the majority of pharmacists supported adherence by offering dose administration assistance. However, the primary obstacles to providing adherence assistance were time constraints and the low health literacy of patients.

To further leverage the contribution of pharmacists, it is imperative to comprehend pharmacists' views and practices regarding patients' adherence to their medication, their assessment and promotion practices, and tackle any existing barriers, both on their part and on the part of patients as well (Ghimire et al., 2019).

In this context, the main purpose of the present research is to examine the views of pharmacists regarding patients' medicine adherence in Greece.

To the best of our knowledge, no studies were performed in Greece, to assess the perceptions of Pharmacists regarding adherence. Greece has the highest number of pharmacies per habitat, and as such, it is considered that pharmacists are easily accessible to patients. Moreover, Greece has been engaged in a series of Memorandum of Understanding (MoUs) with a group of international lenders, to avert bankruptcy, which brought about significant reductions in total health expenditure. Therefore, it is imperative to assess qualitative aspects of health care provision, such as the input of pharmacists in promoting medicines adherence, since the focus was primarily on fiscal data.

The specific goals of this study entail the examination of the opinions and perceptions of pharmacists regarding patients' adherence, explore strategies for identifying patient non-adherence, assessment of the strategies pharmacists use to support patient adherence, evaluation of pharmacists' attitudes towards providing adherence support, and articulation and definition of the barriers that prevent community pharmacists from providing support for data collection tool of the present research was the questionnaire.

Methodology

For the scope of this study, we adopted a structured, self-administered questionnaire with high reliability and a short completion time (10–15 min) of Mansoor et al. (2014), abiding by the STROBE guidelines ([https://www.equator-network.org/?post_type=eq_guidelines&eq_guidelines_study_design=observational-studies&eq_guidelines_clinical_specialty=0&eq_guidelines_report_section=0&s="+&eq_guidelines_study_design_sub_cat=0](https://www.equator-network.org/?post_type=eq_guidelines&eq_guidelines_study_design=observational-studies&eq_guidelines_clinical_specialty=0&eq_guidelines_report_section=0&s=)). This questionnaire includes 5 main sections:

- (1) Demographic characteristics
- (2) This part is composed of questions targeting the detection of non-adherence

This part consists of a 5-point Likert scale response options as follows:

1. Always
 2. 75% of prescriptions dispensed
 3. 50% of prescriptions dispensed
 4. 25% of prescriptions dispensed
 5. Never
- (3) The third part consists of questions about the strategies pharmacists use to support patient adherence to their medication

This consists of 19 questions with binary responses (Yes/No)

- (4) This fourth part aims to elucidate the attitudes of pharmacists and other stakeholders towards providing adherence support

Their response was encoded on a 3-point Likert scale as follows:

1. Strongly agree and agree
 2. Neither agree nor disagree
 3. Strongly disagree and disagree
- (5) The last part assesses barriers which prevent community pharmacists from providing support and corresponding ones from the patients' perspective

A 5-point Likert scale report format was elaborated, as follows:

1. Strongly disagree
2. Disagree
3. Neither agree or disagree
4. Agree
5. Strongly Agree

We translated the questionnaire forward and backward with a dual panel of English speaking peers. No discrepancies were recorded. A pilot study was performed in 11 pharmacies to assess readability, content validity and clarity. This study did not require ethical approval, as per current guidelines.

Statistical analysis

The statistical analysis of the data was carried out using the statistical package SPSS Version 21. All individual questions of the questionnaire were analyzed descriptively, and in particular, percentages, valid percentages, cumulative percentages, and frequencies were calculated to identify those fractions of pharmacists in the sample who selected each response option. At the same time, in the quantitative variables, the average value in the entire sample, the standard deviation, the range of values, as well as the minimum and maximum value of each variable were calculated. We also defined internal consistency with Cronbach's alpha, assuming a threshold of 0.7. Finally, performed factor analysis which was assessed through the Kaiser-Meyer-Olkin (KMO) Test.

Sample

Based on previous studies in Greece, we estimated a response rate of 55%. The initial sample consisted of 280 pharmacists.

The survey was uploaded on Google Forms from December 2022 to February 2023. Two rounds of reminders followed the initial invitation to participate. The anonymity of the responders was secured, and they could withdraw their consent at any time.

Results

Demographics

The final sample of the study consisted of 205 (53.2% females) community pharmacists, which is a 68% response rate. The mean age was 44.05 ± 10.93 years and they mostly were self-employed in urban areas (66%). The average working experience of the participants was 16.63 ± 9.87 years. The sample reported 49.41 ± 29.44 working hours per week and each pharmacist filled 174.46 ± 68.55 prescriptions per week.

71.7% of the pharmacists had completed higher education, 23.4% of the participants had received postgraduate education, 3.9% had secondary education and 1%, had also obtained a PhD. 85.4% of pharmacists surveyed were self-employed, 12.7% were private sector employees, 1.5% of respondents were civil servants and 0.5% were retired. [Table 1](#).

Strategies for identifying patient non-adherence

Regarding the frequency with which patients receive repetitive prescriptions using electronic records, this trend was observed in 50% of prescriptions according to half of the pharmacists in the sample (50.7%) and in 25% based on the responses of 38% of pharmacists. 30.7% of the sample stated

Table 1. Demographics of responders.

Characteristics	Sample <i>n</i> (%) (<i>n</i> = 205)
Male	96 (46.8%)
Female	109 (53.2%)
Mean age years (SD)	44.05 (10.93)
Mean working hours/week (SD)	49.41 (29.4)
Mean years of experience (SD)	16.63 (9.867)
Mean number of full-time staff (SD)	3.93 (2.4)
Mean number of full-time pharmacists (SD)	1.15 (0.525)
Mean number of weekly filled prescriptions (SD)	174.46 (68.545)

that they always check the patient for response to medication, 36.1% check them in 75% of the cases, 22.4% in 50% of the cases, and 1.5% of pharmacists never check the response. Approximately half of the pharmacists who participated in the present survey (48.3%) stated that they inquire in 75% of cases regarding impediments to taking the medication, without these conflicting with the treatment, 21.5% of the pharmacists ask always, while 12.2% only ask 25% of the time and 0.5% never.

The majority of respondents use special tools only in 25% of the cases to assess patients' adherence, such as the Morisky scale. On the contrary, 26.8% of pharmacies never use such tools, 10.7% in half of the cases and only 2.9% of the sample always do so. Finally, the majority of pharmacists stated that they use adherence assessment tools such as pill counts or MEMS in 25% and 50% of cases (36.6% and 42.4%, respectively), while 14.1% never use them. [Table 2.](#)

Table 2. Strategies for identifying patients' non-adherence.

	Never	25% of prescriptions dispensed	50% of prescriptions dispensed	75% of prescriptions dispensed	Always
Assessing how frequently patients collect repeated prescriptions using computerised records	<i>N</i> 3 % 1.5	78 38	104 50.7	17 8.3	3 1.5
How often do you check with patients about their response to medication (<i>n</i> = 205)	<i>N</i> 3 % 1.5	19 9.3	46 22.4	74 36.1	63 30.7
How often do you ask about barriers to taking medication without being confrontational (<i>n</i> = 205)	<i>N</i> 1 % 0.5	25 12.2	36 17.6	99 48.3	44 21.5
What's the use of specific tools to assess adherence such as the Morisky scale (<i>n</i> = 205)	<i>N</i> 55 % 26.8	115 56.1	22 10.7	7 3.4	6 2.9
What is the rate of use of adherence assessment tools e.g. MEMS or pill count (<i>n</i> = 205)	<i>N</i> 29 % 14.1	75 36.6	87 42.4	10 4.9	4 2

Strategies used to support patient adherence to their medication

In terms of strategies used to support patient adherence to their medication, more than half of the sample reported that they encourage self-management (96.6%), large box labels (96.1%), indirect assessment tools such as blood pressure control (95.1%) and blood glucose level control (84.4%), use of signs with special instructions in the patient's language (93.7%), integration of patients' medication with specific daily activities (83.9%), simplification of patient's medication regimen (77.6%), communication with patients' physicians to alert them to patient non-adherence (75.1%), the provision of a medication diary (75.1%) and the provision of dosing aids (56.1%). In contrast, the least used strategies to support patient adherence were a reminder letter or SMS to patients to repeat their treatment (8.8%) and the lung function test (spirometry and asthma questionnaire) (4.9%). [Table 3](#).

Pharmacists' attitudes towards providing adherence support

Pharmacists' attitudes towards providing adherence support were assessed through 4 propositions, while the attitudes of other stakeholders were examined through 3 propositions. Specifically, the majority of the sample (80%) consented that the identification of non-adherence falls under the professional obligations of the pharmacists. 71.2% of the sample claimed that it is their role to promote patients' adherence with medication, while 6.3% of the sample disagreed that they can actually promote this adherence themselves. According to 75.6% of respondents, all pharmacists should be involved in the determination of patient's non-adherence in practice, while 6.3% disagreed about their involvement in the determination of patient's non-adherence. Pharmacists should be involved in activities to promote medication adherence, according to 81.5% of participants, 14.1% of people maintained a neutral attitude, while 4.4% of respondents disagreed with this statement.

Regarding the attitudes of other stakeholders, 73.6% of respondents stated that physicians want pharmacists to be involved in providing adherence services to their patients, 63.4% of participants stated that patients believe it is the role of pharmacists to promote medication adherence and finally, 73.6% of the sample argued that the provision of adherence services should be the responsibility of physicians. [Table 4](#).

Barriers preventing community pharmacists from providing support for patients' medication adherence

In the last part, the participating pharmacists were asked about the barriers related to the pharmacist himself and the barriers related to the patients. The most frequent barriers were more trust in the physician from patients' perspective (76.8%), the pharmacist's lack of time (50.7%), lack of clinical

Table 3. Strategies used by community pharmacies.

Strategies used by the community pharmacy	Metrics (Number/ Percentage)	Yes	No
Provision of dose administration aids (such as Webster – Pak, Dosette Box)	<i>N</i>	115	90
	%	56.1	43.9
Recommendation of a medication management review	<i>N</i>	93	112
	%	45.4	54.6
Simplification of patient's therapeutic regimen	<i>N</i>	159	46
	%	77.6	22.4
Interrelation of patient's therapeutic regimen with their daily activities	<i>N</i>	172	33
	%	83.9	16.1
Recommendation of medicine with lower out-of-pocket payment	<i>N</i>	92	113
	%	44.9	55.1
Communication with patients' physician to inform them regarding non-adherence	<i>N</i>	154	51
	%	75.1	24.9
Encouragement of patients to stay on the same brand	<i>N</i>	74	131
	%	36.1	63.9
Monitor of blood pressure	<i>N</i>	195	10
	%	95.1	4.9
Encourage self-monitoring	<i>N</i>	198	7
	%	96.6	3.4
Recommendation of medicine switch-if needed	<i>N</i>	85	120
	%	41.5	58.5
Use of labels in patient's language	<i>N</i>	192	13
	%	93.7	6.3
Monitoring blood glucose	<i>N</i>	173	32
	%	84.4	15.6
Provision of medication calendar	<i>N</i>	154	51
	%	75.1	24.9
Monitoring of total cholesterol	<i>N</i>	69	136
	%	33.7	66.3
Use of large labels on medicine's box	<i>N</i>	197	8
	%	96.1	3.9
Reminder through SMS	<i>N</i>	17	188
	%	8.3	91.7
Regular follow-up through telephone/visit	<i>N</i>	63	142
	%	30.7	69.3
Lung function test	<i>N</i>	10	195
	%	4.9	95.1
Reminder through letters	<i>N</i>	18	187
	%	8.8	91.2

information for patients (58.1%) and the lack of a private area in the pharmacy (34.6%).

In terms of patient-related barriers, the most common barrier cited by pharmacists was time pressure, followed by poor health literacy and language barriers, while the least common barrier was patient resistance to receiving advice from pharmacists.

Statistical analysis

The internal consistency Cronbach alpha was 0.801 for pharmacists' attitudes, 0.63 for other stakeholders' attitudes, 0.821 for pharmacists' barriers and 0.682 for patient-related barriers. Although the threshold for Cronbach-

Table 4. Pharmacists’ attitudes towards providing adherence support

		Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Factor analysis
Pharmacist attitudes							
It’s my professional obligation to identify the non-adherence of patients	<i>N</i>	5	5	31	110	54	0.755
	%	2.4	2.4	15.1	53.7	26.3	
It’s my role to promote patient adherence	<i>N</i>	5	10	44	107	39	0.829
	%	2.4	4.9	21.5	52.2	19	
All pharmacists should be involved in identifying non-adherence to medication by patients in their practice	<i>N</i>	5	8	37	114	41	0.874
	%	2.4	3.9	18	55.6	20	
Pharmacists should be involved in activities which promote adherence to medication	<i>N</i>	5	4	29	133	34	0.810
	%	2.4	2	14.1	64.9	16.6	
Other stakeholder attitudes							
Doctors want pharmacists to be involved in providing an adherence service to their patients (<i>n</i> = 205)	<i>N</i>	3	9	38	142	13	0.578
	%	1.5	4.4	18.5	69.3	6.3	
Patients believe that pharmacists have a role in promoting adherence to medication	<i>N</i>	2	24	49	123	7	0.533
	%	1	11.7	23.9	60	3.4	
The provision of an adherence service should be the doctors’ responsibility	<i>N</i>	1	11	42	138	13	0.752
	%	0.5	5.4	20.5	67.3	6.3	

was set at 0.7, values exceeding 0.6 are acceptable (Taber, 2018). Overall, these results signify a substantial internal consistency of our results. The KMO test rendered a result of 0.847, suggesting sampling adequacy. ($p < 0.000$). Table 5.

Discussion

Adherence to treatment constitutes a key intermediate factor in the saga of achieving optimal clinical outcomes (Ahmad et al., 2010; Kandasamy & Sundaram, 2019; Mansoor et al., 2014; Patton et al., 2021).

Patients’ adherence to medication should be monitored during physician visits; however, in clinical practice, sessions are mostly focused on improving health outcomes. Therefore, this gap should be spanned by pharmacists, whose ease of access has entrenched them in a key position along the health-care provision process, including adherence (Ghimire et al., 2019; Mansoor et al., 2014; Stanton-Robinson et al., 2018).

Table 5. Barriers preventing community pharmacists from providing support for patients' medication adherence.

		Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Factor analysis
Pharmacist-related barriers							
Lack of time	<i>N</i>	12	73	16	82	22	0.689
	%	5.9	35.6	7.8	40	10.7	
I have not received training in delivering an adherence service	<i>N</i>	16	111	34	38	6	0.712
	%	7.8	54.1	16.6	18.5	2.9	
I find it difficult to discuss adherence issues with patients	<i>N</i>	7	101	58	33	6	0.625
	%	3.4	49.3	28.3	16.1	2.9	
I find it difficult to discuss adherence issues with doctors (<i>n</i> = 125)	<i>N</i>	6	107	53	33	6	0.749
	%	2.9	52.2	25.9	16.1	2.9	
I believe it is the doctor's role	<i>N</i>	2	13	12	149	29	0.575
	%	1	6.3	5.9	72.7	14.1	
I lack clinical information about patients	<i>N</i>	1	17	68	110	9	0.546
	%	0.5	8.3	33.2	53.7	4.4	
I don't have a private consultation area in my pharmacy	<i>N</i>	10	81	43	63	8	0.765
	%	4.9	39.5	21	30.7	3.9	
I encounter resistance from local doctors	<i>N</i>	7	111	55	26	6	0.555
	%	3.4	54.1	26.8	12.7	2.9	
Patient related barriers							
Time pressure	<i>N</i>	2	50	68	67	18	0.606
	%	1	24.4	33.2	32.7	8.8	
Perceptions that it is not the pharmacist's role (<i>n</i> = 205)	<i>N</i>	4	93	79	21	8	0.733
	%	2	45.4	38.5	10.2	3.9	
Language barriers	<i>N</i>	6	110	56	25	8	0.685
	%	2.9	53.7	27.3	12.2	3.9	
Poor health literacy/ literacy (<i>n</i> = 205)	<i>N</i>	1	98	60	33	13	0.720
	%	0.5	47.8	29.3	16.1	6.3	
I find patients are resistant to receiving counselling from me	<i>N</i>	20	105	58	16	6	0.669
	%	9.8	51.2	28.3	7.8	2.9	

Half of the pharmacists in our sample tracked repetitive prescriptions using electronic records, but most did this only in half of the cases, while in most cases, they assessed patients' adherence by direct questioning or through indirect methods, such as assessing the response of medication in blood pressure (Ghimire et al., 2018). Questions were also frequently asked about the presence of any barriers to taking medication, while in fewer cases, specific tools to assess patient adherence to medication, such as the Morisky scale, or other adherence assessment tools were used, including the number of pills or MEMS.

Our findings bear a close resemblance with the reports of Mooney (Mooney et al., 2016). Indicatively, they reported that adherence was

checked daily in 28.6% of cases and occasionally in 28.6% of cases in the sample, while the most common method of measuring patient adherence was self-report, which aligns with our findings as well. Also, our findings are consistent with the study of Mansoor et al, regarding attitudes and barriers. In terms of strategies used to support patient adherence to their medication, the most popular strategies that appeared to be used by the vast majority of participating pharmacists were encouraging self-administration, using large-frame labels on medication boxes, blood pressure control as an in-direct control and the use of signs with special instructions in the patient's language. Other very popular strategies were also found to be monitoring blood glucose levels, linking patients' medication to particular daily activities, simplifying the patient's medication regimen, communicating with patients' physicians to warn of patient non-adherence and the provision of a medication diary. In contrast, the least used strategies to support patient adherence were sending a reminder letter to patients to repeat their treatment (8.8%), sending an SMS to remind patients to repeat their treatment (8.3%) and the lung function test (spirometry and asthma questionnaire) (4.9%).

Objective blood testing and subjective interviews were among the most widespread investigated practices (Ghimire et al., 2018). Moreover, the encouragement of patients to express their concerns and beliefs about their medication treatment, at a social, health, cultural and emotional level, and to identify any obstacles that prevent them from receiving their treatment regularly has emerged as an extremely important process (Brown & Bussell, 2011; Ghimire et al., 2018; Ghimire et al., 2019). On the contrary, the provision of drug information is considered by pharmacists to be a practice of reduced effectiveness (Said et al., 2020). Leaflets and organisation of individual sessions have been mentioned as pharmacists' preferred services; however, the pharmacists in the sample of this research do not focus on these practices (Presley et al., 2021).

According to another survey that focused on strategies to improve patients' medication adherence, the vast majority of pharmacists reported that information provided to patients about their medication was very important, and encouraging self-management was indeed a particularly popular choice. Other reckoned effective strategies supported were the use of pill organisers and tablet counting, as well as the involvement of patients' informal network, while the importance of mobile applications was considered a less practical solution (Davies et al., 2015). In fact, despite the potential utility of mobile health applications, their corresponding penetration was very low, on the grounds of data reliability, security, and technical difficulties (Labrador Barba et al., 2017; Martin et al., 2005). This was also echoed by Mooney et al. (2016) who corroborated that the availability of electronic

adherence control methods did not perpetuate a collateral use of them. For this reason, specific training was considered important, and the majority of pharmacists would like to provide specific training packages to the general public to learn how to use mobile applications to take medication and monitor various other clinical parameters (Davies et al., 2015). The use of special packaging (blister packaging) is a particularly effective strategy for improving patient adherence and clinical outcomes (O'Dwyer et al., 2020). This was also broadcasted by our study as well.

Most pharmacists agreed that it is their professional obligation to identify their patients' adherence, a finding which converges with a previously published study, where pharmacists were attributed equal professional responsibility for monitoring adherence to along with nurses and physicians (Brown & Bussell, 2011). Regarding the attitudes of other stakeholders, most pharmacists in the sample believe that physicians want pharmacists to be involved in providing adherence services to their patients and that patients endorse pharmacists to promote adherence.

However, despite the role of pharmacists in maintaining patients' adherence to their medication, on a practical level, it has been noted that only about 15% of patients resort to the pharmacist for information about their treatment (Pinto et al., 2018).

Identifying and overcoming barriers to adherence is substantial because it can lead to increased medication adherence, and subsequently, reduce the rate of hospitalisations and patient healthcare costs (Taber, 2018). Based on the responses of the sample, the most common barriers related to pharmacists were more belief in the role of the physician, absence of clinical information from patients and lack of time, while the least common barriers were difficulty in discussing with patients and/or with the doctors on the issue of adherence and meeting resistance from the local doctors. Lack of time emerged as a major problem in other studies as well; however, in contrast to the findings above, other key pharmacists' barriers to enhancing patient adherence included insufficient remuneration and insufficient training in motivational techniques (Ghimire et al., 2018; Patton et al., 2021).

In terms of patient-related barriers, the most common barrier was time pressure, while the least common barrier was patient resistance to receiving advice from pharmacists. According to other related studies, the main barriers to patients' non-adherence to their medication were found to be forgetting to take their medication, carelessness, fear of side effects and concerns about the long-term effects of medication, the cost of medication, difficulties with swallowing, reduced access to medication and lack of knowledge (Abdulsalim et al., 2018; Andersson et al., 2014; Laubscher et al., 2009; Nhi Tran et al., 2022; Qunaibi et al., 2021).

Conclusion

We have pointed out an array of approaches employed by pharmacists to cope with non-adherence. While the majority reported that adherence falls under their domain, a lack of consistency was noted. This was also compounded by a lack of time both from pharmacists' and patients' perspectives.

The provision of continued education and Adherence training programs can comprise a building block in equipping community pharmacists with the necessary skills, to enhance the support to patients in terms of adherence to their prescribed medicines and consequently, the achievement of the coveted clinical outcomes.

Given the high importance of investigating and understanding pharmacists' views and practices on patient medication adherence, and the relatively limited number of studies focusing on pharmacists' views on patients' medication adherence, this paper provides an exemplary platform. To the best of our knowledge, this is the first study conducted in Greece to elucidate the context of adherence from the pharmacy perspective. The deliverables are important and will enable the elaboration of targeted and coherent policies. Greece has managed to overcome the dire financial adversities and has been on a recovery route. This will allow the focus on quality factors and in the context of pharmaceutical care provision, adherence emerges as a paramount corresponding one. Nevertheless, more studies are needed and also actions, along with a commitment on a political level, to engage all social stakeholders.

Limitations of the study

The study did not calculate statistical power since the scope to engage all pharmacists in the specific region. Moreover, the selection of pharmacies was performed based on geographic criteria since this was an exploratory study.

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Disclosure statement

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