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Medication Adherence in Kosovo—Healthcare Key Opinion Creators' Perspective

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Abstract

Medication non-adherence remains a major challenge in healthcare systems worldwide, with significant implications for patient outcomes and healthcare costs. This study explored the perceptions and practices of Key Opinion Creators (KOCs) in Kosovo regarding medication adherence. Using a qualitative approach, 15 participants representing hospitals, pharmacies, academia, pharmaceutical companies, insurance, and professional associations were surveyed through open-ended questionnaires. Findings reveal the absence of clear national policies or guidelines dedicated to adherence, limited monitoring systems, and insufficient institutional support. While KOCs recognize healthcare professionals' (HPs) role in patient education, counseling, and monitoring, they also stressed that their engagement is often fragmented and lacks standardized reporting mechanisms. Technology and innovation were identified as promising tools to improve adherence, but their application is limited by inadequate infrastructure and resources. Key barriers include a lack of guidelines, financial and human resource constraints, low patient education, and disparities across demographic groups. The study highlights the urgent need for coordinated policies, stronger inter-professional collaboration, targeted interventions, and integration of digital health solutions to strengthen medication adherence practices in Kosovo.

Keywords: medication adherence; perspectives; healthcare professionals; Kosovo

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1. Introduction

Medication adherence, or the proper and regular usage of medications, is a crucial component in achieving the intended outcomes while treating both acute and chronic illnesses. Medication adherence, as defined by the World Health Organization (WHO), is "the degree to which a patient's behavior—including taking medications, adhering to a diet, and altering lifestyle—aligns with recommendations given by a health care provider" [1]. One of the most significant challenges facing the world today is non-adherence to treatment, which has a detrimental effect on patients' quality of life and the overall expenses of the healthcare system. Poor adherence not only compromises treatment success but also

places an additional burden on healthcare systems, leading to the progression of otherwise preventable diseases, more frequent hospitalizations, and higher healthcare expenditures.

Generally, up to 50% of patients do not take their prescribed medications as directed, and medication nonadherence has been recognized as a significant public health challenge [2,3]. In addition to being strongly associated with adverse health outcomes, medication non-adherence frequently results in avoidable medical visits, with annual adjusted expenditures per person ranging from $949 to $44,190 [4,5]. However, recent advances in health information systems—particularly the use of nationwide electronic prescription data—have produced more refined and, in some cases, lower estimates of non-adherence. For example, a recent study by Bruthans et al. (2023), which used comprehensive e-prescription data in the Czech Republic, reported that non-adherence rates for certain chronic medications were, in fact, in the single digits [6]. This finding underscores the need to critically evaluate adherence data and consider the influence of measurement methods and system-level factors on reported outcomes.

Although several interventions aimed at enhancing medication adherence have been implemented by healthcare systems, their global acceptance and actual impact on patient outcomes remain insufficiently examined. If concerns regarding medication adherence-enhancing interventions are not addressed by all relevant parties and stakeholders, their adoption and effectiveness will remain limited [7–9]. In high-income countries, such as the United States and Australia, international research suggests that fewer than 65% of patients with chronic diseases follow the prescribed therapy correctly, while in developing low- and middle-income countries (LMICs), non-adherence rates are considerably higher [10–12]. In high-income countries, various adherence-enhancing strategies—including electronic reminders, pharmacist-led interventions, mobile health tools, and multidisciplinary care models—have shown moderate success [5,10,13]. Nonetheless, even in well-resourced settings, achieving full adherence remains a challenge. In LMICs, including the Western Balkans and Kosovo, medication adherence is often more challenging due to weaker health infrastructure, limited access to medications, fragmented care systems, economic instability, and lower public trust in healthcare institutions [14–16].

Due to the many variables that affect patient behavior regarding prescribed therapy, such as socioeconomic status, education, the health system, and cultural views on drug usage, the issue of medication adherence with drug therapy assumes special significance in Kosovo. Understanding the patient's behavior and the factors influencing their therapy choices is essential for enhancing healthcare at the national level in this complex landscape.

Kosovo, a transitional health system facing both resource constraints and organizational reforms, provides a unique context for exploring medication adherence. Despite efforts to improve primary care access and promote rational drug use, challenges such as inconsistent pharmaceutical supply chains, limited patient counseling, poor continuity of care, and low health literacy persist. Furthermore, Kosovo lacks robust national data on medication adherence, with few mechanisms in place to track, assess, or implement interventions at scale. This limitation hampers the ability of policymakers and healthcare professionals to design effective, evidence-based strategies that address the root causes of non-adherence [17,18]. In the absence of sufficient data for Kosovo, it is essential to analyze the perceptions and attitudes of key actors in the health sector, such as physicians, pharmacists, institutional executives, and policymakers, to understand the factors that facilitate or hinder medication adherence. In this context, the role of Key Opinion Creators (KOCs) in the field of health becomes important to understand existing barriers and opportunities for effective interventions aimed at improving adherence.

KOCs are well-recognized professionals and high-profile experts who influence medical and pharmaceutical practices through their knowledge, expertise, and authority. They

may include physicians, pharmacists, academic researchers, hospital administrators, patient advocates, or government officials involved in decision-making. Their ability to promote novel concepts and shape the opinions of their peers within the healthcare sector is a defining characteristic. These individuals possess the knowledge, authority, and professional networks necessary to shape clinical guidelines, influence prescribing behaviors, establish public health agendas, and drive positive change within the healthcare system.

Although studies in Kosovo remain limited, experiences from other countries can provide a useful reference. Based on the existing literature, medication adherence in Kosovo is a complex issue influenced by multiple factors, including socioeconomic, educational, institutional, cultural, and technological determinants [19–21]. Many studies have examined medication adherence from the perspectives of patients or healthcare professionals, yet few have investigated the opinions of KOCs in a structured and in-depth manner. These healthcare leaders have the potential to influence policy-making, clinical strategies, and community interventions. This gap in Kosovo highlights the need for research focusing on the roles and attitudes of key actors in the health system to support evidence-based policies and improve medication adherence, which motivated their inclusion in our study.

This study aims to elucidate the perspectives of KOCs in Kosovo on this issue by identifying existing gaps in policymaking, health education, and clinical practice. It was designed to identify barriers and facilitators, management strategies, and available interventions that support and enhance medication adherence in the country. By collecting and analyzing their insights, the study provides a foundation for developing policies and practices that are contextually relevant, institutionally supported, and more likely to achieve meaningful improvements in patient adherence. These data are essential for developing sustainable strategies that can significantly improve medication adherence and, consequently, public health in Kosovo.

2. Methodology

2.1. Study Design and Approach

This study was designed as explanatory qualitative research with a cross-sectional structure, intended to explore the perceptions, attitudes, and experiences of healthcare KOCs regarding medication adherence in Kosovo. The study focused on generating broad, conceptual insights rather than disease- or population-specific data. It was designed to address the research question: How do healthcare KOCs in Kosovo understand and influence medication adherence within the national context?

2.2. Sampling Strategy and Participants

The study employed a purposive sampling strategy to select participants who met the criteria of being a KOC in the healthcare field in Kosovo. KOCs were defined as individuals holding leadership, academic, or decision-making roles in medicine, pharmacy, public health, or health policy. Inclusion criteria were as follows: (i) a minimum of three years of professional experience in healthcare or health-related policy; (ii) current or past involvement in strategic decision-making, clinical leadership, education, or research related to patient care or drug therapy; and (iii) being based in Kosovo or working directly with Kosovo's healthcare system. Potential participants were identified through professional networks, institutional directories, academic affiliations, and referrals (snowball sampling). The sample comprised 15 participants, including university professors, senior pharmacists, clinical practitioners, hospital administrators, public health officials, and other healthcare leaders. Although the majority were from the pharmaceutical sector, this distribution reflects the professional landscape in Kosovo, where pharmacists frequently occupy central roles in medication management and policy advising.

Although the sample size may appear small, it is consistent with qualitative research standards, particularly for studies involving expert groups. Data saturation—the point at which no new themes or perspectives emerged—was reached by the 13th interview. Two additional interviews were collected to confirm thematic consistency.

Data were collected via an anonymous, self-developed digital questionnaire distributed through Google Forms. The included questions were written in English by the research team, constructed based on a prior systematic literature review of medication adherence and corresponding cultural adaptation for Kosovo. Prior to full deployment, the questionnaire was pilot-tested with 3 eligible respondents to assess face validity, clarity, and relevance. Based on feedback, minor wording adjustments were made to improve comprehension and reduce ambiguity. The final version is available in Supplementary File S1.

The questionnaire comprised both closed-ended items (demographic and background data) and open-ended questions exploring perceptions of adherence barriers, facilitators, system gaps, professional roles, and potential interventions. The data collection period lasted from April 2024 to December 2024.

Participation was voluntary, and informed consent was obtained digitally before accessing the questionnaire. Respondents were informed about the study's purpose, their right to withdraw at any time, and the strict confidentiality of their responses.

2.3. Ethical Considerations

The study received ethical approval from two institutional review boards: the Ethics Committee of Alma Mater Europaea Campus College "Rezonanca" in Pristina, Kosovo (Protocol No. AD-1315/2024, dated 22 March 2024), and the Ethics Committee of the Faculty of Medical Sciences, Goce Delcev University, Stip, North Macedonia (Document No. 2005-137/3, dated 26 June 2024). All procedures complied with international ethical standards for research involving human participants.

2.4. Data Analysis

Data were analyzed using thematic analysis, following the six-phase framework outlined by Braun and Clarke (2006): (i) familiarization; (ii) initial coding, in which key ideas and phrases were coded inductively using manual open coding; (iii) searching for themes; (iv) reviewing themes; (v) defining and naming themes; and (vi) producing the report [22]. Coding and theme development were conducted independently by two researchers from our team and then compared for consistency. Any disagreements were resolved through discussion until a consensus was reached. Data were organized and grouped into categories based on their relevance and frequency across different respondent groups. Quotations were used to anchor themes in participants' own words (e.g., "There is no real strategy to track whether patients are actually taking what is prescribed"—KOC, pharmacist).

3. Results and Discussion

This study explored the perspectives of KOCs within Kosovo's healthcare system on medication adherence, aiming to identify systemic gaps, barriers, opportunities, and potential strategies for improvement. A non-random sampling method was employed to select participants, resulting in a total of 15 enrolments. Participants' occupational backgrounds, based on responses to Q1–Q2 of the KOCs' medication adherence questionnaire, are presented in Table 1, while the qualitative analyses of Q3–Q13 are described below. Some participants indicated more than one category according to their affiliations; therefore, the totals may reflect multiple data points. The data illustrate the diversity of participants in terms of organizational type and professional experience, providing a framework for understanding their perspectives and engagement in medication adherence practices.

Table 1. Occupational background of respondents from the interview for KOCs (medication adherence questionnaire Q1–Q2).

Variable	Category	Frequency (N)	Percentage (%)
The type of organization you represent	Hospital	1	6.66
	Research/academia	4	26.66
	Community or Hospital Pharmacy	2	13.33
	Private company—Pharmaceutical Company	10	66.66
	Pharmacoeconomics (e.g., consultancy)	-	-
	Professional association	2	13.33
	Governmental body	-	-
	Insurance company	1	6.66
	Some other (please specify)	1	6.66
	No answer	1	6.66
Work experience in the healthcare system	1–5 years	2	13.33
	5–10 years	2	13.33
	10–15 years	5	33.33
	15–20 years	3	20
	More than 20 years	2	13.33
	No answer	1	6.66
	Total	**15**	**100.0**

The majority of them (66.66%) work in private companies/pharmaceutical companies, while 26.66% are engaged in research or academia. One participant (6.66%) works in the hospital (management section), another (6.66%) in the health insurance company, and another participant (6.66%) reports other categories. About 13.33% of the participants are part of community or hospital pharmacies management departments, and 13.33% represent professional associations (medical/pharmaceutical chambers, etc.). In terms of experience in the health system, the majority of participants (33.33%) have 10–15 years of experience, while 20% have 15–20 years. A total of 13.33% of participants reported 1–5 years of experience, 13.33% reported 5–10 years, and another 13.33% reported more than 20 years of experience. One participant did not provide information on this question (6.66%).

The analysis of qualitative responses from 15 KOCs revealed six overarching themes:

1. Multidisciplinary roles in adherence management;
2. Lack of national policies and standardization;
3. Limitations in monitoring and reporting systems;
4. Technology as a double-edged tool;
5. Systemic and sociocultural barriers;
6. Priority interventions and long-term goals.

Each theme is discussed below, supported by illustrative quotations from participants.

3.1. Multidisciplinary Roles in Adherence Management

This includes responses to Q3: "*Which professions are involved in medication adherence in Kosovo?*" Participants indicated that multiple professions contribute to the management of medication adherence. The primary professionals involved are medical doctors,

pharmacists, and nurses, who are most actively engaged in patient care and monitoring. Additional responses included clinical psychologists, dentists, pharmacy technicians, and clinical pharmacy specialists, as well as other health-related professionals such as medical assistants, health educators, and social workers.

Respondents unanimously emphasized the multifaceted nature of medication adherence, which requires input from various healthcare professionals, including physicians, pharmacists, nurses, and allied health workers. For example, Participant 6 stated: "Pharmacists and doctors play a primary role, but nurses, clinical pharmacists, and even psychologists should be part of the medication adherence equation."

Medication non-adherence among patients is a major global health concern. Several factors contribute to this issue. Although patient education is a primary component in improving adherence, evidence indicates that the use of adherence aids, targeted initiatives, and support mechanisms can further enhance medication adherence [23]. The recognition of a multi-professional approach aligns with global evidence that collaborative care models enhance patient adherence and health outcomes [7]. However, many participants noted that, despite this awareness, cooperation remains fragmented in practice, as for example, Participant 12 stated, "We talk about collaboration, but in reality, each profession works separately."

3.2. Lack of National Policies and Standardization

This theme encompasses responses to Q4, in which participants provided varying answers. Most respondents reported a lack of awareness of national policies, guidelines, or frameworks specifically addressing medication adherence.

"There are some drug laws and general healthcare policies, but nothing focused on or enforced regarding adherence" (Participant 3).

References were made to documents such as international guidelines, the National Medicines Policy, the Essential Medicines List, and the regulatory roles of the Kosovo Agency for Medical Products and Devices (AKPPM) and the Food and Veterinary Agency (AVUK); however, these were perceived as indirect or insufficient.

"We follow WHO guidelines or protocols from international agencies, but nothing is specifically tailored to our system" (Participant 9).

Some entities also reported pharmaceutical services and public health campaigns, but emphasized that there is no national policy specifically dedicated to medication adherence. Furthermore, several participants referred to laws governing narcotic drugs and psychotropic substances, as well as standards of pharmaceutical practice, as components of drug management. Nevertheless, the overall finding is that there is no clear national framework to ensure patient adherence to medications. These responses indicate that, although most KOCs are unaware of specific national protocols, the majority rely on individual initiatives and general or international recommendations to address pharmaceutical non-adherence in Kosovo. This lack of structured policy reflects similar gaps observed in other low- and middle-income countries, where medication adherence is often deprioritized despite its critical public health impact [15].

3.3. Limitations in Monitoring and Reporting Systems

This theme encompasses responses to Q5–Q7, in which participants described the evaluation and documentation of adherence as inconsistent, informal, and unstructured, largely due to under-resourced health information systems. Participants indicated that HPs play a key role in evaluating, monitoring, documenting, and improving medication adherence process. HPs can provide guidance on the proper use of medications and monitor therapy adherence. However, some respondents noted that in Kosovo, HPs are often not

actively involved in evaluating, monitoring, or documenting adherence, as medical doctors primarily prescribe medications while pharmacists are mainly responsible for dispensing them. Others highlighted the absence of an official system for collecting and monitoring adherence data. "There is no official platform to report or track non-adherence; everything is manual and relies on what the patient says" (Participant 10).

Furthermore, it is emphasized that HPs play a crucial role in promoting improved adherence through their consistent support, clear communication, and efforts to earn patients' trust. As expected, these findings are consistent with other studies conducted worldwide [24–27].

In general, participants agreed that the assessment of medication adherence in Kosovo is limited and often inconsistent across the health system. HPs primarily have access to medical reports, patient consultations, and data from the health services managing treatment. In outpatient settings, pharmacists generally have access only to prescriptions, which may not include information on diagnoses or laboratory results. In public hospitals, nursing staff usually records therapy and administration in a patient information sheet; however, after discharge, there is no systematic way to monitor adherence to therapy unless treatment failure indicates non-adherence. A very illustrative quote in this manner, is one from Participant 2: "While some access to prescription records, hospital therapy sheets, and clinical observations exists, there is no centralized system to document or analyze this data longitudinally."

Some participants also identified patient self-reports, pill counts, prescription refill records, electronic health records, biomarker assessments, and clinical outcomes as methods for evaluating medication adherence. However, the most noted was that Kosovo's Health Information System is not fully functional, limiting access to patient data and the systematic evaluation of adherence.

Regarding the identification and reporting of non-adherent patients, participants indicated that documentation and reporting of patient non-compliance are limited and often informal in Kosovo. Reporting is not standardized: "Even when we identify non-compliance, there is nowhere official to report it—no proper forms, no database" (Participant 1).

Most KOCs mentioned that, according to international guidelines, adherence can be documented in the patient's medical file. However, in Kosovo, official patient medical files do not yet exist, and it is unclear whether an appropriate electronic reporting form is available. Some participants cited institutions such as the Ministry of Health, the National Institute of Public Health of Kosovo (NIPHK), national pharmaceutical companies, the Health Inspectorate, the Kosovo Agency for Medical Products and Devices (AKPPM), and the Kosovo Chamber of Pharmacists as reporting opportunities, but emphasized again the lack of a standardized or detailed system. These findings are consistent with previous studies indicating that accurate monitoring systems are essential for the effective management of medication adherence [28,29].

3.4. Technology as a Double-Edged Tool

This theme is reflected in responses to Q10. Most participants indicated that technology and innovation play a critical role in improving medication adherence, as they offer real-time support to patients, facilitate monitoring, and enable the updating and analysis of adherence data. However, according to given answers, the role of technology emerged as both a facilitator and a barrier. Respondents acknowledged the potential of applications for memory aids, reminder applications, and digital health platforms to support patients, particularly among younger populations.

"For the younger generation, digital reminders, smart pillboxes, and apps can be game-changers" (Participant 5).

Nevertheless, infrastructure limitations, affordability issues, and low digital literacy constrain the widespread adoption of technology in Kosovo: "The elderly population doesn't use smartphones. Even many healthcare professionals lack training on digital tools" (Participant 14).

The opinions of KOCs align with global strategies, as user-generated digital health data can now complement traditional electronic health records due to technological advancements and the increasing importance of their utilization in recent years [30]. This trend is consistent with international research, which shows that while technology-based adherence tools can be highly effective [31,32], their success depends on contextual usability and system readiness.

3.5. Systemic and Sociocultural Barriers

This theme is reflected in responses to Q11 and Q12. Participants indicated that numerous obstacles hinder the improvement of medication adherence among patients in Kosovo. KOCs identified several overlapping barriers, including the absence of a digital tracking system, limited resources and funding, a lack of national guidelines and protocols, low patient health literacy, inadequate insurance coverage, insufficient educational and promotional programs, and limited institutional support. A consistent theme throughout the responses was the lack of institutional support, limited financial resources, and low public trust in healthcare professionals—particularly non-physicians: "Patients trust doctors but often don't take pharmacists seriously, even though they are the last point of contact before medication use" (Participant 4).

"There are many qualified professionals, but few who are truly knowledgeable in adherence. And, we lack any cross-sector collaboration" (Participant 7).

Collectively, these factors constrain the implementation of effective measures to improve adherence to prescribed therapies among patients with chronic diseases. The barriers identified by KOCs correspond to the five-domain model of factors influencing medication adherence proposed by Lehmann et al. (2014), which includes disease-related, medication-related, healthcare system-related, demographic and socioeconomic, and patient- and caregiver-related factors [33].

To address disparities in medication adherence across different demographic groups, respondents suggested personalized patient education, incorporation of community and family support, public awareness campaigns, and improved access to health services. The main objective is to implement targeted interventions that address the specific barriers faced by each demographic group and enhance patient confidence in HPs.

3.6. Priority Interventions and Long-Term Goals

This theme synthesizes responses to Q8, Q9, and Q13. Regarding potential interventions to improve patients' adherence to prescribed therapies, KOCs numbered direct consultation and counseling, regular check-ups and follow-ups, referral to existing therapy compliance programs, pill-counting, use of apps or digital reminders, and family involvement. They also emphasized that the choice of intervention should be tailored to the patient's specific needs and available resources, considering factors such as age, comorbidities, and motivation to adhere to therapy.

For some patients, health education and motivational counseling are considered essential, whereas for elderly patients, it may be necessary to reduce the number of medications and use electronic reminders. These answers align with other studies, which suggest that a combination of strategies is required to assist patients to improve adherence to their treatment programs, as no single intervention is sufficient to ensure consistent medication-taking behavior [34].

When asked about the most effective interventions (Q9), participants recommended personalized counseling, regular follow-ups, simplified medication regimens, digital tools, and family involvement.

"Pharmacist-led counseling, reminders, and frequent follow-ups are simple but powerful tools we can use—even now" (Participant 11).

Respondents also highlighted the need for targeted approaches for vulnerable groups, considering factors such as age, education, and income.

"Adherence support must be personalized—what works for an urban, tech-savvy youth won't work for an elderly rural patient" (Participant 2).

According to other recent research, several strategies proposed by KOCs are particularly effective. For example, three distinct approaches—a community healthcare worker-based model, the use of fixed-dose drug combinations, and short message service interventions—have been shown to improve clinical outcomes and medication adherence in the secondary prevention of cardiovascular events in individuals with atherosclerotic cardiovascular disease [35]. Additional beneficial strategies identified by Schneider and Burnier (2023) include reducing the frequency of administration, avoiding high-side-effect medications, minimizing unnecessary prescriptions, empowering patients, employing shared decision-making in prescribing, and involving multiple HPs, such as physicians, pharmacists, nurses, or psychologists [36].

Long-term goals highlighted by participants in response to Q13 include integrating adherence training into academic curricula, establishing centralized systems for monitoring, fostering trust between patients and healthcare professionals, and developing policies aligned with international guidelines. A particularly illustrative quote from Participant 13 stated: "We need to build sustainable systems—digital, educational, legal—to truly support adherence."

Most participants agreed that the ultimate goal is to create sustainable and effective systems that ensure the proper use of medications and minimize non-adherence. The final synthesis of results underscores the complexity of medication adherence in Kosovo, where professional awareness is high, but systemic implementation remains limited. The key issues are summarized in Table 2.

Table 2. Key Challenges and Implications of Medication Adherence in Kosovo.

Challenge	Implication
Lack of national policy	Fragmented practice and low accountability
Incomplete Health Information System	Inability to track, monitor, or analyze non-adherence
Digital tool limitations	Missed opportunities for scalable interventions
Cultural and systemic distrust	Reduced role of pharmacists and educators
Disparities across groups	Need for targeted, equitable strategies

Responses from KOCs confirmed that medication adherence is managed by a broad spectrum of HPs, including physicians, pharmacists, nurses, and allied health workers, highlighting the need for a coordinated, multi-professional approach. Despite recognition of HPs' pivotal role in patient education and monitoring, their efforts remain constrained by systemic barriers.

A critical finding is the absence of a national framework or comprehensive policy specifically targeting medication adherence. Current practices rely heavily on individual initiatives or international guidelines, resulting in inconsistent implementation. This lack of standardization is further compounded by limited access to functional health information systems, which impedes effective tracking, reporting, and evaluation of adherence. In the

absence of structured monitoring, HPs often depend on indirect measures, such as patient self-reports or prescription refill data, which may compromise accuracy.

Technology was identified as a potential enabler, offering opportunities for real-time monitoring, patient engagement, and data integration. However, the adoption of digital tools is constrained by inadequate infrastructure, financial limitations, and gaps in technological literacy, particularly among older patients. Consistent with global findings, participants suggested that multifaceted interventions—including counseling, simplified drug regimens, digital reminders, and family involvement—are more effective than single-component approaches.

The barriers highlighted by respondents mirror global categorizations, including socioeconomic constraints, deficiencies in healthcare systems, limited patient knowledge, and cultural perceptions of healthcare professionals. These findings underscore the importance of addressing disparities across demographic groups, ensuring that interventions are tailored to social, educational, and economic contexts. Insights provided by KOCs reinforce established global models while offering context-specific evidence. Their recommendations align with multi-component interventions, which international research consistently identifies as the most effective strategies in addressing medication adherence.

4. Future Directions, Limitations, and Recommendations

This study highlights the urgent need for a coordinated, multi-level response to medication non-adherence in Kosovo. KOCs consistently identified critical gaps in the current system, including the absence of national guidelines, fragmented inter-professional collaboration, limited access to patient data, and insufficient technological infrastructure to support real-time monitoring and interventions.

Although individual HPs demonstrate a strong commitment to improving medication adherence, their efforts remain isolated and unsupported by structured policy or institutional frameworks. As a result, in the country, adherence is largely dependent on personal initiative rather than standardized, system-wide processes.

To advance national efforts and align with international standards, we recommend that the Ministry of Health, in collaboration with the Kosovo Agency for Medical Products and Devices (AKPPM) and the Kosovo Chamber of Pharmacists, take the lead in developing and implementing: (i) a National Medication Adherence Strategy with measurable goals and regulatory oversight; (ii) official clinical guidelines for medication adherence monitoring and documentation; and (iii) a centralized digital health information system to track adherence patterns, enable real-time reporting, and integrate pharmacy and clinical data.

These actions would help ensure consistency in practice and shift responsibility from individual practitioners to institutions, thereby promoting accountability at the system level.

Based on the findings of this study, another recommendation focuses on healthcare providers, particularly those in pharmacy and primary care. Their work should be strengthened through: (i) inter-professional training programs that emphasize collaborative care in medication adherence management; (ii) the integration of adherence support tools, such as medication review protocols, counseling scripts, and digital adherence platforms, into routine practice; and (iii) pilot intervention programs led by clinical pharmacists or multidisciplinary teams, especially in underserved or rural areas.

These initiatives could be supported by international donors or public–private partnerships and may serve as models for subsequent national scale-up.

Academic institutions and professional bodies should also be actively involved. Our findings highlight their critical roles in: (i) integrating medication adherence theory and practice into the curricula of pharmacy, medicine, and nursing programs; (ii) developing certified continuing education modules focused on adherence interventions and digital

health tools; and (iii) facilitating capacity-building workshops for HPs on patient-centered communication, motivational interviewing, and adherence assessment techniques.

These initiatives will cultivate a new generation of HPs in Kosovo, equipped with the skills necessary to improve the management of medication non-adherence.

This study utilized a small, purposively selected sample of 15 participants, predominantly from the pharmaceutical sector, which may limit the generalizability of the findings. Furthermore, although practical, the use of a self-administered online survey may have constrained the depth of qualitative insights compared with interviews or focus groups. Future research should involve larger and more diverse samples, as well as mixed-method designs, to triangulate perspectives from patients, clinicians, and policymakers.

5. Conclusions

Improving medication adherence in Kosovo requires coordinated policy action, investment in digital infrastructure, inter-professional collaboration, and targeted patient engagement strategies. Without such structural support, the responsibility for enhancing adherence will continue to fall on individual practitioners, potentially undermining health outcomes and increasing long-term healthcare costs.

By taking immediate steps to implement national policies, promote inter-professional education, and pilot adherence-monitoring tools, Kosovo can establish the foundation for sustainable, patient-centered care models. These measures would not only improve therapeutic outcomes for patients with acute and chronic conditions, but also strengthen the resilience and efficiency of the national healthcare system. Improving medication adherence requires a collaborative effort.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/hygiene5040052/s1, Supplementary File S1: Questionnaire for Key Opinion Creators (KOCs).

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