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PRECISION ADHERENCE MANAGEMENT ACROSS THE RESEARCH-TO-PRACTICE CONTINUUM



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Thursday November 19

POSTER SESSION 1: DETERMINANTS OF MEDICATION ADHERENCE (I)

Assessing switching and discontinuation to disease modifying anti-rheumatic drugs among rheumatoid arthritis patients in administrative healthcare databases: systematic review and meta-analysis

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Progetto COSIsiFA (Cittadini ed operatori sanitari sempre informati sul farmaco) - Fondi regionali di farmacovigilanza AIFA

Abstract

Aim

To assess variables associated with variations in disease-modifying antirheumatic drugs (DMARDs) discontinuation and switching estimates among adults with rheumatoid arthritis, given the heterogeneity across administrative database studies.

Methods

A systematic review and meta-analysis followed PRISMA and MOOSE guidelines, including English-language retrospective studies indexed in PubMed and Scopus through 1 December 2025. Users were classified as incident, prevalent, prevalent switchers, or mixed. Random-effects meta-analyses of proportions were performed, including subgroup analyses, while heterogeneity was assessed using Cochran's Q test ($p < 0.05$). Study quality was assessed using the Newcastle–Ottawa Scale (NOS) and certainty of evidence using GRADE.

Results

Overall, 56 studies involving 794,021 patients were included (39 on discontinuation; 41 on switching). Pooled discontinuation proportions were 0.36 (95% CI 0.31–0.40), 0.14 (0.06–0.23), 0.26 (0.21–0.33), and 0.20 (0.13–0.28) for incident, prevalent, switcher, and mixed users, respectively. Corresponding switching proportions were 0.20 (0.17–0.22), 0.13 (0.07–0.21), 0.34 (0.29–0.39), and 0.16 (0.11–0.22). All pooled

proportions showed high heterogeneity. All studies were of good quality according to NOS, while GRADE indicated predominantly low to very low certainty of evidence.

Discussion
The findings showed that discontinuation and switching rates were lower among prevalent than incident users, while switcher users were more likely to switch treatment. These differences may be related to variations in clinical characteristics and treatment needs within different exposure groups.

Conclusion
Discontinuation and switching rates vary across categories, highlighting the need to standardize methodological choices for the index DMARDs, gap period, follow-up, and discontinuation definition.

Investigation of Theses on Medication Adherence in Organ Transplant Patients in Türkiye

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Abstract

Aim
To systematically analyze Turkish academic dissertations on medication adherence in organ transplant patients, mapping research trends, barriers, and enablers.

Methods
A systematic review of the Turkish National Thesis Center database (2016-2026) was conducted using the search term "medication adherence". Studies were analyzed based on bibliometric indicators and their thematic focus on the adherence implementation phase.

Results
Twenty-four unique dissertations (16 kidney, 8 liver) were analyzed. While predominantly cross-sectional, the dataset revealed a methodological shift toward Randomized Controlled Trials (RCTs). Adherence was measured primarily via BAASIS, MMAS-8, and MARS-5. Key implementation barriers included prolonged post-transplant duration, older age, and Toxoplasma seropositivity. Medication-induced symptoms caused high distress, but their negative correlation with adherence was inconsistent. Critical enablers included high health literacy, belief in medication necessity, and strong self-management. RCTs demonstrated that SMS reminders, smartphone apps, motivational interviewing, and video-based education significantly improved adherence, quality of life, and Tacrolimus levels. One pediatric study noted improved adherence during COVID-19.

Discussion
This bibliometric trend highlights a methodological maturation in Turkish nursing research, evolving from descriptive surveys to interventional RCTs utilizing digital health.

Conclusion
Addressing health literacy, medication beliefs, and utilizing digital interventions effectively improves transplant medication adherence. Future research should explicitly measure long-term persistence using uniform taxonomies.

Adherence to inhaled asthma and COPD medications among Norwegian users

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Abstract

Aim
To investigate adherence (implementation and persistence) and factors associated with poor adherence of inhaled medications among patients with asthma and chronic obstructive pulmonary disease (COPD) to support pharmacist-led interventions of appropriate medication use.

Methods
Data were collected from the Norwegian Prescribed Drug Registry (NorPD) covering complete dispensing data of ATC-code R03 in the Norwegian population from 2021 to 2025. Asthma patients aged ≥12 years (n = 298,909) and COPD patients ≥40 years (n = 147,354) with ≥2 R03 dispensings within a 12-month period (2022–2025), including one in 2022–2024, were included. Adherence to maintenance therapy was estimated from prescription refill data as the proportion of days covered (PDC) with carry-over, with PDC ≥80% defining good adherence. Logistic regression analyses examined associations between adherence and patient characteristics, medication, and prescribing physician. Results are presented as odds ratio (OR) with p-value <0.05 considered as significant.

Results
Preliminary results among the asthma patients showed that 77.7% received inhaled corticosteroids (ICS) during the study period, of whom 75.6% were classified as non-adherent. The strongest predicters of non-adherence to ICS were being a new user (OR 3.12), prescriptions issued by non-pulmonologists (OR 2.06), low use of short acting beta-2 agonists (OR 1.51), and age (OR 0.98). P-values were <0.001 for all. Analyses for COPD patients are ongoing.

Discussion and conclusion
A substantial proportion of asthma patients were non-adherent to maintenance therapy. These findings may inform the development and targeting of pharmacist-led interventions to improve appropriate use of inhaled medications in asthma and COPD.

Identifying Key Behavioral and Demographic Drivers of Medication Adherence among Omani Adults with Non-Dialysis Chronic Kidney Disease

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Abstract

Aim

This study investigated the predictors of medication adherence, specifically focusing on the implementation phase, among Omani patients with non-dialysis Chronic Kidney Disease (CKD). The research aimed to determine how disease-specific knowledge and fatigue levels influence the extent to which patients follow their prescribed dosing regimens.

Methods

A descriptive cross-sectional study was conducted with 300 Omani adults recruited from two tertiary nephrology clinics. Following the ABC taxonomy, medication adherence was conceptualized as implementation, defined as the degree to which a patient's actual dosing corresponds to the prescribed regimen. Adherence was measured using the self-reported Adherence to Refill and Medications Scale (ARMS). Additional instruments included the CKD Knowledge Scale and the Brief Fatigue Inventory. The study was conducted following ethical approval from institutional review boards.

Results

Analysis of the implementation phase revealed that 60% of participants demonstrated high medication adherence. Most patients reported high disease knowledge (99.7%) and non-severe fatigue (94.3%). Multiple linear regression indicated that older age ($p=0.024$), higher CKD knowledge ($p=0.001$), and lower fatigue levels ($p<0.001$) were significant predictors of superior medication implementation.

Discussion

The findings suggest that implementation is a multi-faceted process driven by psychological and physiological factors. The significant predictive roles of fatigue and knowledge highlight these as critical modifiable targets for clinical interventions.

Conclusion To improve medication implementation and delay CKD progression, healthcare providers should implement multidisciplinary strategies that include routine fatigue assessment, energy-conservation education, and tailored health literacy support.

Measuring Adherence to Multiple Medications: A Scoping Review

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Abstract

Background

Numerous methods have been developed to measure adherence to single medications, however accurately measuring adherence in patients prescribed multiple medications is more challenging. This review aimed to identify the methods used to measure adherence to multiple medications in the literature and to examine if these measures vary across disease groups and numbers of medications prescribed.

Methods

OVID Medline, Embase, CINAHL, and PsycINFO were searched (2015-2025) for studies on methods used to measure multiple medication adherence (MMA). Two reviewers independently screened titles and abstracts, reviewed full-texts and extracted data, with cross-checking by a third reviewer. References lists of included studies were hand searched. Study characteristics and details of MMA measurement were summarised.

Results

In total, 276 studies were included, representing all continents and multiple disease areas, with cardiovascular disease (n=97; 35%) the most frequently studied. The majority of studies used self-reported MMA measures (n=152; 55.1%), including multi/single-item questionnaires or scales. Objective MMA measurement was used in 108 (39.1%) studies and primarily included proportion of days covered (PDC) (n=64; 59.3%), Medication Possession Ratio (MPR) (n=32; 29.6%), and Daily Polypharmacy Possession Ratio (DPPR) (n=6; 5.6%). Sixteen (5.8%) studies used both subjective and objective measures. There was significant variability in MMA measurement across disease groups; with mental health (n=10; 71.4%) primarily using subjective measures and cardiovascular disease objective measures (n=55; 56.7%). MMA measures did not vary per number of medications prescribed.

Conclusion

There appears to be no standardised method to measure MMA and further research is needed to develop and validate methods.

POSTER SESSION 2: HEALTHCARE PROVIDER, PATIENT AND CAREGIVER PERSPECTIVES (I)

Adherence to Medication and Self-Management Behaviors Among Patients with Type 2 Diabetes Mellitus in Oman: A Cross-Sectional Study.

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Abstract

Background

Medication adherence and self-management are central to glycemic control in type 2 diabetes mellitus (T2DM), yet data from Oman remain limited.

Objective

To assess levels of medication adherence and diabetes self-management (DSM) behaviors, and their association with patient activation (PA), diabetes distress (DD), sociodemographic/clinical characteristics, and glycemic control among Omani adults with T2DM.

Methods

A cross-sectional study was conducted among 269 Omani adults with T2DM from four healthcare facilities, using the Diabetes Self-Management Questionnaire-Revised (DSMQ-R), Patient Activation Measure (PAM-13), and Type 2 Diabetes Distress Assessment System (T2-DDAS CORE). Descriptive, correlational, and regression analyses were used.

Results

Mean overall DSM was 6.94 (SD = 1.34), reflecting optimal self-management. Medication adherence was the highest-scoring subscale (mean = 9.05/10, SD = 1.59), with 98.9% reporting optimal adherence, followed by cooperation with the care team (98.5%). Glucose monitoring (53.5%) and physical activity (57.2%) showed the lowest optimal adherence. PA correlated positively with DSM ($r = .39$, $p < .01$); DD correlated negatively ($r = -.32$, $p < .01$). Regression identified PA ($\beta = .34$, $p < .001$), HbA1c ($\beta = -.14$, $p = .024$), and DD ($\beta = -.14$, $p = .022$) as significant predictors of DSM ($R^2 = .30$). DSM predicted HbA1c in bivariate analysis ($p = .003$) but not after adjustment for covariates.

Conclusion

Omani adults with T2DM showed high medication adherence, though gaps persist in glucose monitoring and physical activity. PA and DD are key modifiable targets for interventions to strengthen self-management and glycemic outcomes.

Medication Adherence Behaviors and Religious Beliefs among Muslim Patients with Hypertension in Primary Care in Türkiye: A Qualitative Study

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Abstract

Aim

Medication adherence in hypertension is essential for blood pressure control and prevention of cardiovascular complications. Despite evidence-based guidelines, many patients do not achieve adequate control, and non-adherence remains a major challenge. This study aimed to explore how religious beliefs influence medication adherence behaviors across initiation, implementation, and discontinuation phases among Muslim patients with hypertension.

Methods

A qualitative study was conducted in a Family Health Center in Türkiye. Sixteen adults with hypertension were recruited using purposive sampling. Data were collected through semi-structured in-depth interviews focused on medication-taking experiences. Interviews were audio-recorded, transcribed verbatim, and analyzed using reflexive thematic analysis. Methodological rigor was ensured through independent coding by two researchers and consensus discussions.

Results

Three main themes emerged: (1) religious interpretations of illness and healing, (2) medication perceived as a supportive rather than primary treatment, and (3) faith-based rationalization of non-adherence behaviors. Religious beliefs influenced all phases of adherence. While initiation of antihypertensive therapy was generally accepted, implementation was affected by reliance on prayer, perceived symptom improvement, and complementary practices. Discontinuation was often justified by beliefs in divine healing or perceived recovery.

Discussion and Conclusion

Medication adherence in hypertension is shaped not only by behavioral factors but also by culturally and religiously constructed meanings of illness and treatment. Religious beliefs may act as both facilitators and barriers depending on patients' interpretations of treatment necessity. Integrating cultural and religious sensitivity into primary care may improve medication adherence among hypertensive patients. Healthcare professionals should consider patients' belief systems when designing adherence-support interventions.

Medication-Use Problems, Treatment Burden, and Desired Medication Management Strategies Among Adults With Polypharmacy: A Cross-Sectional Survey

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Abstract

Aim

Polypharmacy is a major risk factor for medication non-adherence. However, evidence among adults under 65 remains limited. This study aimed to determine the proportion of individuals with polypharmacy who report medication-use problems and to assess treatment burden and desired medication-management strategies.

Methods

A cross-sectional online survey is currently being conducted among adults taking ≥5 chronic prescription medications. Participants are recruited through community organizations supporting individuals with chronic diseases. The questionnaire, co-developed with patient partners and reviewed by experts, assesses medication-use problems (including medication non-adherence), treatment burden, attitudes toward deprescribing, perceptions of services, and medication-management strategies that could be offered.

Results

To date, 235 participants consented to participate and 196 completed the survey. Participants are predominantly women (88.8%; mean age 50.5 years). Their treatment burden is high (mean score: 33.7), and a majority (80%) is open to deprescribing. Medication adherence problems are common: 61.5% forget to take medications, 29.0% take more doses than prescribed, 24.4% intentionally skip doses, and 19.4% discontinue a prescribed medication. A pill organizer is the most frequently used strategy (82.4%) and is considered effective (84.4% of users). Reminders for medication-taking or prescription renewal are used by 57.8% (perceived effective by 73.7%). Medication reviews have been received by 37.5% of participants (considered effective by 82.4%). Overall, 71% wished to be involved in treatment-related decision-making.

Discussion

Treatment burden and medication-use problems are high among adults with polypharmacy.

Conclusion

These findings highlight the need for patient-centered interventions that address treatment burden and support medication adherence and optimal use.

Young people with cystic fibrosis and their needs and preferences on information regarding CFTR modulator therapy: implications for supporting medication adherence

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Abstract

Background and aim

Triple therapy with the CFTR modulator elexacaftor-tezacaftor-ivacaftor (ETI) has improved health outcomes in patients with cystic fibrosis (CF), highlighting the importance of early medication adherence. As education about disease and treatment is an important factor influencing adherence, this study explores the information needs and preferences of CF-patients aged 12-25 years regarding CF and ETI.

Methods

In this qualitative study, semi-structured interviews were conducted with CF-patients aged 12-25 years using ETI. Interviews focused on completeness, accessibility and clarity of information. Interviews were audiotaped, transcribed verbatim, and inductively analyzed by identifying themes.

Results

Seven people were invited, of whom three participated. The mean age was 20.7 years, and all participants were female. None expressed a need for additional information about the disease CF. One patient reported no need for ETI-information because of its perceived high benefits. The other two prefer ETI-related information, as it could enhance their sense of control and acceptance of CF and their view on the importance of adherence. Regarding format preferences, both textual information with clear sections and ETI-videos with visual explanations of the mechanism of action were favoured. Overall, participants preferred patient-oriented information, both easy and in-depth.

Discussion and conclusion

Information needs appeared to vary according to individual and contextual factors, although this finding may be related to the small number of participants. Structured text may be suitable for practical topics, whereas visual materials may better explain mechanism of action. Further research in a larger subset of patients is needed to confirm the results.

Improving interprofessional collaboration as part of medication adherence management through the NuPhaC-EU framework in acute hospital care.

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Abstract

This study evaluated the impact of applying the NuPhaC-EU framework on interprofessional pharmaceutical collaboration as a core element of medication adherence management in acute hospital care. A pragmatic pre–post study was conducted in a paediatric ward and an intensive care unit of two general hospitals in Belgium. Participants included nurses, physicians and hospital pharmacists involved in routine pharmaceutical care. The intervention consisted of the structured application of the NuPhaC-EU framework to support interprofessional reflection on roles and responsibilities across seven pharmaceutical care domains. Multidisciplinary project groups used the framework to map collaboration practices, identify role ambiguity and define priorities for improvement within routine clinical workflows. Interprofessional collaboration was measured before and after implementation using the validated Interprofessional Collaboration Scale, assessing communication, professional isolation and accommodation. Pre–post differences were analysed using paired statistical tests. Ethical approval was obtained and informed consent was provided by all participants. Among nurses, significant improvements were observed after implementation, including communication (26.65/40 to 27.41/40, p = 0.008, n = 32), reduced professional isolation (15.80/24 to 16.02/24, p = 0.008, n = 31) and overall collaboration (68.61/104 to 69.70/104, p = 0.007, n = 30). Physicians and hospital pharmacists showed smaller, non-significant positive changes. In addition, the framework facilitated locally adapted quality improvement initiatives, including structured interprofessional reflection meetings and medication information booklets for parents. Overall, applying the NuPhaC-EU framework strengthened interprofessional pharmaceutical collaboration by clarifying shared responsibilities and supporting coordinated medication-related care.

Patient Experiences with Hybrid Medication Counseling When Starting a New Medicine

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Abstract

Aim
Counselling on medication use is important for medication adherence, but patients differ in how and when they prefer to receive information when starting a new medicine. Hybrid medication counselling (HMC), combining digital information with pharmacy support, may align with patients' preferences by allowing more flexible access to counselling. HMC may also reduce staff workload. However, patient experiences remain unclear. This study explored patients' experiences with HMC for medication information provided when starting a new medicine.

Methods
A qualitative interview study was conducted in two community pharmacies in the northern Netherlands among patients who had received HMC when starting a new medicine. Semi-structured interviews were conducted in the pharmacy or by video call. Interviews were transcribed, coded, and analysed deductively and inductively.

Results
Between January and May 2025, 20 patients were interviewed. Patients valued digital information because it allowed them to read in their own time and at their own pace. Short, simple information was appreciated, as was the option to ask questions digitally. Some patients considered repetition across channels a barrier. Instructions on use and administration were considered most important, and patients wanted to understand the rationale behind them. For complex dosage forms, especially non-oral medicines, patients expressed a need for visual support.

Discussion and Conclusion
Patients generally perceived HMC as a useful addition to pharmacy care when starting a new medicine. Meeting digital content with patients' needs may improve HMC, support appropriate medication use and adherence, and contribute to a future-proof community pharmacy with lower staff workload.

POSTER SESSION 3: IMPLEMENTATION OF MEDICATION ADHERENCE INTERVENTIONS (I)

Beyond the Living Lab: Barriers and Facilitators for Sustainable Scale-Up of Medication Adherence Interventions. A two-step qualitative study of eight Make-It living labs

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Abstract

Aim

Four medication adherence interventions were implemented in eight Dutch primary care living labs. While implementation of these interventions was feasible, not much is known about conditions for upscaling. Therefore, this study aimed to answer: *Which barriers and facilitators are important for sustainable scale-up of medication adherence interventions implemented in Dutch living labs?*

Methods

Interventions included were (1) animated patient information with proactive telephone counselling, (2) annual consultations, (3) proactive telephone counselling, and (4) the teach-back method with comprehensible prescription labels. A two-step qualitative design was employed: 1) document analysis (e.g. progress and final reports of living labs) to assess scalability of the interventions using the Intervention Scalability Assessment Tool; 2) 12 semi-structured interviews with stakeholders involved in or related to the living labs and implementation experts. The Integrated Sustainability Framework served as conceptual framework structuring the interviews and analysis.

Results

Teach-back and annual consultations have the greatest scalability potential, requiring fewer resources and less dependence on external organisations. Interviews revealed facilitators such as good fit within existing practice and presence of a champion, while staff shortages, limited motivation and unclear policies were key barriers. Required conditions needed for scale-up included reimbursement, inter-professional collaboration, stakeholder support, pharmacy visibility, and knowledge sharing.

Discussion & conclusion

Scale-up success depends on the interventions themselves but even more so on the organisational, financial, and policy context surrounding them. Many required conditions are not yet in place. Strengthening reimbursement structures and collaborative networks are key recommendations to move these interventions towards wider implementation.

Post-diagnosis liminality in medication adherence – a qualitative study

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Abstract

Aim

To explore how the post-diagnosis liminal period shapes medication adherence among adults with chronic disease, focusing on the transition from resistance to everyday medication taking.

Methods

A qualitative narrative study was conducted with 15 Hungarian adults aged 43–75 years who had at least one chronic diagnosis, mainly hypertension and/or diabetes, had been diagnosed for at least one year, and took daily medication. Semi-structured interviews reconstructed illness journeys from diagnosis to current medication management. Data were analysed thematically, with attention to adherence initiation, implementation, and persistence according to the ABC taxonomy.

Results
Diagnosis opened a liminal phase in which patients were no longer healthy but not yet integrated into the patient role. Two pathways emerged. For some, diagnosis produced relief after symptoms or expected hereditary risk, supporting immediate initiation and implementation. For others, unexpected diagnosis triggered shock, denial, treatment testing, fear of side effects, preference for natural remedies, and hope of returning to their pre-diagnosis state without medication. A second shock, such as hospitalisation, stroke, severe symptoms, or functional collapse, often became the turning point from resistance to adherence. Long-term adherence was strengthened by perceived treatment benefit, family history, fear of complications, routines, and acceptance of medication.

Discussion
Medication adherence after chronic diagnosis is dynamic rather than a fixed patient trait. Time since diagnosis captures an important liminal mechanism: beliefs and resistance may change as patients reinterpret illness and treatment.

Conclusion
Interventions should be timed and tailored to the post-diagnosis trajectory, addressing liminal resistance before crisis-driven acceptance occurs.

Prevention of iatrogenesis (PI) and medication non-adherence (MNA) in the elderly. Co-created pilot actions implementation.

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Abstract

Aims
To implement and assess co-created pilot actions to improve treatment adherence (3 phases: initiation, continuation and discontinuation) and prevent iatrogenic harm.

Methods
STOPIATRO project phases: analysis of the local context; training for healthcare professionals (HCPs), implementation of pilot actions devised/co-created during consortium working sessions and joint sessions with stakeholders (HCPs, patient

representatives –PRs) around four objectives. Action plan stablished considering solution overall description, resources needed, stakeholders involved and assessment indicators; a 7-step action sheet was designed for monitoring implementation process.

Results
Eight of the 12 pilot actions defined are being implemented in Andalucia, corresponding to four objectives: **OB1 Empowering patients/caregivers (Action ID1:** Management of "long-term medication home supply box" for older people -n=18 patients, 16 women, 2 men; 4 HCPs, 4 women-; **Action ID3:** Personalised Medication Sheet–FARMAME MATech, ENABLE repository); **OB2 Continuity of care** (**Action ID4**:"I am preparing for discharge" visual tool); **OB3 Joint activities** (**Action ID6b:** Joint Conference HCPs/PRs -n=37; 24 women, 13 men; 20 patients; 17 HCPs; Global Satisfaction Score (GSS) 9.38/10(1.2)-; **Action ID6c:** Interprofessional Conference -n: 37 participants; 15 men, 22 women; GSS 4.89/5(0.424)-; **Action ID8**: Patient Safety Day activitiy; **Action ID9**: Talks in Patients Associations -Chronic Kidney Disease Association-); **Infographics** (**ID7a**: Primary Care -Ten Patients' Safety Rights; Healthy Ageing-; Hospital -Early sitting in hospitalised patients-).

Discussion and Conclusion
The implementation of jointly developed, context-specific actions is feasible, yields high levels of satisfaction amongst participants and enables a tailored approach to the real needs of stakeholders.

Evaluation of patients' adherence in the telemonitoring and e-coaching in hypertension (tech) trial

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Abstract

Aim
To assess baseline adherence to antihypertensive medication and its association with scores on the 13-item Patient Activation Measure (PAM13) in the telemonitoring and e-coaching in hypertension (TECH) trial.

Methods
This multicenter open-label RCT, was initiated in April 2023 at Maasstad Hospital (NL). 200 hypertensive patients were randomized 1:1 to usual care or home BP telemonitoring with digital lifestyle support. This subanalysis assessed pre-intervention adherence using blood samples, quantifying concentrations up to two antihypertensive drugs and metabolites. Patient activation was measured with the

Dutch PAM13 (1= strongly disagree to 4= strongly agree). Adherence rates and PAM13 scores were analyzed with descriptive statistics.

Results
A total of 51 patients for which blood samples and questionnaire data were available were included. Mean age was 59.3 ± 10.9 years; 28 males and 23 females. Thirty-six patients were in the persistence phase, 9 in initiation, and 6 in combined persistence with initiation of a second drug. All 18 two-medication users and 26 (78.8%) one-medication users were fully adherent. PAM4 and PAM7, most indicative of adherence, had median scores of 3.0. PAM4 scores were identical in adherent and non-adherent patients (3.0), whereas PAM7 differed only slightly (3.0; *n*= 40 vs 4.0; *n*= 3).

Conclusion
Participants demonstrated high medication adherence and PAM13 scores at baseline. In this preliminary analysis, no clear associations were observed between medication adherence and PAM scores. Digital guidance intents to support ongoing adherence, and follow-up (planned October 2026) may indicate a clarified association between adherence and activation.

Integration of the New Medicine Service into routine rheumatoid arthritis care to optimize medication use in patients initiating methotrexate: a feasibility study

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Abstract
Background
Patients with rheumatoid arthritis (RA) initiating methotrexate (MTX) experience 3-8 drug-related problems (DRPs). The New Medicine Service (NMS) has been proven effective in resolving DRPs and improving medication adherence. This study aims to assess the feasibility of integrating the NMS into routine RA-care to optimize MTX use.

Method
This feasibility study is conducted at the Sint Maartenskliniek between October 2025 and July 2026. The NMS consists of two consultations with the pharmacist and one with the rheumatology nurse at 2, 6, and 16 weeks after MTX initiation. Feasibility is evaluated based on six domains of Bowen's framework: acceptability, demand, adaptation, practicality, implementation, effectiveness. Data are collected through questionnaires and interviews among patients and healthcare providers.

Results
In total, 39 patients with rheumatoid arthritis initiating MTX (median age 62 years (IQR 49–73), 72% female) were included. Acceptability was rated high by patients (median 4, IQR 4-5) and pharmacists (median 4.5, IQR 4-5). Regarding adaptation, 75% (15/20)

agreed the NMS fitted within current routine RA-care. Pharmacists identified embedding planning procedures within existing systems and establishing clear responsibilities with rheumatology nurses and rheumatologists as prerequisites for further implementation. Of the resolved DRPs, 57% were resolved by pharmacist advice. Patients valued the pharmacists' advice on medication use, question answering and side-effect expectation management.

Conclusion
Preliminary results suggest that integrating the NMS into routine RA-care to optimize MTX use is feasible and positively experienced by patients and pharmacists. The findings provide insights for successful implementation and indicate potential effectiveness in optimizing MTX use.

Validation of an AI Video-Observed Therapy (AI-VOT) System as a Scalable Method for Verification of Medication Implementation

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Abstract

Aim
To evaluate the technical accuracy and scalability of a novel AI Video-Observed Therapy (AI-VOT) method designed to verify the implementation phase of medication adherence automatically.

Methods
We developed an AI-VOT application to automate the measurement of dosing-regimen implementation. In a controlled laboratory setting, medication ingestion videos (N=200) were recorded following a structured protocol. The dataset varied lighting, device, stabilisation (handheld vs. surface-mounted), and location, using five reference medications. The AI analysed each video to verify 1) correct medication identification and 2) ingestion protocol adherence, including concealment behaviours. Ground truth was established by experimental design. AI processing time was compared to video duration as a proxy for human review time. Sensitivity, specificity, and accuracy were calculated for both tasks.

Results
Initial laboratory testing (N=200 videos) demonstrated a sensitivity and specificity of 93.3% and 96.8% for medication identification, and 89.5% and 94.4% for ingestion-protocol adherence, respectively. AI-automated analysis reduced verification time by 86.4% versus video duration (mean 44.8s vs 6.1s), indicating significant scalability potential.

Discussion
AI-VOT is a promising, scalable alternative to human-reviewed VOT, reducing administrative burdens. While automated verification is highly accurate, detecting some types of physical concealment (e.g., cheeking or spitting) remains an inherent

limitation of single-camera and time-bound setups. Guided, multi-step checks and automated triage for human-in-the-loop review are critical to mitigating these blind spots.

Conclusion
AI-VOT is technically accurate and significantly faster than human video review. Real-world validation with diverse patient populations and identity verification remain necessary future steps.

POSTER SESSION 4: MEDICATION ADHERENCE INTERVENTIONS, EDUCATION AND TRAINING

Developing Consensus-Based Learning Objectives for Medication Adherence Education in Healthcare Curricula: An International Delphi Study Protocol

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Abstract

Aim
Despite its critical importance for ensuring medication initiation, implementation, and persistence, medication adherence (MA) education is not consistently integrated into healthcare curricula. This study aims to develop and validate a transdisciplinary set of

learning objectives for a MA education curriculum targeting healthcare students and early-career professionals, and to inform its implementation.

Methods
A modified Delphi study will be conducted to build consensus on the learning objectives. A preliminary set of learning objectives was developed by the ESPACOMP Education Committee and informed by the literature. The objectives are organized into three domains: knowledge, skills, and attitudes/values. Experts will rate each objective for relevance and clarity using a six-point Likert scale and provide free-text input. Potential strategies to implement these objectives will be evaluated. International experts from diverse healthcare professions/organizations, research/education backgrounds will represent academics, practitioners, students, and patients.

Results
The preliminary questionnaire includes 22 learning objectives targeting MA definitions, epidemiology, determinants, behavioural theories, adherence measurement and data interpretation, multilevel interventions, shared decision-making, risk assessment, behaviour change strategies, interprofessional collaboration, documentation, empathy, cultural sensitivity, and patient autonomy. Participants will also be invited to rate the feasibility, acceptability, and appropriateness of these objectives.

Discussion
This study addresses a recognised need for structured, inter- and transprofessional MA education. The Delphi process will strengthen content validity and contextual relevance.

Conclusion
Final consensus objectives, obtained with the engagement of international experts in MA, healthcare education, and clinical practice, will support the development and evaluation of MA curricula for healthcare students and professionals.

Work-integrated training for enhanced communication skills among community pharmacists: a feasibility study

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Abstract

Aim
Person-centred communication is a key element to make adherence interventions in community pharmacy work. Pharmacists and pharmacy chains in Norway express limited time and resources for training in communication. We wanted to test the feasibility of a blended work-integrated e-learning programme of nine hours over three months based on Motivational Interviewing (MI) and adherence management.

Methods
The programme was evaluated among ten pharmacists; pre-/post-tests to evaluate effect and semi-structured interviews with pharmacists to assess feasibility. Communication skills were evaluated in simulated pharmacy consultations using the MI Treatment Integrity (MITI 4.2.1) coding system and analysed descriptively. Inductive qualitative content analysis was used for interviews.

Results
MITI global scores showed an increasing trend; Empathy and Partnership increased from a median of 1 to 3 while technical global scores increased from 1 to 2. MI consistent behaviour increased, whereas persuasive behaviours decreased. Despite these positive trends, the individual skill development showed a large variation. Pharmacists found the course acceptable, meaningful and feasible to integrate alongside daily practice. They valued the flexible e-learning and the collaborative workshops, and they described Improved skills and awareness.

Discussion and Conclusions
This feasibility study indicates that a brief MI course is valued as meaningful and can produce measurable improvements in pharmacists' person-centred communication skills. However, the variation among participants is large. The shift from directive to collaborative communication found both objectively and in pharmacists expressions provide a potential for making adherence interventions work in the community pharmacy setting. Larger controlled studies are needed to demonstrate effectiveness.

Framework-based Development and Feasibility Evaluation of a Pharmacogenetic Communication Guide Demonstrating High Acceptability among Community Pharmacists

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Abstract

Background and Aim
Pharmacogenetic (PGx) testing can reduce adverse drug reactions by up to 30% and improve medication adherence, yet implementation remains low. A major implementation barrier is the effective communication of PGx test results adapted to patients' PGx literacy, which may greatly influence understanding and medication adherence. This study aimed to develop and evaluate a PGx-specific communication guide.

Methods
Communication recommendations identified through a narrative literature review were analysed using a framework-based approach. The resulting communication guide was evaluated in a feasibility study using a survey among community pharmacists after using it during mock PGx consultations. Mean scores and standard deviations of Acceptability (AIM), Appropriateness (IAM), and Feasibility of Intervention Measure (FIM) were assessed using a 5-point Likert scale.

Results
Ten publications were identified, yielding 120 extracted items. The final guide consists of four phases: *Pre-test Counselling, Result Delivery, Patient Understanding,* and *Post-test Counselling and Follow-up*. Nineteen pharmacists participated in the feasibility study. The guide showed high acceptability (4.02 ± 0.10) and appropriateness (4.04 ± 0.15), while feasibility was rated slightly lower (3.84 ± 0.14). Participants perceived the guide as a supportive tool to improve effective PGx communication.

Discussion and Conclusion
The guide demonstrated high acceptability and appropriateness, with promising feasibility for routine practice. However, successful adoption of the newly developed guide in clinical practice will require training, repeated use, and further refinement to improve usability. Addressing limited patient PGx literacy, this guide may improve understanding of PGx results and thus enhance informed shared decision-making.

From Patient Involvement to Practice: Developing a Person-Centred Medication Consultation in Community Pharmacy to support adherence management

Malin J. Östbring[1,2], Tamara Kudusova[3,4,5], Sara Bremer[6], Karine W. Ruud[6], Helene Devold[4], Elin Bergene[5,7], Nils Espen Lilleheim[8], Hege Sletvold[3]

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Abstract

Aim
Despite visiting community pharmacies regularly many patients struggle with their medicines for long term conditions. We wanted to 1) explore how patients can be actively engaged in medication adherence communication, 2) develop and evaluate training in person-centred communication for community pharmacists, and 3) develop a medication consultation service for improving adherence (implementation and persistence).

Methods
This multi-phase project forms an ongoing PhD-project of three stages: 1) exploration of stakeholders' perspectives through interviews with patients, care-givers and healthcare personnel; 2) development and piloting (n=10 pharmacists) of a training programme based on Motivational Interviewing (MI) evaluated based on MI skills in simulated patient interviews and pharmacists interviews; and 3) development and piloting of a medication consultation service among 15 patients with cardiovascular disease (≥6 months). Outcomes included Beliefs about Medicines Questionnaire Specific (BMQ- S), Medication Adherence Report Scale (MARS-5), and qualitative interviews.

Results
The project identified the need for reassurance, confirmation, and holistic dialogue to support adherence communication. The MI-course enabled pharmacists to demonstrate person-centred communication skills; Global scores of Empathy and Partnership increased from median 1 to 3. In the consultation service pilot, mean BMQ concerns decreased (3.1 to 2.6), while adherence remained stable. Qualitative findings indicated increased reassurance and improved understanding of medication use.

Discussion and Conclusions
Person-centred adherence management is feasible in community pharmacy when supported by targeted communication training. This project demonstrates a pathway from patient-informed needs to implementation of a service supporting adherence, the potential patient benefit needs to be explored in a larger study.

Effectiveness of Teach-Back Interventions in Improving Therapeutic Adherence and Self-Management Among Adults with Type 2 Diabetes Mellitus: A Systematic Review

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Abstract

Aim
Successful Type 2 Diabetes Mellitus (T2DM) management requires complex hard-to-sustain behavioral adjustments. This systematic review aims to evaluate the effectiveness of teach-back interventions in improving therapeutic adherence, and self-management among adults with T2DM.

Methods
A systematic search (2020-2026), conducted across ScienceDirect and PubMed, reviewed evidence from randomized controlled trials and a quasi-experimental study. Evaluated populations consisted of adults with T2DM, including insulin-treated patients and older adults in rural areas. The interventions involved in-person training,

face-to-face clinical education, and virtual classes. Evaluated outcomes encompassed knowledge, self-management, adherence to treatment, and HbA1c levels.

Results
The teach-back method significantly improved clinical parameters such as HbA1c levels and raised T2DM knowledge. This approach enhanced self-management of insulin treatment and rapidly increased disease self-efficacy. The quality of life and therapeutic adherence were notably improved in comparison to standard education when health literacy strategies were integrated with teach-back.

Discussion
Interactive verification strategies, such as teach-back, effectively eliminate the gap between medical instruction and patient comprehension, enabling individuals to perform essential self-care tasks. The results show that interventions, whether they are done in person or online, have a substantial positive impact on both clinical and behavioral dimensions of diabetes care.

Conclusion
The teach-back method is a highly effective strategy to enhance therapeutic adherence, self-management, and clinical parameters in T2DM patients. Integrating these strategies into routine clinical care is strongly recommended to optimize long-term health outcomes.

Friday November 20

POSTER SESSION 5: DETERMINANTS OF MEDICATION ADHERENCE (II)

Medication adherence and persistence in individuals with intellectual, developmental, or learning disabilities: A systematic review

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Abstract
Background and aim
Individuals with intellectual or developmental disabilities may face unique challenges affecting medication adherence. This systematic review aimed to synthesize evidence on medication adherence and persistence and explore factors associated with medication-taking behaviour among individuals with intellectual, learning or developmental disabilities.

Methods
A systematic search of PubMed and CINAHL was conducted using predefined inclusion criteria to identify quantitative studies assessing any phase of medication adherence (initiation, implementation, or persistence) among individuals with intellectual, learning, or developmental disabilities.

Results
Of 123 identified records, 10 unique articles met the inclusion criteria, and 6 additional articles were identified through reference screening, resulting in 16 included studies. Two studies assessed persistence, while 14 focused on adherence; 6/14 used retrospective measures (PDC/MPR). Antiepileptic medications were the most frequently studied medications (6/16), followed by antihypertensives and psychotropic medications (3/16 each). Three-year treatment persistence rates for antiepileptics ranged from 29% to 70%, depending on the medication used. Reported adherence was generally high but varied widely (40–100%), with lower rates observed for antihypertensive medications. Adherence was higher in supported residential settings (e.g., group homes) compared with home settings. Older age was associated with better adherence, whereas younger age, female sex, and minority race/ethnicity were associated with poorer adherence.

Conclusion
Medication adherence in individuals with intellectual or developmental disabilities is generally high, although substantial variability exists across treatments and settings. Further research is needed to identify effective strategies to improve adherence in vulnerable subgroups.

Medication Adherence Among Adults with Mental Illnesses in Oman: A Cross-Sectional Study

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Abstract

Background
Medication adherence is essential for achieving therapeutic outcomes in individuals with mental illnesses. However, adherence remains a challenge, particularly in low- and middle-income countries. This study evaluated adherence to psychotropic medications among Omani adults with mental illnesses by applying both self-reported and pharmacy-based assessment tools and explored related sociodemographic and clinical variables.

Methods
A cross-sectional study was conducted among 246 adult patients receiving psychiatric care at two tertiary hospitals in Oman. Medication adherence was measured using the Medication Adherence Rating Scale and the Proportion of Days Covered. Descriptive

statistics, t-tests, ANOVA, Pearson correlation, chi-square tests, and Cohen's kappa were used for analysis.

Results
While 85.3% of participants were classified as adherent based on PDC, only 51.4% met the adherence threshold via MARS, highlighting a substantial discrepancy between objective and subjective assessments. A significant negative correlation was found between the number of previous hospital admissions and MARS scores (r = –.168, p = .008). Higher education and younger age were also associated with lower adherence levels. Agreement between MARS and PDC classifications was poor (κ = .03, p = .55).

Conclusions
Despite high refill-based adherence rates, subjective reports revealed notable non-adherence, suggesting that objective data alone overestimated adherence. Sociodemographic variables, particularly age, marital status, and education, influence self-reported adherence. These findings underscore the importance of using multiple adherence measures and tailoring interventions to individual patient profiles to improve treatment outcomes in psychiatric populations.

Comparative self-reported medication adherence in diabetes mellitus and hypertension: a cross-sectional Knowledge-Attitudes-Practices (KAP) survey of Romanian outpatients

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Abstract

Aim
To compare self-reported medication adherence and sociodemographic determinants between Romanian adults on pharmacotherapy for diabetes mellitus (DM) or hypertension (HTN).

Methods
Two parallel cross-sectional surveys were conducted in April–June 2025 in Romanian community pharmacies and outpatient clinics, following an identical protocol (Ethics Committee UMF Carol Davila Bucharest, ref. 7628/04.04.2025). Adults ≥18 years on pharmacotherapy provided informed consent and completed an anonymous questionnaire capturing sociodemographics, disease duration, and knowledge, attitudes and practices (KAP) regarding treatment. Implementation-phase adherence was assessed via parallel self-report items on missed doses (Never/Sometimes/Always) and on recommended self-monitoring (glycaemia for DM; blood pressure for HTN). Between-group differences were analysed with χ^2 tests (α=0.05).

Results
235 questionnaires were analysed (DM n=121; HTN n=114). Overall non-adherence to dose-taking (missed doses "sometimes" or "always") was comparable between the two

conditions: 42.1% in DM and 44.7% in HTN (χ^2=0.07, p=0.79). In contrast, adherence to recommended self-monitoring differed markedly: 78.5% in DM versus 46.5% in HTN (χ^2=24.5, p<0.001). Determinants of medication non-adherence differed by disease: in DM, worst adherence was observed in type 1 patients (52.6%), single individuals (59.1%) and those diagnosed 3–5 years earlier (60.0%); in HTN, worst adherence was observed in divorced individuals (66.7%), university-educated respondents (52.8%) and recently-diagnosed patients (57.1% at 1–2 years).

Discussion & Conclusion
Dose-taking non-adherence was comparable in magnitude across the two chronic conditions, but the sociodemographic determinants diverged substantially, and self-monitoring was markedly better maintained in DM than in HTN.

Behavioural Determinants of Medication Adherence Following Pharmacogenetic Testing: Development and Content Validation of a Theory-informed Questionnaire

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Abstract

Background and Aim
Pharmacogenetic (PGx) testing is increasingly used to personalize drug therapy; however, its impact on medication adherence remains not well understood. This study aimed to identify behavioural determinants of medication adherence following PGx-informed treatment recommendations and to develop and validate a theory-informed questionnaire to assess these factors.

Methods
A secondary analysis of a scoping review including 13 studies was conducted. Findings were mapped to the Theoretical Domains Framework (TDF) to generate questionnaire items. Content validity was assessed based on the COSMIN framework through questionnaire responses from an international expert panel rating item relevance, clarity and comprehensiveness. Descriptive statistics, Pearson correlation analysis, and Content Validity Index (CVI) were calculated. Qualitative feedback subsequently informed questionnaire refinement.

Results
Six TDF domains were identified as relevant to medication adherence in the PGx context: Knowledge; Beliefs about Consequences; Intentions; Memory, Attention and Decision Processes; Social Influences; Emotion. Eighteen items were generated. Thirty experts, including pharmacists, medical specialists, and psychologists, participated in the content validity assessment. Relevance and clarity ratings were moderately correlated (r=0.57, p=0.013). Thirteen items met the recommended item-level CVI threshold (≥0.83), and the scale-level CVI averaged 0.86, indicating good content

validity. Following expert review, twelve items' wording was refined, one item added, and three removed, yielding a 15-item-questionnaire.

Discussion and Conclusion
Medication adherence following PGx testing is influenced by behavioural determinants beyond genetic optimization. The resulting questionnaire provides a theory-informed tool to assess possible determinants of medication adherence in PGx-informed care. Further validation will include cognitive interviews with the target population.

Personality traits, medication-related outcomes and healthcare utilisation: a behavioural science perspective for precision adherence management

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Abstract

Aim
From a behavioural science perspective, personality traits may represent relevant individual factors associated with medication-related behaviours and healthcare engagement. This study aimed to analyse associations between Big-Five personality traits and medication-related and healthcare services utilisation, exploring their potential relevance for future personalized adherence research.

Methods
A multicentre cross-sectional study was conducted including 3,147 adults aged 35–74 years attending primary healthcare centres across nine Spanish regions. Personality

was assessed using the 10-item Big Five Inventory. Healthcare utilisation during the previous 12 months included medication use, polypharmacy (≥5 medications), and use of healthcare services. Multivariable logistic regression models adjusted for sociodemographic and clinical characteristics were fitted, with additional sex-stratified analyses.

Results
Neuroticism was associated with higher odds of polypharmacy (aOR 1.087; 95% CI 1.010–1.169). Among men, openness was associated with medication use (1.124; 1.041–1.215), while among women, agreeableness was associated with polypharmacy (1.187; 1.048–1.345). Regarding healthcare utilisation, extraversion was associated with general practitioner (GP) visits (1.075; 1.021–1.132), GP hyperutilisation (1.061; 1.013–1.112), and nursing visits (1.078; 1.035–1.122), while conscientiousness was associated with GP hyperutilisation (1.098; 1.040–1.158). Sexstratified analyses also showed an association between openness and emergency visits among men (1.109; 1.020–1.206), and between conscientiousness and lower odds of hospitalisation among women (0.837; 0.737–0.951).

Discussion and conclusion
Personality traits were associated with distinct patterns of medication-related behaviours and healthcare engagement. Incorporating psychological determinants into behavioural adherence research may support more personalized approaches to adherence assessment and intervention

POSTER SESSION 6: PATIENT & CAREGIVERS PERSPECTIVES (II)

Self-management of Dutch people with chronic heart failure: a qualitative study

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Abstract

Background
Chronic heart failure (CHF) places a significant burden on patients and the healthcare system. Given that time during clinical encounters is limited, effective self-management is crucial for improving outcomes, maintaining quality of life (QoL) and reducing the use of healthcare services. This study aimed to examine how Dutch people with CHF cope with their condition, i.e. how they integrate medication adherence and lifestyle changes into their daily lives.

Methods
A qualitative phenomenological approach was used. Sixteen semi-structured interviews were conducted with CHF patients. Analysis included both conventional and directed content analysis (with inductive and deductive coding). The Information-Motivation-Behavioral skills (IMB) model served as a framework for presenting the results.

Results
Participants possessed basic knowledge of CHF, with healthcare providers being the primary source of information. Motivation for self-management varied and was influenced by perceived need, social support, and communication style. Behavioral skills were often developed experientially by creating routines and using practical tools. Adherence to recommendations varied between domains.

Conclusion
This study provided understanding of the self-management (i.e. medication adherence and lifestyle adaptations) in people with CHF. Self-management behaviors were shaped by differences in information, motivation, and behavioral skills. In the future, a person-centered approach is essential. Research should focus on evaluating and/or developing strategies to support this.

The role of Medication Adherence Technologies (MATech) in multimorbidity and polypharmacy: A patient survey.

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Abstract

Aim
To assess which Medication Adherence Technologies (MATech) are used by patients with multimorbidity (MM) and Polypharmacy (PP) to improve medication adherence persistence (MA-P), considering devices, technology usability, patients' preferences and clinical situation.

Methods
Cross-sectional study; non-random sample of patients with MM (≥2 chronic conditions)-PP (≥5 prescribed drugs); 3 healthcare centres. Variables: Survey designed and piloted on: MATech use, purpose of using it, type of device, disease knowledge, attitude towards MATech; age (years), sex (male/female), MA-P (4-questions Morinsky-Green test); Clinical records review: chronic conditions, prescribed drugs. Descriptive, bivariate (ji-squared test; ANOVA); multivariate statistics (logistic regression).

Results
150 study subjects: 62% Women; age: 71.41+ 10.79 [69.67-73.15] years; 3.53±1.67 chronic conditions (CI95%:3.26-3.80); 3.05±1.85 chronic drugs (CI95%:2.75-3.35); 88% consider that they have a moderate to high level of understanding of their conditions; self-reported persistence 50.7%; use of MATech: 10%, in order to remind them of their doses; 100% mobile phone alarms; 3.3% willingness to use smart pill-box; They consider mobile apps (39.4%), mobile messaging (15.3%) and calls from a doctor or nurse (14.7%) to be the most useful. The only factor related with technology use was age (younger more use) (OR = 0.930; CI95%: 0.878-0.986; p=0.015), adjusted by sex, number of chronic conditions, number of prescribed drugs, and MA-P.

Discussion and Conclusion
There is limited use of technology to improve adherence during the persistence phase. The main use is providing reminders to take medication. Mobile phones, through apps or messaging services, are the technological tool found most useful.

Mobile Application Experience for Improving Medication Adherence in Liver Transplant Recipients: A Qualitative Study

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Abstract
Aim
The primary aim is to explore the individual experiences of liver transplant recipients using the "My Liver" mobile application to deepen quantitative results from a previous RCT (NCT05854472). This application previously increased medication adherence and quality of life while significantly reducing anxiety.

Methods
This qualitative phase of an explanatory sequential mixed-methods design included 12 volunteer patients from the RCT intervention group (N=27). Selected by purposive sampling until data saturation, these patients used the application for 3 months. Data were collected via semi-structured telephone interviews and evaluated using inductive thematic analysis.

Results
Four main themes emerged: (1) Disease Management and Holistic Self-Care, where the app served as a life guide for diet and rest. (2) Easy Access to Information and Cognitive Relief, drastically reducing cyberchondria and research fatigue. (3) Medication Adherence and Sense of Security, eliminating the stress of missing medications and achieving full adherence. (4) Psychological Support and Anxiety Management, reducing post-discharge loneliness and fear of organ rejection through sustained connection with professionals.

Discussion
The findings indicate that mobile health interventions provide essential psychosocial support alongside standard medical tracking. They actively support health literacy and manage anxiety, directly addressing the challenges of adhering to strict, lifelong immunosuppressive therapy.

Conclusion: Integrating such digital solutions into standard post-transplant nursing care is highly recommended to promote holistic self-care and sustain long-term medication adherence

Medication-related responsibilities during the transition from paediatric to adult care in inflammatory bowel disease from the perspective of adolescents and parents

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Abstract

Aim
During the transition from paediatric to adult care, adolescents with inflammatory bowel disease (IBD) are expected to gradually take responsibility for medication management. This study explored medication-related responsibilities during this transition stage from the view of adolescents and parents.

Methods
Online questionnaires were distributed amongst adolescents with IBD aged 12-25 using chronic medication and parents of adolescents with IBD in this age range via patient organisation Crohn and Colitis Netherlands and via social media. Descriptive analyses were performed per group to identify differences in perceptions between adolescents and parents with regard to medication-related responsibilities.

Results
In total, 91 adolescents (69 adolescents aged >18) and 75 parents (51 parents of adolescents aged 12-18) responded. In both groups increasing independence with age was reported. Adolescents' independent responsibility was more frequently reported for practical tasks (taking medication in time, setting reminders) than for organisational and communication-related tasks (requesting repeat prescriptions, contacting healthcare providers), with the latter remaining more often a shared responsibility. Parental involvement remained visible, also in older age groups. Differences were largest in the 16–18-year group: adolescents generally reported more independent responsibility for most tasks than parents of adolescents in this age group. These likely reflect different perspectives on what medication self-management entails rather than disagreement within families.

Discussion & conclusion
Transition of medication-related responsibilities should be understood as a shared, gradual and task-specific process. Parental involvement remained relevant across all age groups. The important role of parents should be considered in the transition from paediatric to adult care.

Assessing adherence of antihypertensives among dialysis patients treated with polytherapy in Kuwait: A cross-sectional study

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Abstract

Aim
This study aimed to assess adherence, and patients' beliefs about their anti-hypertensive medications among haemodialysis patients in Kuwait.

Methods
A cross-sectional, multi-centres study was conducted. The Medication Adherence Report Scale (MARS-5), and Beliefs about Medicines Questionnaire (BMQ) were used. A comprehensive assessment of patients' demographics was obtained.

Results
A total of 191 participants were recruited. The mean (SD) age was 59.2 ± 1.1 years, and the mean (SD) duration on HD was 53.9 ± 4.9 months. The prevalence of non-adherence was 46%. The BMQ analysis showed that 78% of the patients believed their anti-hypertensive medication protects them from becoming worse, while 62.3 % were concerned about the long-term side effects of these agents. The Necessity-Concerns differential mean (SD) was 3.35 ± 0.30, which indicated an elevated perceived necessity of their anti-hypertension medication.

Discussion
The present study revealed that the percentage of medication non-adherence, similar to a published literature that reported an adherence 30-50%. These similarities could be attributed to the predominance of older patients in their sample. Moreover, patients exhibited both intentional and unintentional non-adherence behaviour. Around 30.0 % of the patients reported that they sometimes forget to take their anti-hypertensive medication, which suggests the need for patient-reminder systems. The majority believed that their current health depends on their anti-hypertensive medication. These findings might originate from fear of disease progression or increased perceived severity of their condition.

Conclusion
The findings advocate for the vital role of regular screening for non-adherence and negative beliefs, to allow targeted counselling for patients and possibly improve their adherence.

POSTER SESSION 7: IMPLEMENTATION OF MEDICATION ADHERENCE INTERVENTIONS (II)

Medication Non-Adherence : A Call to Action for a Multi-Stakeholder Approach

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Abstract

Background

Medication non-adherence is a critical public health and economic challenge recognized by the OECD. Approximately 50% of patients with chronic conditions do not adhere to prescribed medications, contributing to nearly 200,000 premature deaths annually in Europe. The economic burden is substantial, with €125 billion in avoidable healthcare costs in Europe and $105 billion in the US each year. Despite robust evidence on effective adherence interventions, these have not been systematically translated into frontline clinical practice.

Aim

To analyze the clinical and economic impact of medication non-adherence, identify its multi-level root causes, and propose a coordinated, evidence-based, multi-stakeholder framework to bridge the gap between research and real-world implementation.

Methods

A review of published evidence and OECD data was conducted to characterize the scope of non-adherence across chronic disease populations. Root causes were mapped across five levels: policy, healthcare system, healthcare team, organization, and patient. Behavioral science frameworks were applied to identify actionable intervention strategies at each level.

Results

Non-adherence is driven by interconnected factors including fragmented care, poor patient-provider communication, lack of shared decision-making, patient beliefs, psychological barriers, and systemic access issues. Behavioral interventions — including motivational interviewing, digital reminders, simplified regimens, and multidisciplinary care teams — demonstrate effectiveness but remain under-utilized. Implementation science offers essential tools to adapt and sustain these interventions in real-world settings.

Conclusion

A multi-level, coordinated approach involving patients, healthcare professionals, health systems, and policymakers is essential to meaningfully improve medication adherence. A proposed roundtable would aim to pioneer evidence-based adherence solutions, develop quality indicators, and place adherence on national policy agendas — ultimately improving health outcomes and healthcare system efficiency.

NB: The ABC Taxonomy and the EMERGE guidelines provide a standardized framework for defining, measuring, and reporting medication adherence in a consistent, transparent, and comparable manner across studies.

Refining fatigue-management content for a digital application to support treatment adherence across health conditions.

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Abstract

Aim

To test and refine content for a digital application that aims to support the management of fatigue.

Methods

Fatigue is a symptom that affects individuals across multiple conditions, but it is rarely addressed in treatment and management. Hybrid cognitive debrief and user testing interviews were conducted with n=8 participants. Participants were interviewed about their experience engaging with and navigating content in an application format to determine its comprehensiveness and relevance to fatigue management.

Results

Participants reported that the application was intuitive to navigate and valued the ability to personalise content according to their individual lifestyles. These features facilitated greater engagement with the material, which in turn enhanced participants' understanding of fatigue self-management. Iterative modifications were made in response to participant feedback; notably, the activity monitoring function was extended beyond an initial one-week period, with the requisite changes implemented in the application's back-end infrastructure.

Discussion and Conclusion

Fatigue is an underlying factor in treatment adherence disruption yet remains under-examined in healthcare systems. The findings from interviews with participants support the feasibility of implementing the application with a wider audience and further evaluation of additional modules that address sleep and thought patterns. The content examined specifically fatigue, which can support treatment adherence and quality of life within individuals. Further in-application module developments are planned.

Digital Health Interventions Supporting Antiretroviral Therapy Adherence in People Living with HIV: An Updated Systematic Review Using the ABC Taxonomy and EMERGE Criteria

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Abstract

Aim

To evaluate single-channel and multi-component digital interventions targeting the initiation, implementation, and persistence phases of antiretroviral therapy (ART) adherence among people living with HIV (PLWH).

Methods

An updated systematic review (2021–2026) identified studies evaluating digital interventions supporting ART adherence among PLWH. Data extraction covered intervention architecture, ABC Taxonomy-mapped adherence outcomes, effectiveness, and compliance with the four minimum EMERGE criteria; studies were categorized by intervention type, adherence phase, and reporting quality.

Results

Of 87 records identified, 38 met eligibility criteria, predominantly multi-component (n=31) versus single-channel (n=7) interventions. SMS/text messaging was the most common core component, often combined with personalized support, monitoring, or feedback. Implementation was the most studied phase (n=31), followed by persistence (n=9) and initiation (n=2); studies could address multiple phases. Twenty studies (52.6%) showed significant improvement over controls, with multi-component interventions generally outperforming single-channel ones. Only 16 studies (42.1%) fulfilled all EMERGE criteria; missing items were mainly adherence calculation methods and predefined thresholds, limiting reproducibility.

Discussion

Existing research heavily favors the implementation phase, leaving initiation and persistence understudied. Considerable heterogeneity in intervention design, measurement, and reporting standards continues to hinder robust evidence synthesis.

Conclusion

Multi-component digital interventions are the most studied ART adherence strategy, showing benefit in roughly half of included studies, especially when reminders were paired with personalized support. However, incomplete adherence reporting and heterogeneity limit the evidence's strength. Future research should address underrepresented phases and consistently apply the ABC Taxonomy and EMERGE frameworks to improve comparability.

Can Simplifying Antibiotic Treatment Improve Patient Adherence? The Impact of Duration and Dosage Regimen on Treatment Outcomes for Urinary Tract Infections: A Systematic Review

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Abstract

Aim

To evaluate how simplifying antibiotic regimens (shortening duration and reducing doses) impacts adherence and clinical outcomes in UTIs.

Methods

A review of three randomized trials and one quasi-experimental study analyzed treatment duration (7 vs. 14 days), compared a single-dose with a multi-day regimen (fosfomycin vs. nitrofurantoin), and evaluated the effects of a pharmaceutical audit on the therapy process. Populations included UTI and bacteremia patients.

Results

For Gram-negative bacteremia originating in the urinary tract and UTIs in men, 7-day courses were as effective as 14-day courses, leading to a significantly faster return to normal activity (2 vs. 3 weeks, P=0.010). However, in women with uncomplicated UTIs, a 5-day course of nitrofurantoin (3 times daily) showed higher clinical efficacy (70%) than a single-dose fosfomycin regimen (58%, P=0.004). Pharmacy interventions successfully reduced in-hospital antibiotic duration by 1 day, despite physician resistance to fixed treatment endpoints (31% acceptance).

Discussion

Shorter treatment periods (7 days) are considered safe and can lead to faster patient recovery. However, extreme simplification (single-dose) was associated with lower clinical efficacy, emphasizing the need to balance simplicity with clinical efficacy. While the reviewed studies did not specifically evaluate patient adherence, reducing regimen complexity inherently lowers the treatment burden, making treatment regimens easier for patients to follow.

Conclusion

Moderate simplification (5- to 7-day courses) minimizes adherence barriers without compromising UTI treatment goals. Pharmacist-led antimicrobial stewardship is crucial for applying these improved regimens and ensuring patient adherence.

MIND: A patient-initiated blister-pack reminder to support medication adherence implementation

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Abstract

Aim

Forgetfulness is a common contributor to unintentional non-adherence. Event- or time-based reminder systems may support adherence implementation, but repeated digital alerts can cause reminder fatigue, and predictive AI or context-sensitive systems may be more difficult to implement. This study assessed the feasibility, usability, and readability of a self-initiated medication interval to next dose (MIND) reminder tool integrated into blister packaging.

Methods

MIND uses capillary action to move a tinted liquid through a microporous membrane at a calibrated rate. As the liquid moves across printed interval markers, it displays the elapsed time since dose removal. Removing a tablet from the blister ruptures an internal reservoir, initiating liquid flow. Feasibility was assessed using prototype aluminum blister packs containing supplement tablets, time indicators, and force measurements.

Results

Proof of concept was demonstrated in a benchtop setting. Prototype MIND blister packs were subsequently piloted with five volunteers. Handling, tablet removal, and readability of interval-to-next-dose information were judged adequate. Preliminary feedback suggested that the design may help users recognize whether a dose had been taken and reduce missed doses.

Discussion and Conclusions

These preliminary findings support further validation in an expanded sample (N=25). As a patient-initiated, non-digital reminder, MIND may promote active recall while reducing reliance on external alerts. Its low-burden design could offer a practical adherence support option. Further research should identify target populations and clinical contexts most likely to benefit.

Patient-reported perspectives on implementing a smart medication dispensing intervention in Portuguese community pharmacy: a CFIR 2.0 qualitative study

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Abstract

Medication adherence remains a persistent challenge in chronic disease management. The MobiMAd Project evaluated the implementation of Mobili®, a smart medication dispensing device integrated into community pharmacy practice. This study aimed to identify patient-reported implementation determinants influencing adoption and sustained use of the intervention using CFIR 2.0.

Qualitative exit interviews were conducted with seven participants; six completed the study and one withdrew. Data were analysed using directed qualitative content analysis, and interview excerpts were coded and synthesised into implementation determinants across relevant CFIR 2.0 domains and constructs.

Experiences ranged from high acceptability (10/10) to low perceived fit (5/10). Participants generally reported that Mobili improved medication organisation, structured daily medication-taking routines, and reduced uncertainty about whether doses had been taken. Reminder functions and automated dispensing enhanced confidence and engagement, while pharmacist guidance strengthened capability during implementation. Community pharmacists emerged as central facilitators by providing technical support, medication counselling, and follow-up, and family support further promoted sustained use.

The main barriers included rigid dispensing windows, inability to retrieve missed doses after the scheduled time, dependence on pharmacy or system managers, limited portability, equipment size and power requirements, cassette-exchange problems, and incompatibility with irregular routines. The participant who withdrew adapted easily to Mobili but discontinued because travel and family visits made fixed-dose retrieval impractical.

Applying CFIR 2.0 identified key determinants shaping adoption of a smart medication dispensing intervention in community pharmacy. Greater adaptability, delayed dose access, portability, cassette workflows, and sustained pharmacist support may strengthen implementation and maximise adherence benefits before wider scale-up.

POSTER SESSION 8: MEDICATION ADHERENCE INTERVENTIONS

Interventions to improve medication adherence in people with hypertension: a systematic review and meta-analysis

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Abstract

Poor adherence to antihypertensive medications reduces their efficacy and can lead to uncontrolled blood pressure, increased cardiovascular disease risk and increased financial burden on the NHS. This review of RCTs evaluating medication adherence interventions in people with primary hypertension aimed to addresses the following research questions: (1) Which interventions improve medication adherence in patients with hypertension, how effective are they, and what is their effect on blood pressure control? (2) How does living with multiple long-term conditions (MLTCs) influence intervention effectiveness? (3) How do intervention effects compare when the outcome is measured using subjective or objective methods?

Multiple databases were searched up to November 2024 and 49 articles, encompassing 56 interventions and a total of 35,202 participants, were identified from 18,934 search results.

Meta-analysis found interventions may increase binary implementation adherence (measured by any means) by OR 2.1 and may increase continuous implementation adherence by SMD 0.73 at 6-7 months. Interventions may reduce blood pressure by 2.3 mmHg in SBP and 1.9 mmHg in DBP at 6 months – likely clinically insignificant. The overall GRADE certainty of evidence is classed as low to very low. No strong evidence that interventions were effective at improving medication adherence with respect to initiation (one study), discontinuation or persistence (three studies each) was observed.

Theory-driven context-appropriate interventions, particularly pharmacist-led collaborative interventions that address both perceptual and practical adherence barriers, warrant further exploration. Future trials should consider larger samples and be designed to minimise bias risks, including the use of objective measures to assess adherence outcomes.

Outcomes Associated with a WhatsApp-Based Telehealth Education Program and Remote Follow-Up on Blood Pressure, Medication Adherence, and Self-Care: A Formative Quasi-Experimental Study

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Abstract

Background
Hypertension is a common chronic condition associated with substantial morbidity globally. In Jordan, many patients struggle with sustained medication adherence and self-management, highlighting a need for accessible care strategies. Low-cost platforms like WhatsApp may support telehealth education and remote follow-up, though formative pilot data are needed to assess feasibility in this context.
Objectives
To evaluate within-participant changes in blood pressure, medication adherence, self-care behaviors, and hypertension-related knowledge from baseline to postintervention among adults with primary hypertension who participated in a formative WhatsApp-based telehealth education program with structured remote follow-up in Jordan.
Methods
A quasi-experimental, single-group pretest-posttest pilot study was conducted. Forty adults (aged 28–60 years) with primary hypertension were recruited from a university hospital. The 8-week hybrid mHealth intervention involved training participants in home blood pressure monitoring, delivering daily educational multimedia messages via WhatsApp (covering diet, exercise, and medication), and conducting biweekly structured telephone consultations with a nurse and dietitian. Validated tools (Hill-Bone Scale, BP Self-Care Scale, BP Knowledge Scale) and electronic sphygmomanometers were used at baseline and postintervention. Data were analyzed using Wilcoxon signed-rank tests.
Results
All 40 participants completed the 8-week pilot and contributed paired baseline and postintervention outcome data. Postintervention scores were higher for hypertension knowledge (r=0.840, P<.001) and self-care behaviors (r=0.524, P=.001), medication adherence scores were lower, indicating better adherence (r=0.805, P<.001), and systolic (r=0.434, P=.006) and diastolic blood pressure (r=0.684, P<.001) were lower than at baseline.
Conclusions
This formative single-group pilot identified favorable pre-post differences in blood pressure, medication adherence, self-care behaviors, and hypertension-related knowledge among a selected sample of adults with primary hypertension. Because there was no control group, the findings do not establish intervention effectiveness or causality and should be interpreted as preliminary evidence supporting further controlled evaluation.

Predictors of Adherence Variability One Year or More After Treatment Initiation among Persons with Chronic Diseases

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Abstract

Aim
We aimed to determine the variability in adherence, its relationship to adherence levels, and socio-demographic or treatment predictors of variability.

Methods
We examined adherence among 101 adults with multimorbidities, participating in an adherence trial, using hypertension as the focus for examining adherence. Adherence was measured using MEMS monitors. Persons with high/low adherence (>80%, <40%) were excluded from analyses of predictor variables. Participant monthly adherence variability was calculated between the 40%-80% adherent. We examined sociodemographic and treatment factors. Fisher's Exact Test was used to assess relationships, with median split on variance.

Results
Findings indicated that the variance curve is an inverted U-shape. In the truncated sample, none of the sociodemographic or treatment factors predicted the level of adherence variability.

Discussion
Data have previously shown that sociodemographic and treatment factors did not predict adherence. Our findings suggest that sociodemographic and treatment factors also do not predict adherence variability, a related variable. We suggest that sociodemographic and treatment factors are not useful in the prediction of adherence and ought not be used in the identification of poor adherers or those at risk for poor adherence.

Conclusions
This is a significant finding in ongoing efforts to identify poor adherers, a significant clinical problem in the delivery of effective care to persons with chronic disease. It is more likely that individual patterns of adherence would provide more useful information in identifying factors contributing to poor adherence, thus improving identification of contributing factors and potential intervention for the individual.

Ward-based pharmacy technicians improve medication preparation efficiency and safety: a quasi-experimental study

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Abstract

Aim
Correct implementation of prescribed medication regimens requires accurate ward-level preparation. Errors during preparation can compromise the implementation phase of medication adherence. This study evaluated ward-based medication preparation by pharmacy technicians versus nurses on workflow efficiency and medication safety.

Methods
A quasi-experimental pre-post withdrawal study was conducted across five Belgian hospital wards. Medication adherence implementation was defined as correct

preparation of prescribed next-day medications. Data collection includedtime-motion observations, electronic medication administration records, and incident reporting systems. Outcomes included preparation time, interruptions per round, preparation error rates, unplanned pharmacy communication and delayed or missed doses.

Results
Across 50 observation periods (25 with, 25 without pharmacy technicians), combine preparation time (pharmacy technician + nurse) was 37.95 versus 28.74 seconds per medication during control periods. Night-shift nurses preparation time decreased significantly from 28.74 to 16.31 seconds ($p < 0.001$). Nurse-experienced interruptions decreased from 5.04 to 3.20 per round ($p = 0.014$), while overall interruption burden remained stable. Preparation error rates decreased from 1.46% (71/4862) to 0.26% (11/4247), an 82.30% relative risk reduction (RR 0.177; 95% CI 0.09–0.33). No differences were found in unplanned pharmacy communication with or delayed/omitted doses.

Discussion
Pharmacy technician involvement supports more accurate implementation of prescribed regimes. Task reallocation represents a scalable, practice-ready strategy bridging adherence research and routine clinical care. Future research should explore long-term patient outcome effects and other adherence phases.

Conclusion
Ward-based pharmacy technician involvement improved workflow efficiency and reduced interruptions and preparation errors in routine hospital practice.

Nurse-Led Interventions to Improve Medication Adherence, Self-Care, Quality of Life and Other Outcomes in Adult Kidney Transplant Recipients: A Scoping Review

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Abstract

Background
Medication non-adherence, suboptimal self-care, and psychosocial difficulties remain common after kidney transplantation, and these can lead to rejection, graft loss, and reduced quality of life among kidney transplant recipients (KTRs). Nurses are uniquely positioned to lead and deliver interventions throughout the transplant trajectory to improve KTR outcomes.

Objectives
To map and synthesize evidence about nurse-led interventions for adult KTRs, focusing on medication adherence, self-management, and quality of life (QOL).

Methods
A scoping review was conducted using Arksey and O'Malley's framework with Levac's enhancements and reported according to PRISMA-ScR. Comprehensive searches of seven databases and grey literature to identify primary studies using nurse-led interventions to improve adherence, self-management, or QOL in adult KTRs in the period of January 2015 to December 2025. Dual independent screening, structured data charting, and descriptive quality appraisal with MMAT 2018 were performed. Narrative synthesis and qualitative content analysis were used to group interventions and outcomes.

Results
Seventeen studies from 11 countries tested nurse-led interventions focusing on structured patient education, counseling, empowerment, self-management, virtual nursing, and exercise programs. The different interventions were effective at improving medication adherence (5), self-care or self-management (5), QOL (4), and psychological distress (5). The interventions also had positive effects on patients' knowledge, health literacy, empowerment, fatigue, and perceptions of care.

Conclusions
Nurse-led interventions are feasible and effective for improving holistic outcomes in adult KTRs. Future research should emphasize multicenter trials, standardized interventions, and economic evaluations.