

29TH ESPACOMP CONFERENCE



ABSTRACTS OF POSTER PRESENTATIONS

13-14 November 2025
Málaga, Spain

Ilunion Hotel,
Paseo Marítimo Antonio Machado, 10

BRIDGING GAPS IN MEDICATION ADHERENCE:
STAKEHOLDER ENGAGEMENT AND
INTERPROFESSIONAL INTERVENTIONS



www.espacomp.eu

29th ESPACOMP Conference, 2025

Abstracts selected for poster presentations

Index

Cognitive decline and its influence on medication adherence in older adults	5
Missed dose instructions in Swiss drug labels: a quantitative and thematic analysis	6
Pharmacy labels and written information on medication adherence: PLIMA study	7
Cross-sectional and longitudinal analysis of factors influencing medication adherence and glycaemic control among people with type 2 diabetes in Singapore and the United Kingdom	8
Sex-specific determinants of medication adherence among older adults in Brazilian public tertiary care: a cross-sectional study	9
Cross-national determinants of medication adherence: a multinational survey of patients with hypertension and seasonal allergic rhinitis in Japan, the US, and the UK ..	10
Gen Z health information seeking and adherence: a qualitative study	11
The weight of the past: the effect of trauma and resilience on medication adherence in SLE	12
The moderating role of negative beliefs in the relationship between sarcopenia and medication adherence in older adults	13
Intentional nonadherence in cancer treatment implementation: identifying key factors for personalised interventions	14
Breast cancer survivors from minority ethnic groups in the UK report higher rates of non-adherence to adjuvant endocrine therapy than white British women: an exploration of psychosocial factors associated with treatment non-adherence	15
Investigating the relationship between treatment outcomes and patient adherence in transdermal CO ₂ therapy	16
Medication adherence and pharmacological burden: an analysis using multiple risk indicators	17
Investigating relation between medication adherence phases and drug utilization patterns: a data-driven analysis on dermatological conditions	18
Medication adherence in adults with type 2 diabetes: a comprehensive qualitative meta-synthesis of factors in the MENA region	19
Barriers and enablers to anti-seizure medication adherence in children with epilepsy: A systematic review using meta-ethnography	20
Adherence to asthma and COPD medications in Belgium (2020–2023): a nationwide retrospective cohort study of demographic and clinical determinants	21
Determinants of adherence to antidepressant treatment: a systematic review	22

Psychometric evaluation of C-MABQ15, a new self-report medication adherence tool for identifying individuals' determinants (barriers and enablers) of adhering to medication for bipolar disorder	23
Prevalence and correlates of adherence to disease modifying antirheumatic drugs (DMARDs) in adults with rheumatoid arthritis and its consequences – a scoping review	24
Improving accuracy of AI-based predictive modelling of COPD exacerbations using real-world medication adherence data: the COPD-ALERT study.....	26
Medication adherence as part of the adult palliative care complexity construct.....	27
Variability in eyedrop instillation time is associated with disease progression in patients with primary open-angle glaucoma	28
Experiences and conditions for sustainable implementation of the Annual Medication Consultation for chronic medication users: an interview study	29
National framework for medication adherence in asthma care in North Macedonia: evaluation of policy.....	30
Chronic obstructive pulmonary disease and adherence to inhaler treatment: insights from online patient testimonies	31
Pharmacist-assessed medication adherence and quality of life in patients with epilepsy	32
Medication adherence among liver, heart, lung and kidney transplant recipients: first insight from the value-based healthcare system	33
Exploring user experience and usability of medication adherence technologies among older adults with diverse capabilities: a qualitative study.....	34
How do patients talk about their medication use: an explorative observational study ...	35
A qualitative study exploring the barriers and facilitators of adherence to antidiabetic medication among people of South Asian and Saudi Arabian origin from socioeconomically deprived communities in Saudi Arabia	36
Medication adherence in patients with multimorbidity and polypharmacy: patients' perspectives. LOXO-MULTIPAP study.....	37
Detection of patients with therapeutic adherence problems using the 15-STARs questionnaire in Spanish community pharmacy setting: a pilot study.....	39
Protocol for a randomized controlled trial evaluating a smartphone-based intervention to improve medication adherence in cardiovascular patients	40
Development and pilot testing of a protocol for the validation of electronic monitoring devices under simulated real-life and controlled laboratory conditions	41
Quantifying predictors of oral anticancer agent adherence: a methodological framework for evidence-based risk stratification.....	42
Development and validation of a DMARD-specific version of the BAASIS© questionnaire: overview of methodological steps and first results	43
Intervengine: a digital platform for interprofessional interventions supporting adherence in dementia prevention	44

Development of a scalable digital fatigue intervention to support treatment adherence across health conditions	45
Ongoing development of the SQUEEZE eHealth facilitated integrated care model to improve adherence to disease-modifying antirheumatic drugs in adults with rheumatoid arthritis - an implementation science project	46
Interventions for medication adherence management: SWOT analysis involving Italian healthcare stakeholders.....	48
Development and evaluation of a smartphone application for liver transplant recipients: a randomized controlled trial.....	50
Effectiveness of using manual pill organizers and pill reminder apps in improving medication adherence and health outcomes in Indian elderly population receiving multiple medications (PORA-MEDAdhere): study protocol	51
Effectiveness and implementation of disease-modifying antirheumatic drugs (DMARDs) adherence interventions in rheumatoid arthritis: a systematic review	52
Pharmacist-led interventions to enhance medication adherence and patients' satisfaction in atrial fibrillation: a systematic review and meta-analysis	54
Acceptability and adherence of health interventions among people experiencing homelessness: a systematic scoping review	55
Prevention of iatrogenesis (PI) and medication non-adherence (MNA) in the elderly: context analysis pre-implementation and co-design of pilot actions	56
Adherence to a standardized mindfulness-based stress reduction program in COPD Patients: a feasibility study	57
STOPIATRO: an implementation project to prevent iatrogenesis and improve medication adherence in older people in Europe.....	58
A systematic review of Behaviour Change Techniques (BCTs) reported in effective medication adherence interventions in adults with long term conditions.....	59
Determinants of routinely delivering the Identification of Medication Adherence Barriers Questionnaire intervention (IMAB-Qi) within medication reviews: user testing with primary care healthcare professionals	60
From plan to practice: using implementation mapping to develop theory based, adaptable, and context appropriate implementation strategies for the delivery of myCare Start in Switzerland	61
Evaluating the myCare Start Service to improve adherence during treatment initiation: protocol for a hybrid type II effectiveness-implementation study	63
The ENABLE repository for digital technologies to support medication adherence: perspectives of healthcare providers and medication users on its presentation, navigation and content.....	65
Evaluating the effectiveness of a medication adherence module on immunosuppressant adherence: secondary analysis of two hybrid implementation-effectiveness randomized control trials	66
Struck by a stroke – and by a pile of pills? development of a clinical-pharmaceutical counselling session to encourage adherence in stroke patients.....	67

PERSonalized IMMunosuppression for ONe kidney for life: a multicenter, multidisciplinary project outline.....	68
Exploring potential interventions aimed at improving medication self-management in young patients with a chronic disease: a participatory action research study	69
Protocol for a pilot cluster randomised controlled trial of a community pharmacy-based intervention to enhance adherence to adjuvant endocrine therapy in breast cancer survivors	70
Evaluation of the implementation of medication adherence interventions in type 2 diabetes mellitus patients in Aruba and Curaçao: a mixed method study	71
Developing an equality impact assessment to design inclusive methods for a medication adherence study.....	72
Applying behavioral frameworks, theories, and models to digital health interventions for better medication adherence: a narrative review	73
BMI and other risk factors on bowel preparation quality in a colorectal cancer screening population in Curaçao.....	74
Motivational interviewing (MI) workshops to enhance specialist nurses' support for treatment adherence in homozygous familial hypercholesterolaemia (HoFH)	75
Perceptions of medication adherence among diabetes patients living in rural areas: a qualitative study conducted at a family health center in western Türkiye	76
Health care professionals training on iatrogenesis prevention and medication adherence in real contexts: barriers and solutions	77
Bridging knowledge and practice: a case study on pharmacy students' understanding of medication adherence and its implications for treatment efficacy and patient outcomes	78

Cognitive decline and its influence on medication adherence in older adults

Wojciech Timler¹, Dorota Religa², Przemysław Kardas¹

1 Medical University of Łódź, Łódź, Poland. 2 Karolinska Institutet, Stockholm, Sweden

Abstract

Aim: To examine the association between cognitive function and medication adherence among older adults, and to explore the potential mediating roles of health literacy, self-efficacy, and depression, alongside drug regimen complexity.

Methods: A cross-sectional study was conducted among 214 community-dwelling individuals aged ≥ 60 . Participants completed validated instruments assessing adherence (ARMS), cognitive status (MMSE), health literacy (EU Health Literacy Scale), self-efficacy (GSES), and depression (GDS). Medication use and drug interaction profiles were reviewed. Adherence was analyzed across three cognitive function strata: normal, mild decline, and early-stage dementia, incorporating ABC taxonomy components and EMERGE reporting criteria.

Results: Participants had a mean age of 72.9 (± 7.7), with 73.8% female. The average number of medications taken daily was 6.2 (± 3.7); 85% used a medication organizer. Preliminary results indicate lower adherence scores among those with cognitive impairment and depressive symptoms ($GDS \geq 10$). Adherence was positively associated with higher health literacy and self-efficacy scores. Ongoing analysis examines interaction severity and medication types across adherence levels.

Discussion and Conclusion: Initial findings suggest that cognitive decline, depression, and low health literacy negatively impact medication adherence among older adults. This highlights the need for multidimensional assessment and tailored interventions, especially for those with early cognitive impairment. Insights from this study contribute to optimizing adherence strategies in geriatric polypharmacy contexts.

Missed dose instructions in Swiss drug labels: a quantitative and thematic analysis

Katharina Rekk¹, Manon Pico¹, Samuel Allemann¹

1 University of Basel, Department of Pharmaceutical Sciences, Pharmaceutical Care Research Group, Basel, Switzerland

Abstract

Aim: We aimed to analyze instructions on missed doses in Swiss patient information leaflets (PILs) and summaries of product characteristics (SmPCs).

Methods: Using Natural Language processing, we screened Swiss drug labels for missed dose information. Ten search terms to identify relevant instructions were developed through exploratory analysis. We quantified and categorized the type of information, compared over-the-counter (OTC) and prescription-only (Rx) medications, and categorized results using the Anatomical Therapeutic Chemical (ATC) Classification System. Statistical Analysis included chi-squared test (significance level $p < 0.05$).

Results: Missed dose instructions were significantly more frequently found in PILs than in SmPCs, appearing in 51.7% of Swiss PILs (1623 out of 3138) PILs compared to 14.4% of SmPCs (657 of 4555). Rx drugs provided more information than OTC medications in both drug labels ($p < 0.001$). Among the PILs with instructions, 17.6% provided specific time-based recommendations, while 82.4% offered general advice. Of these, 3.6% advised solely to consult a physician, 11.3% to avoid double dosing, 10.9% to take the missed dose, 9.9% to skip the dose or to take the next regular dose and the remainder combinations thereof. The drug classes with the most recommendations were contraceptives and antiandrogens (ATC G03A/G03H).

Discussion and Conclusion: There is a substantial gap in missed dose instructions, particularly in SmPCs and for OTC medications. PILs often lack adequate, clear guidance on what patients should do if they miss a dose, potentially contributing to unintentional non-adherence and potential harm. To enhance medication adherence and patient safety, regulatory frameworks should require standardized, clear, and actionable instructions

Pharmacy labels and written information on medication adherence: PLIMA study

Kornelija Klinkaitė¹, Rūta Matulaitienė¹, Nomeda Bratčikovienė¹, Tanja Fens², Anne Gerd Granås³, Indrė Trečiokienė¹

1 Vilnius University, Vilnius, Lithuania. 2 University of Groningen, Groningen, Netherlands. 3 Oslo University, Oslo, Norway

Abstract

Aim: Pharmacy labels are a safety measure that supports safe use of medication. It can also be associated with medication adherence. The PLIMA study aims to compare pharmacy label legal requirements, use in practice across European countries and healthcare professionals' perception on pharmacy labels' association with medication adherence.

Methods: In this cross-sectional descriptive study data is collected from all European countries. Experts are recruited through the COST Enable network by e-mail, invitations to participate are distributed at conferences and relevant specialist platforms. Through the Qualtrics survey platform, respondents are asked to collect pharmacy labelling information, including image examples, national legal requirements and perception on pharmacy labels as medication adherence, alongside responders' information. Responses will be analysed using descriptive statistics. Visual, content, and contextual analysis will be used on the images and documents provided.

Results: The questionnaire has been pre-tested in a pilot study to identify and correct potential issues. Invitations have been distributed at the EAFP annual conference 2025 in May 2025, e-mail invitations have been sent in July 2025. So far, responses have been received from 8 countries. Primary results show that legal requirements for pharmacy labels vary, yet the majority of respondents agree that pharmacy labels could be linked to medication adherence.

Discussion and Conclusion: Findings of the PLIMA study could provide valuable insights into cross-national differences in pharmacy labelling and written information. Results obtained from this research may encourage better decisions, potentially leading to more efficient and adherent medication usage.

Cross-sectional and longitudinal analysis of factors influencing medication adherence and glycaemic control among people with type 2 diabetes in Singapore and the United Kingdom

Vivien Teo^{1,2}, John Weinman¹, Kai Zhen Yap², Shaun Eric Lopez³, Anna Hodgkinson⁴, Mark Chamley⁴

1 King's College London, London, United Kingdom. 2 National University of Singapore, Singapore, Singapore. 3 Tan Tock Seng Hospital, Singapore, Singapore. 4 Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom

Abstract

Aim: To identify common and distinctive factors influencing medication adherence and glycaemic control among people with type 2 diabetes in Singapore and the United Kingdom (UK)

Methods: The study recruited 550 participants. Medication adherence, medication beliefs, illness perceptions, mood, and glycaemic control were assessed using a list of validated questionnaires and glycated haemoglobin (HbA1c). Multivariate regressions and multilevel models identified factors influencing adherence and HbA1c at baseline and in 3-6 months.

Results: Overall, participants with higher resistance to illness ($\beta=-0.084$, $p=0.031$), greater medication concern ($\beta=-0.069$, $p=0.026$) and reduced understanding of diabetes ($\beta=0.105$, $p=0.053$) had lower baseline medication adherence. Participants with higher medication adherence ($\beta=-0.088$, $p=0.006$), greater personal control over diabetes ($\beta=-0.154$, $p<0.001$) and reduced emotional impact of diabetes ($\beta=0.076$, $p=0.008$) had lower baseline HbA1c. At follow-up, increased perceived helpfulness of treatment was associated with higher medication adherence ($\beta=0.140$, $p=0.051$). Greater personal control over diabetes was associated with lower HbA1c ($\beta=-0.092$, $p=0.009$). In Singapore, participants with greater resistance to illness ($\beta=-0.110$, $p=0.011$) and medication concern ($\beta=-0.101$, $p=0.006$) had lower baseline medication adherence, while participants with greater tendency to test their treatment ($\beta=0.145$, $p=0.029$) and lower personal control over diabetes ($\beta=-0.133$, $p=0.006$) had higher baseline HbA1c. In the UK, sensitivity to medication was negatively associated with baseline medication adherence ($\beta=-0.262$, $p=0.019$), while medication adherence ($\beta=-1.020$, $p=0.040$) and personal control over diabetes ($\beta=-1.803$, $p=0.001$) were negatively associated with baseline HbA1c.

Discussion and Conclusion: Our study identified common and distinctive factors influencing medication adherence and glycaemic control, supporting broadly applicable and locally relevant personalised intervention development.

Sex-specific determinants of medication adherence among older adults in Brazilian public tertiary care: a cross-sectional study

Karina Bertoldi¹, Bruna Brazzolotto¹, Bruna Camargo², Letícia Saraiva², Letícia Silva², Isadora Odebrecht², Larissa Silva², Ana Nascimento², Ana Gomes², Gustavo Gâmbaro², Karen Fernandes², Cristina Baena¹

1 Pontifical Catholic University of Paraná, Curitiba, Brazil. 2 Pontifical Catholic University of Paraná, Londrina, Brazil

Abstract

Background: Medication adherence is relevant for managing chronic conditions in older adults; however, associated factors may differ between men and women, particularly within public health services in developing countries.

Aim: To investigate sex differences in the determinants of medication adherence among older adults attending tertiary public outpatient clinics in Brazil.

Methods: Cross-sectional study including individuals aged ≥ 60 years, recruited between August 2024 and June 2025 at two public tertiary centers. Structured face-to-face interviews were conducted. Adherence was assessed using the 7-item Medication Adherence Questionnaire (MAT-7). Variables included sociodemographic data, comorbidities, medication regimen, cognitive status (MoCA), grip strength, chair stand test, functionality, loneliness (UCLA-BR), beliefs about medicines, and practical barriers to adherence. Binary logistic regression models were stratified by sex (backward Wald method).

Results: The sample included 597 participants (338 women), with a mean age of 68.1 years (SD=5.6) among women and 69.9 (SD=5.8) among men. Non-adherence was observed in 87 women (25.7%) and 71 men (27.4%). Among women, 265 (78.4%) had low education, 30 (8.9%) reported moderate to severe loneliness, and 81 (24.0%) had negative medication beliefs. In women, negative beliefs (OR=2.90; 95%CI: 1.60–5.26), practical barriers (OR=1.29; 1.18–1.41), and loneliness (OR1.71; 1.16–2.53) were significantly associated with non-adherence. Among men, only practical barriers remained associated (OR=1.13; 1.03–1.25), with trends for negative beliefs and neurological conditions. Models showed good fit (Hosmer-Lemeshow $p > 0.05$).

Discussion and Conclusion: Sex-specific strategies should be taken into account to improve adherence in tertiary public care.

Cross-national determinants of medication adherence: a multinational survey of patients with hypertension and seasonal allergic rhinitis in Japan, the US, and the UK

Hidehiko Sakurai¹, Chihiro Morito², Keiko Kishimoto³

1 Hokkaido University of Science, Sapporo, Japan. 2 Kwansei Gakuin University, Nishinomiya, Japan. 3 SHOWA Medical University, Tokyo, Japan

Abstract

Aim: This study addressed the discrepancies in medication adherence findings between Japan and Western countries by identifying cross-national and disease-specific determinants using harmonized measurement tools across the three countries.

Methods: In March 2025, an online survey was conducted with 2,400 patients—400 each with hypertension and seasonal allergic rhinitis—in Japan, the US, and the UK. Medication adherence was assessed using a validated scale (Hill-Bone). Predictor variables included self-efficacy (outcome expectancy, efficacy expectancy, and generality), patient empowerment (health involvement, information search, knowledge development, and decision participation), and health literacy (subjective: functional, interactive, and critical; objective: accuracy-based). Demographic and behavioral characteristics were also assessed. Mean differences and generalized linear models (GLMs) were used for analysis.

Results: Japanese participants reported higher adherence and objective health literacy but lower self-efficacy, patient empowerment, and subjective health literacy than their US and UK counterparts. Across conditions, patients with allergic rhinitis scored lower on most scales and reported more frequent over-the-counter medication use than those with hypertension. In Japan, efficacy expectancy consistently predicted adherence in both conditions. In contrast, in the US and UK, adherence was more strongly associated with patient empowerment and outcome expectancy for hypertension. Functional health literacy and dietary behavior were significant predictors in all countries.

Discussion and Conclusion: Determinants of medication adherence vary by country and condition. In Japan, efficacy expectancy appears more influential than patient empowerment. These findings suggest that pharmacist-led adherence interventions should be tailored to local patient profiles rather than relying solely on international evidence.

Gen Z health information seeking and adherence: a qualitative study

Ádám Konstantin Rojkovich^{1,2}, Ildikó Kemény¹, Judit Simon¹

1 Corvinus University of Budapest, Budapest, Hungary. 2 Mathias Corvinus Collegium Foundation, Budapest, Hungary

Abstract

Aim: The study examines how Gen Z young adults' online health information-seeking influences medication adherence and their willingness to engage with eHealth solutions. The study focused on adherence to antibiotics and post-injury physiotherapy.

Methods: Ten Gen Z adults (18–30 years) participated in semi-structured interviews about online health information behavior, medical adherence and health application use. Observation was used to assess interactions with the EgészségAblak application (the Hungarian EHR patient portal).

Results: Participants often first sought advice from family or personal networks (especially if a parent worked in healthcare) and from trusted websites. They were skeptical of polypharmacy, citing side-effect concerns and avoiding unnecessary medication. Adherence to antibiotics was generally good: courses were usually completed, with only minor lapses. In contrast, physiotherapy adherence was inconsistent; time constraints hindered some from completing supervised sessions, though many continued prescribed exercises independently upon perceiving benefits. All were open to using eHealth tools (apps, reminders) to aid adherence if endorsed by healthcare providers.

Discussion and Conclusion: Even for these digital natives, trust and source credibility were central. Trusted personal and online sources informed participants' understanding of treatment, indirectly supporting adherence decisions. Digital interventions to improve adherence should leverage professional endorsement and address medication concerns. This study identified how trust in health information sources shaped adherence-related decisions among digital-era young adults. Participants relied on personal networks and credible websites to guide their understanding of treatment needs. While few used digital tools directly to support adherence, openness to professionally endorsed eHealth solutions was high.

The weight of the past: the effect of trauma and resilience on medication adherence in SLE

Kai Sun¹, Sofia Pozsonyiova¹, Amanda Eudy¹, Rebecca Sadun¹, Mithu Maheswaranathan¹, Jayanth Doss¹, Nathaniel Harris¹, Lisa Criscione-Schreiber¹, Megan Clowse¹, Connor Drake¹, Tamara Somers¹, Ralph Snyderman¹, Jennifer Rogers¹

1 Duke University, Durham, USA

Abstract

Aim: Medication adherence in systemic lupus erythematosus (SLE) is suboptimal and contributes to worse outcomes. Trauma exposure, prevalent in SLE, may undermine adherence by shifting focus away from future-oriented health goals. Resilience may buffer this effect. We aimed to examine the relationship between trauma, resilience, and the implementation phase of medication adherence in SLE.

Methods: In a cross-sectional study of SLE patients from an academic registry, we measured adherence using the DOSE-Nonadherence-SLE, a validated patient-reported instrument capturing both extent and reasons for nonadherence. Patients were nonadherent if they reported missing, skipping, or not taking any SLE medications in the past 7 days. Patients also completed the Trauma History Screen, Brief Resilience Scale, and Polysymptomatic Distress Scale. Trauma was categorized as abusive (physical, sexual, emotional), non-abusive, or none. We used multivariable regression to examine the association between trauma and adherence, including an interaction term for resilience.

Results: Among 238 patients (median age 42, 92% female, 57% Black, 6% Hispanic), 47% reported nonadherence; 41% reported abusive trauma. Nonadherence was more common among younger patients, those identifying as Black, Other race, or Hispanic, and those with higher symptom burden or abusive trauma. After adjustment, abusive trauma was associated with 58% higher risk of nonadherence compared to no trauma. Resilience moderated this association ($p=0.02$). Patients with abusive trauma more often endorsed motivational (e.g., hopelessness, emotional fatigue) rather than logistical barriers.

Discussion and Conclusion: Abusive trauma was common in SLE and strongly linked to nonadherence. Resilience mitigated this risk, supporting trauma-informed, resilience-enhancing adherence interventions.

The moderating role of negative beliefs in the relationship between sarcopenia and medication adherence in older adults

Bruna Brazzolotto¹, Karina Bertoldi¹, Gabriela Nogueira¹, Leonardo Teixeira¹, Fabiana Luiza Hornung¹, Giovanna Faria¹, Manuela Campinha², Ana Julia Gomes², Gabriella Carbonieri², Amann da Thais Cristo¹, Karen Fernandes², Cristina Baena¹

1 Pontifical Catholic University of Paraná, Curitiba, Brazil. 2 Pontifical Catholic University of Paraná, Londrina, Brazil

Abstract

Background: Sarcopenia is highly prevalent in the older population and may influence multiple determinants of medication adherence. However, how these factors interact remains poorly understood.

Aim: To explore the potential role of negative beliefs about medications in the association between sarcopenia and medication adherence in older adults

Methods: This cross-sectional study included 597 individuals aged ≥ 60 years from public healthcare centers in Brazil. Medication adherence was assessed using the 7-item Medication Adherence Questionnaire (MAT-7). Covariates included sociodemographic characteristics, comorbidities, medication regimen, physical performance, and beliefs about medications. Logistic regression was used with stepwise forward selection (Wald, $p < 0.05$).

Results: Participants had a mean age of 70.1 years ($SD = \pm 6.7$); 356 (56.7%) were women. A total of 71.8% had low educational attainment, and 69.5% had a monthly income below three minimum wages. Sarcopenia was present in 59.3% of the sample, and 26.1% reported medication non-adherence. Although the absence of sarcopenia was initially associated with a protective effect against non-adherence ($OR = 0.59$; 95% CI: 0.39–0.87; $p = 0.009$), independent of age, sex, marital status, income, neurological conditions, and sensory impairment, this association appeared to be moderated by negative beliefs about medications ($OR = 0.68$; 95% CI: 0.45–1.05; $p = 0.08$). Among participants without such beliefs, the associations between sarcopenia, income, and sensory impairment with adherence were more pronounced.

Discussion and Conclusion: Sarcopenia is an independent determinant of non-adherence, whereas negative beliefs appear to exert a stronger and potentially overriding influence on adherence.

Intentional nonadherence in cancer treatment implementation: identifying key factors for personalised interventions

Kate Perry¹, Keith Petrie², John Weinman³, Jane Choi¹

1 Atlantis Health, Auckland, New Zealand. 2 Auckland University Medical School, Auckland, New Zealand. 3 Kings College London, London, United Kingdom

Abstract

Aim: This study aimed to identify key reasons for intentional nonadherence during the implementation phase of self-administered cancer treatment to inform the development of tailored support interventions.

Methods: An e-survey of 126 adults with cancer assessed adherence using the Medication Adherence Report Scale (MARS-5) and intentional nonadherence using the 22-item Intentional Nonadherence Scale (INAS). Principal components analysis (maximum likelihood extraction with oblique PROMAX rotation) was conducted, specifying a four-factor solution to examine dimensions of intentional nonadherence during medication implementation. Independent samples t-tests compared factor scores between adherent and nonadherent participants.

Results: Fifty-six percent of participants were classified as nonadherent during medication implementation. The most frequently endorsed reasons for intentional nonadherence were “Because I don’t like the side effects” (32%), “Because I want to think of myself as a healthy person again” (28%), and “Because the medicine is harsh on my body” (27%). The four extracted factors – Sensitivity to Medicines, Testing Treatment, Inconvenience, and Resisting Illness and Medication – accounted for 79% of the total variance and demonstrated high internal consistency (Cronbach’s $\alpha = 0.90\text{--}0.96$). Nonadherent participants scored significantly higher on all four factors compared to adherent participants ($p < 0.001$).

Discussion and Conclusion: Intentional nonadherence during the implementation phase is driven by diverse motivational factors, highlighting opportunities for tailored interventions targeting specific reasons for nonadherence. Acceptance and Commitment Therapy (ACT)-based intervention strategies are presented to illustrate potential approaches for addressing these motivational factors.

Breast cancer survivors from minority ethnic groups in the UK report higher rates of non-adherence to adjuvant endocrine therapy than white British women: an exploration of psychosocial factors associated with treatment non-adherence

Lyndsay Hughes¹

1 King's College London, London, United Kingdom

Abstract

Aim: Two million women are diagnosed with breast cancer annually, with 80% prescribed adjuvant endocrine therapy (AET) for 10 years. Despite adjustments for clinical characteristics, survival is significantly worse for women from minority ethnic groups (MEG) compared to white women. AET implementation and persistence are lower in MEG, with 50% of all women discontinuing by year 5. This study explored psychosocial factors linked to AET non-adherence for future intervention development.

Methods: A cross-sectional survey recruited N=2009 UK breast cancer survivors prescribed AET within the past three years. Due to limited diversity, ethnicity was dichotomised into White British and MEG. Self-reported implementation adherence was assessed using the Medication Adherence Rating Scale (MARS) and categorised as overall, intentional, and unintentional non-adherence. Measures included illness perceptions (IPQ-BCS), treatment beliefs (BMQ-AET), symptom burden (BCPT; GASE), distress (PHQ-2; GAD-7), and healthcare professional (HCP) relationship quality (CARE). Group differences were analysed using t-tests, chi-squared tests, and Hedges' g.

Results: MEG women were significantly more likely to report non-adherence (overall: OR=2.04; intentional: OR=2.70; unintentional: OR=1.76; all $p<.001$). They reported more treatment concerns, negative illness perceptions, distress, side effects, and worse HCP relationships ($g=.19-.46$). After adjusting for clinical and demographic factors including socio-economic status, small but persistent differences remained in treatment concerns, depression, anxiety, perceived consequences, and HCP relationship ($g=.06-.08$).

Discussion and Conclusion: MEG women were twice as likely to report AET non-adherence and experienced greater psychosocial burden. Addressing cultural needs and enhancing HCP communication are critical to reducing ethnic disparities in breast cancer outcomes.

Investigating the relationship between treatment outcomes and patient adherence in transdermal CO₂ therapy

Zsanett Fülöp¹, Judit Simon², Zsuzsanna Kun³, Anita Rabóczki⁴, Laura Laczkó-Albert⁵, Béla E. Tóth¹

1 University of Debrecen, Debrecen, Hungary. 2 Corvinus University of Budapest, Budapest, Hungary. 3 John Von Neumann University, Kecskemét, Hungary. 4 Parádafürdő State Hospital, Parádafürdő, Hungary. 5 University of Semmelweis, Budapest, Hungary

Abstract

Aim: Transdermal carbon dioxide (tdCO₂) therapy is typically administered as a course of 10-12 sessions over four weeks. It is recommended that the course be repeated every 6-12 months. This study investigates whether the outcomes of the therapy influence patient adherence, specifically their likelihood of returning for subsequent treatment sessions.

Methods: This retrospective data assessment involved patients treated at Parádafürdő State Hospital. Participants completed three self-administered health questionnaires (SF-36, EQ-5D-5L, EQ-VAS) and underwent objective physical tests (6-minute walk test, Timed Up and Go) both before and after the tdCO₂ therapy course. Based on patients' follow-up attendance within one year, they were divided into two groups: those who returned for further treatment (adherent) and those who did not (non-adherent). Baseline values and treatment-related changes were compared across these groups.

Results: At baseline, no significant differences were found between the two groups in either subjective or objective measures. Both groups showed significant improvements in all indicators following treatment. However, there was no significant difference in the degree of improvement between the adherent and non-adherent groups.

Discussion and Conclusion: Despite measurable therapeutic benefits across the sample, these improvements did not translate into higher adherence rates. The lack of association between clinical outcome and return rates suggests that adherence is influenced more by external (accessibility of treatment) or psychological factors than by treatment success alone. These findings emphasize the need to explore and address non-medical barriers in designing patient-centered adherence strategies.

Medication adherence and pharmacological burden: an analysis using multiple risk indicators

Gustavo Aliano Gâmbaro^{1,2}, Bruna de Freitas Brazzolotto¹, Karina de Guadalupe Bertoldi Giroto¹, Gabriela Bonilha Nogueira¹, Bruna Gomes de Camargo², Isadora Fassula Odebrecht², Letícia Fernandes Saraiva², Larissa Furlan Ribeiro da Silva², Ana Beatriz Freixes do Nascimento², Maria Eduarda Sehn², Cristina Pellegrino Baena¹, Karen Barros Parron Fernandes^{1,2}

1 Graduate Program of Health Sciences / Pontifical Catholic University of Parana (PPGCS - PUCPR), Curitiba, Brazil. 2 School of Medicine/ Pontifical Catholic University of Parana (PUCPR), Londrina, Brazil

Abstract

Background: Polypharmacy is a public health concern. However, it rarely captures the pharmacological burden or its clinical consequences in older adults. Several tools assess pharmacotherapeutic risk, but there is no consensus on the most appropriate for complex outcomes such as medication adherence.

Aim: To evaluate the association between medication burden—assessed by different risk criteria—and medication adherence in older adults.

Methods: This cross-sectional study followed the EMERGE checklist and included 609 individuals aged 60 years or older from primary care settings in Brazil. The 7-item Medication Adherence Questionnaire was used at the implementation phase. Medication burden was evaluated using the Drug Burden Index (DBI), STOPP-Cog criteria, and the presence of potentially inappropriate medications. Covariates included sociodemographic characteristics, comorbidities, and beliefs about medicines. Multivariate logistic regression with forward stepwise selection was applied.

Results: The mean age was 71.0 years (SD = 7.9), and 56.7% were women. Nearly 49.6% of participants were non-adherent (using 5 as the cut-off point). In the final model, depression (OR = 0.62; 95% CI: 0.39–0.98; $p = 0.044$), beliefs about medicines (OR = 0.35; 95% CI: 0.23–0.53; $p < 0.001$), and STOPP-Cog medications (OR = 0.37; 95% CI: 0.14–0.97; $p = 0.043$) were associated with lower chance of adherence. Anticholinergic/sedative use showed a similar trend ($p = 0.092$). Models including only one risk criterion did not yield significant associations.

Discussion and Conclusion: A combined risk score may help identify high-risk medications and support deprescribing strategies to enhance medication adherence and treatment outcomes in older adults.

Investigating relation between medication adherence phases and drug utilization patterns: a data-driven analysis on dermatological conditions

Sara Mucherino^{1,2}, Marianna Serino^{1,2}, Lara Perrella^{1,2}, Enrica Menditto^{1,2}, Valentina Orlando^{1,2}

1 Center of Pharmacoeconomics and Drug Utilization Research (CIRFF), University of Naples Federico II, Naples, Italy. 2 Department of Pharmacy, University of Naples Federico II, Naples, Italy

Abstract

Aim: Chronic dermatological conditions such as psoriasis and atopic dermatitis (AD) require prolonged pharmacological management, where Medication Adherence (MA) is key to long-term success. This study aims to provide adherence patterns and drug utilization across dermatological conditions, focusing on different MA determinants.

Methods: A retrospective observational study was conducted using a representative 10% sample of the Italian population. Patients with psoriasis or AD treated with biologic therapies (e.g., secukinumab, dupilumab) and topical treatments (e.g., tacrolimus) from 2015 to 2022 were identified. MA was dynamically assessed using data-driven methods in line with EMERGE guidelines, evaluating initiation (primary adherence) and persistence (discontinuation at 6 and 12 months), incorporating variations in drug utilization patterns.

Results: Among patients receiving biologics, MA rates at 6 months were 71% for psoriasis and 86% for AD. By 12 months, these rates declined to 62% and 68.7%, respectively. In contrast, adherence to topical tacrolimus for AD was lower, with persistence rates of 60% at 6 months and 22.5% at 12 months. Duration of therapy was generally longer for biologics (psoriasis: 8.5 months; AD: 4.4 months) than for topical therapies, such as tacrolimus (2.6 months).

Discussion and Conclusion: Injective biologics demonstrate higher MA rates compared to topical therapies in dermatological treatments, suggesting their potential to support better long-term outcomes. These findings highlight the importance of personalized treatment approaches and targeted support strategies to enhance adherence and optimize management of chronic dermatological conditions.

Medication adherence in adults with type 2 diabetes: a comprehensive qualitative meta-synthesis of factors in the MENA region

Nasser Al Salmi¹, Eilean Lazarus¹, Joshua Mullira¹

1 Sultan Qaboos University, Muscat, Oman

Abstract

Aim: Adhering to medication is essential for effectively managing Type 2 Diabetes (T2D), as it helps delay disease progression, reduce complications, and enhance health outcomes. As in other regions, medication adherence among individuals with T2D in the Middle East and North Africa (MENA) is affected by a multifaceted combination of personal, healthcare-related, sociocultural, and religious elements. Gaining insight into these influences is vital for shaping interventions aimed at improving adherence to medications in adults with T2D. The purpose of this study is to compile findings from qualitative research exploring the elements that affect medication adherence among adults with Type 2 Diabetes (T2D) in the MENA region.

Methods: A metasynthesis approach was applied, using thematic synthesis to analyze data from nine qualitative research studies.

Results: This synthesis revealed four central themes: (1) personal attitudes and beliefs toward the illness and medications significantly influence adherence, (2) healthcare provider (HCP) roles and behaviors have a direct impact on adherence, (3) healthcare system (HCS) features play a critical role in supporting adherence, and (4) cultural, traditional, and spiritual beliefs influence medication adherence throughout the MENA region.

Discussion and Conclusion: Adherence to diabetes medications among adults in the MENA region is shaped by a wide range of elements tied to individual, provider, system, and cultural levels. Additional qualitative inquiries are needed to close knowledge gaps, particularly regarding how these factors empower patients to begin and maintain adherence to prescribed therapies.

Barriers and enablers to anti-seizure medication adherence in children with epilepsy: A systematic review using meta-ethnography

Eric Amankona Abrefa Kyeremaa¹, Sion Scott¹, Caroline Smith¹, Charlotte Lawthom², Andy Stewart³, Majed Alorabi¹, Meera Naran⁴, David Wright¹

1 University of Leicester, Leicester, United Kingdom. 2 Aneurin Bevan University Health Board, Newport, United Kingdom. 3 Desitin Pharma Ltd, Milton Keynes, United Kingdom. 4 Patient and Public Involvement Lead, Leicester, United Kingdom

Abstract

Aim: Adherence to anti-seizure medications (ASMs) is essential for seizure control in children with epilepsy. However, multiple factors influence adherence, leading to varied treatment outcomes. The aim of this study is to explore the barriers and enablers to anti-seizure medication adherence in children with epilepsy by synthesising qualitative studies.

Methods: This systematic review and qualitative synthesis followed the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) guidelines. The critical appraisal skills programme (CASP) was used to assess the quality of the included studies. A comprehensive search was conducted in CINAHL, PubMed, SCOPUS, EMBASE, PsycINFO databases. Qualitative studies reporting on medication taking behaviour (implementation and persistence phases) in children were extracted, analysed, and synthesised using meta-ethnography approach aligning with the ABC taxonomy.

Results: Of the 20 studies identified, 18 were qualitative and remaining 2 were mixed method studies. Barriers included unpleasant medication taste, difficulty in swallowing, adverse effects, poor communication with healthcare providers, and stigma. Enablers included routine, suitable taste of medication, easy to swallow, equity to healthcare, trust in ASMs, and access to mobile technology. Findings indicate that adherence barriers differ by age group. Younger children primarily face challenges related to medication formulation, while older children and adolescents experience barriers linked to stigma.

Discussion and Conclusion: This study provides deeper insight into the complex factors affecting ASM adherence in children with epilepsy. Addressing these barriers through individualized treatment approaches, caregiver education, improved healthcare communication, and accessible healthcare services could enhance adherence and improve health outcomes.

Adherence to asthma and COPD medications in Belgium (2020–2023): a nationwide retrospective cohort study of demographic and clinical determinants

Amélie Rosière¹, Stéphanie Pochet¹, Carine De Vriese¹

1 Université Libre de Bruxelles - Faculty of Pharmacy, Bruxelles, Belgium

Abstract

Aim: Therapeutic adherence is a key indicator of asthma and COPD management quality, directly impacting clinical outcomes and public health. This study quantifies adherence to asthma and COPD medications in Belgium and examines its demographic and clinical determinants.

Methods: We conducted a nationwide retrospective cohort study using the Pharmanet database, which includes all reimbursed dispensations in Belgian community pharmacies. We included 878,342 patients with ≥ 2 asthma or COPD medications from the same pharmacological class between 2020 and 2023. Adherence was measured using the Continuous Multiple-Interval Measure of Medication Availability (CMA), reflecting the implementation phase of medication adherence. Predictors of adherence ($\text{CMA} \geq 0.8$) were assessed using mixed-effects logistic regression.

Results: Mean CMA was 0.51 (SD = 0.35), with 30.2% of patients classified as adherent. Adherence was lowest for ICS (reference group, 6.2%) and LABA+ICS (23.4%), and highest for triple therapy LAMA+LABA+ICS (66.4%; OR = 12.1, 95% CI: 11.81–12.39). Montelukast showed the highest adjusted OR (14.7), despite a slightly reduced adherence rate (59.2%). Males were more adherent than females (OR = 0.9, 95% CI: 0.89–0.90, $p < 0.001$). Adherence increased with age: 3.4% of children (0–10 years) were adherent, compared to significantly higher rates in older adults (OR = 10.3 for ≥ 65 vs 0–10 years, 95% CI: 9.96–10.56, $p < 0.001$).

Discussion and Conclusion: Therapeutic adherence is suboptimal and influenced by clinical and demographic factors. Patient-centered strategies are needed to improve adherence. Qualitative research should be prioritized to identify barriers and support development of interventions.

Determinants of adherence to antidepressant treatment: a systematic review

Ana Kodrič¹

1University of Ljubljana, Faculty of Pharmacy, Ljubljana, Slovenia

Abstract

Aim: Adherence to antidepressant medication is crucial for effective treatment, yet many patients struggle to maintain consistent use. This review aims to identify determinants influencing the adherence to antidepressants.

Methods: A systematic PubMed search was conducted using the terms "medication adherence" and "antidepressant," applying predefined inclusion criteria focused on implementation phase of medication adherence in psychiatric disorder patients. Studies published in the last 10 years that quantitatively examined medication adherence and association with at least one determinant were included.

Results: Of the 685 articles retrieved, 69 met the inclusion criteria, and 4 additional articles were identified through reference screening. Nearly half of studies (30/73) assessed adherence retrospectively using measures like PDC/MPR. Altogether, the studies encompassed 4,872,726 patients, with adherence rates varying between 15% and 85%. Among the many identified determinants, several were linked to better adherence, including a perceived need for medication, use of SSRIs, presence of multiple comorbidities, being White, family support, and a good patient-provider relationship. Conversely, factors such as concerns about side effects or treatment effectiveness, use of TCAs, greater depression severity, tobacco, alcohol or substance use, and distances to healthcare facilities were associated with poorer adherence. However, for several other factors—such as age, sex, income, employment, and pill burden—findings were inconsistent across studies.

Discussion and Conclusion: Medication adherence in antidepressant therapy is shaped by a complex interplay of patient-, treatment-, condition-, social/economic-, and healthcare system-related factors. Addressing these diverse influences through tailored, multifaceted interventions is essential to enhance adherence and improve clinical outcomes.

Psychometric evaluation of C-MABQ15, a new self-report medication adherence tool for identifying individuals' determinants (barriers and enablers) of adhering to medication for bipolar disorder

Asta Ratna Prajapati¹, Alexandra L Dima², Allan Clark³, Jon Wilson¹, Chris Gibbons⁴, Debi Bhattacharya⁵

1 Norfolk and Suffolk NHS Trust, Norwich, United Kingdom. 2 Universitat Autònoma de Barcelona, Barcelona, Spain. 3 University of East Anglia, Norwich, United Kingdom. 4 Oracle, Texas, USA. 5 University of Leicester, Leicester, United Kingdom

Abstract

Aim: We aimed to evaluate the psychometric properties of the 'Collaborative Medication Adherence in Bipolar disorder (BD) Questionnaire (C-MABQ)'. The prototype 50-item C-MABQ development was informed by the Theoretical Domains Framework (TDF), ABC taxonomy and four empirical studies. C-MABQ is intended for people with BD, to identify their medication adherence determinants.

Methods: We conducted a cross-sectional study of C-MABQ with patients prescribed lithium. Data were collected in July-September 2021 following ethical approval and consent. A subsample responded twice for test-retest reliability. We performed Mokken Scale analysis and confirmatory factor analysis to examine structural validity. Missing data were imputed using the item's median value. Criterion validity was evaluated against Medication Adherence Report Scale-5 (MARS-5) and lithium levels.

Results: Of 835 patients invited to take part in the C-MABQ survey, 43.5% (n=363) completed it. Fifteen items, C-MABQ15, representing six TDF domains, 'Emotion', 'Social Influence', 'Memory, attention and decision processes', 'Intention', 'Goal', 'Social/professional role and identity', met Mokken Scale criteria and demonstrated structural validity. C-MABQ15 showed criterion validity with MARS-5 ($\rho=0.32$, $P<0.001$) but not lithium levels, had good model fit (CFI=0.997, TLI=0.996, RMSEA=0.059), internal consistency ($\alpha=0.91$, 95%CI=0.89 to 0.93) and test-retest reliability (ICC=0.74, 95%CI=0.61 to 0.82, $P<0.001$).

Discussion and Conclusion: C-MABQ15 identifies individuals' adherence determinants. Each C-MABQ15 item maps to a TDF domain facilitating personalised adherence support by matching behaviour change techniques to patient's responses. C-MABQ15 is the first BD-specific medication adherence tool enabling personalised adherence interventions, addressing a critical gap in adherence determinant assessment, with potential to improve outcomes.

Prevalence and correlates of adherence to disease modifying antirheumatic drugs (DMARDs) in adults with rheumatoid arthritis and its consequences – a scoping review

Agnes Kocher^{1,2}, Victor Huiskes^{3,4}, Janette Ribaut¹, Anja Renner⁵, Sabina De Geest^{1,6}, Kris Denhaerynck¹, Valentin Ritschl^{7,8}, Loreto Carmona⁹, Estíbaliz Loza⁹, Teresa Oton⁹, Paul Studenic^{10,11}, Nasim Nakhost Lotfi¹⁰, Kristina Chingov¹², Diego Kyburz², Bart van den Bemt^{4,13}

1 Institute of Nursing Science, University of Basel, Basel, Switzerland. 2 Department of Rheumatology, University Hospital Basel, Basel, Switzerland. 3 Department of Pharmacy, Sint Maartenskliniek, Ubbergen, Gelderland, Netherlands. 4 Department of Pharmacy, Radboud University Medical Center, Nijmegen, Netherlands. 5 University Hospital of Bern (Inselspital), Department of Pneumology and Allergology, Bern, Switzerland. 6 Department Public Health and Primary Care, KU Leuven, Leuven, Belgium. 7 Institute of Outcomes Research, Medical University of Vienna, Vienna, Austria. 8 Ludwig Boltzmann Institute for Arthritis and Rehabilitation, Vienna, Austria. 9 Instituto de Salud Musculoesqueletica (Inmusc), Madrid, Spain. 10 Department of Internal Medicine 3, Division of Rheumatology, Medical University of Vienna, Vienna, Austria. 11 Department of Medicine (Solna), Division of Rheumatology, Karolinska Institutet, Stockholm, Sweden. 12 European Alliance of Associations for Rheumatology (EULAR), Kilchberg, Zurich, Switzerland. 13 Departments of Pharmacy and Research, Sint Maartenskliniek, Nijmegen, Netherlands

Abstract

Aim: Synthesize the evidence on medication adherence (MA) to disease-modifying antirheumatic drugs (DMARDs) in rheumatoid arthritis (RA), using ABC-taxonomy, focusing on prevalence, correlates, clinical/economic consequences, and methodological aspects.

Methods: A scoping review was conducted using Joanna Briggs Institute (JBI) methodology. Searches covered PubMed, CINAHL, Embase, and PsycINFO (1998–2023). Peer-reviewed epidemiological studies assessing patient-initiated MA to cDMARDs, bDMARDs or tsDMARDs in adults with RA in real-world were included. Studies without full-texts were excluded. Methodological aspects were appraised using Risk of Bias (RoB) tool for Observational Adherence Studies (RoBOAS).

Results: Of 8,904 screened titles/abstracts, 121 articles, including 193,465 patients (median: 261, range: 14-40,024) were eligible, mostly cohort (55.4%) and cross-sectional studies (44.6%). MA-measurement varied: self-report interviews (n=18) and questionnaires (n=68), refill-/claim data (n=43), medication event monitoring system (n=5), and drug-levels (n=1). Adherence follow-up ranged from 3 months to 10 years. No study reported initiation adherence; while 102 studies (84.3%) assessed implementation adherence and 19 (15.7%) persistence. 89 studies reported implementation adherence as proportion of adherent patients, ranging from 10.5%-99.2% (all DMARDs). This variety remained when different DMARDs and measurement tools were analysed separately. Persistence varied between 32% and 98%. In 12/16 studies (75%) non-adherence was associated with more disease activity/inflammation. Substantial RoB was observed, mainly due to concerns in MA-phase/-behaviour assessment, with only 29 low-risk studies.

Discussion and Conclusion: Estimation of prevalence of non-adherence remains challenging due to inappropriate operational MA definitions and measurement tools used, pointing to a crucial need for state-of-the-art MA methods in RA research.

Improving accuracy of AI-based predictive modelling of COPD exacerbations using real-world medication adherence data: the COPD-ALERT study

Tamas Agh^{1,2}, Job FM van Boven³, Agnes Nagy¹, Judit Tittmann¹, Judit Jozwiak-Hagymasy^{1,2}, Sandor Kovacs^{1,2}, Akos Jozwiak^{1,2}, Irene Mommers³, Bertalan Nemeth^{1,2}, Janos Pitter^{1,2}, Przemyslaw Kardas⁴

1 Medication Adherence Research Group, Center for Health Technology Assessment and Pharmacoeconomic Research, University of Pecs, Pecs, Hungary. 2 Syreon Research Institute, Budapest, Hungary. 3 Department of Clinical Pharmacy & Pharmacology, Medication Adherence Expertise Center Of the northern Netherlands (MAECON), University Medical Center Groningen, University of Groningen, Groningen, Netherlands. 4 Medication Adherence Research Center, Department of Family Medicine, Medical University of Lodz, Lodz, Poland

Abstract

Aim: Despite advancements in artificial intelligence (AI), existing models predicting chronic obstructive pulmonary disease (COPD) exacerbations have largely overlooked the role of medication adherence. The COPD-ALERT project aims to develop, validate, and implement an AI-based prediction model that explicitly incorporates real-world medication adherence data alongside clinical variables to forecast COPD exacerbations in primary care settings. In this presentation, we introduce the framework of the AI prediction model which has been developed within the COPD-ALERT project.

Methods: We conducted two systematic literature reviews to identify (i) existing AI-based prediction models and (ii) potential predictors for COPD exacerbations, along with a comprehensive search for longitudinal datasets suitable for the external validation of the AI-based prediction model. Based on these insights, we developed the initial model concept, selecting appropriate machine learning techniques and defining key predictors and data sources.

Results: Thirty-nine existing AI-based prediction models were identified. Adherence was considered in one model; however, the methodology for its incorporation was not described. The COPD-ALERT model is designed to be interpretable and scalable within primary care workflows by integrating multimodal inputs, including clinical data and prescription refill records. Medication adherence is operationalized using the ESPACOMP ABC taxonomy and TEOS framework, applying multiple-medication-adjusted refill-based metrics.

Discussion and Conclusion: The COPD-ALERT model introduces a novel approach by embedding adherence metrics into AI-based predictive analytics, potentially enhancing decision support and chronic disease management. Future work will focus on validating the model using international datasets, implementing it in primary care settings, and assessing its clinical and economic impact.

Medication adherence as part of the adult palliative care complexity construct

Virginia P Aguiar-Leiva^{1,2}, Francisca Leiva-Fernandez^{1,3}, Maria Luisa Martin-Rosello^{4,2}, Rafael Gomez-Garcia^{4,2}, Auxiliadora Fernandez-Lopez⁵, Pilar Barnestein-Fonseca^{4,2}, Jose Miguel Morales-Asencio^{6,7}

1 Multiprofessional Teaching Unit of Family and Community Care. Health District Malaga-Valle del Guadalhorce., Malaga, Spain. 2 Grupo CA-15 Palliative Care. IBIMA-Plataforma Bionand Institute. Málaga, Malaga, Spain. 3 Grupo C-08 MAEPAP. IBIMA-Plataforma Bionand Institute. Málaga, Malaga, Spain. 4 Fundacion CUDECA, Malaga, Spain. 5 Hospital Virgen del Rocio. Medicina Interna, Malaga, Spain. 6 Facultad Ciencias de la Salud. University of Malaga, Malaga, Spain. 7 Grupo C-13 Chronicity. IBIMA-Plataforma Bionand Institute. Málaga, Malaga, Spain

Abstract

Aim: The needs of patients in palliative care (PC) are multiple and changing. Several tools assess them but lack homogeneity. A specific diagnostic tool to assess complexity in PC (IDC-Pal) was created in community/hospital settings including aspects of medication adherence (ABC taxonomy, palliative treatment, other treatments). This study aims to generate an adapted and valid version of IDC-Pal to primary healthcare (PHC), to stratify PC complexity in adults.

Methods: Three phases clinimetric observational cross-sectional study: Phase 0: Original tool structure review by expert committee. Phase 1: Delphi study (physicians, nurses, social workers from PHC/PC) to assess pertinence (1-9 scale) and comprehensibility (1-5 scale) of items. Phase 2: Empirical validation in a 300 adult patients clustered sample with PC needs at PHC settings. Primary sample unit: PHC professional (doctor/nurse), cluster size 5-10 patients. Analysis: Cronbach's alpha, McDonald's omega, interclass correlation coefficient (ICC); exploratory factor analysis; convergent criterion validity (NEC-PAL instrument). Differences by gender, type of professional and place where it is administered. Interobserver reliability analyses (ICC, Bland-Altman plots, concordance analysis). Ethical approval obtained. Written informed consent for patients. Researcher commitment for professionals.

Results: Results will provide a novel, valid and reliable co-designed tool to diagnose PC complexity in adult patients. The instrument will allow to classify situations according to needs, identifying aspects of complexity and improvement such as non-adherence.

Discussion and Conclusion: Appropriate diagnosis of PC complexity in PHC setting is of paramount importance due to its gatekeeper position, to inform practice recommendations for a more efficient allocation of resources.

Variability in eyedrop instillation time is associated with disease progression in patients with primary open-angle glaucoma

Lyne Racette¹, Shervonne Poleon¹, Sampson Listowell Abu¹, Sourav Datta¹

1 University of Alabama at Birmingham, Birmingham, USA

Abstract

Aim: Daily instillation of ocular hypotensive medication in the form of eyedrops is the first line of treatment for many patients with primary open-angle glaucoma (POAG). We aim to understand the relationship between variability in daily eyedrop instillation time and glaucoma progression.

Methods: In patients with POAG, medication adherence was measured electronically over a 5-month period during the implementation phase. Disease progression was assessed using linear regression applied to structural (retinal nerve fiber layer thickness – RNFLT) and functional data (mean sensitivity on standard automated perimetry – SAP MS) collected over a 30-month period. Variability in eye drop instillation time was assessed using a timing distribution index (TDI). To compute each patient's TDI, we identified the hour at which each prescribed dose was most frequently instilled (mode). The sum of all deviations from the mode was divided by the number of days on which a dose was instilled. The TDI was compared between progressors and non-progressors using t-tests.

Results: Forty-seven patients were included. TDI values were significantly higher in patients who showed RNFLT progression ($n = 35$; $TDI = 2.0 \pm 1.9$) compared to those who did not ($n = 12$; 1.3 ± 0.5) ($p = 0.03$). No significant difference in TDI was observed when progression was assessed with SAP MS.

Discussion and Conclusion: Our findings show that variability in eyedrop instillation time may be associated with retinal thinning. This highlights the importance of assessing medication coverage over time to preserve sight in patients with POAG.

Experiences and conditions for sustainable implementation of the Annual Medication Consultation for chronic medication users: an interview study

Marcha Struijck¹, Mares de Ruiter¹, Bram Mertens², Ellen van Loon^{1,3}, Sanne Bakker², Liset van Dijk^{4,1}

1 University of Groningen, Groningen, Netherlands. 2 SIR institute for pharmacy practice and policy, Leiden, Netherlands. 3 Spits B.V., Oosterwolde, Netherlands. 4 Nivel, Utrecht, Netherlands

Abstract

Background: The Annual Medication Consultation (AMC) is a structured, low-threshold conversation led by pharmacy technicians that enhances medication adherence through better communication and patient engagement. Implemented in three living labs in the Netherlands, a practical toolbox is being developed to support national rollout.

Aim: To explore pharmacy staff perspectives on the AMC, the supporting toolbox, and conditions needed for sustainable implementation.

Methods: Semi-structured interviews were conducted with ten pharmacy staff members (eight pharmacists), six of whom had experience with the AMC. A topic list guided questions on the perceived value of the AMC, training needs, toolbox usability, barriers, and conditions for scaling up. Data were analyzed thematically using predefined domains.

Results: Respondents viewed the AMC as a valuable tool for strengthening patient relationships, building trust, increasing patient involvement, and improving adherence. Key barriers to implementation included time constraints, staffing shortages, and lack of reimbursement. Enabling factors included team-based training, structured scheduling, appropriate patient selection, and ICT support. The toolbox was seen as a key facilitator, offering structure, legitimacy, and practical guidance for initiating and conducting AMC sessions.

Discussion and Conclusion: The AMC is a promising step toward more personalized pharmaceutical care. The toolbox plays a crucial role in facilitating implementation and helping transition the AMC from a project-based intervention to a sustainable component of routine pharmacy practice.

National framework for medication adherence in asthma care in North Macedonia: evaluation of policy

Dijana Miceva¹, Darinka Gjorgieva Ackova¹, Katarina Smilkov¹, Zorica Naumovska², Biljana Lazarova¹, Elena Drakalska Serseмова¹

1 Faculty of Medical Sciences, Goce Delcev University, Stip, Krste Misirkov Str., No. 10-A, Stip, North Macedonia, Republic of. 2 Faculty of Pharmacy, Ss. Cyril and Methodius University in Skopje, Skopje, North Macedonia, Republic of

Abstract

Aim: Adherence to prescribed therapy is essential for achieving disease control and improving outcomes in asthma patients. The evaluation of country policy can provide assessment of the extent to which national health strategies and legislation in North Macedonia address medication adherence in asthma care.

Methods: For this aim, a targeted literature review was conducted using scientific databases (PubMed, Scopus, Medline, Google Scholar) to identify studies on adherence measurement in the country. In addition, four key national documents were reviewed in the same context: Good Pharmacy Practice guidelines (2009), National Health Strategy 2021–2030, Guidelines for Evidence-Based Medicine in Asthma Treatment at the Primary Healthcare Level (2023), and Law on Health Care.

Results: The findings revealed that adherence is not systematically addressed in any of the documents, except for the guidelines for evidence-based medicine from 2003, which briefly mention that adherence should be monitored using appropriate tools; however, no specific instruments or protocols are defined. There is also a lack of validated tools available in Macedonian language for this purpose.

Discussion and Conclusion: This evaluation highlights a significant gap in the national policy framework regarding structured approaches to monitoring and improving adherence in asthma care. The integration of adherence assessment into national strategies, supported by clear guidelines and validated tools, is necessary for enhancing clinical practice and improving patient outcomes.

Chronic obstructive pulmonary disease and adherence to inhaler treatment: insights from online patient testimonies

Laura Roldán Tovar^{1,2}, Carmen Argüello Suárez^{3,1,4}, Francisca Muñoz Cobos³, Francisca Leiva Fernández^{4,5}, Cristina Eraso Arribas³, Amaia Agulló Foces³

1 Doctorate Programme at the University of Málaga, Málaga, Spain. 2 Neurotraumatology and Rehabilitation Hospital, Granada, Spain. 3 El Palo Health Center, Málaga, Spain. 4 Multiprofessional Teaching Unit of Family and Community Care. Health District Malaga-Valle del Guadalhorce, Málaga, Spain. 5 Group C-08 MAEPAP. IBIMA- Bionand Institute Platform, Málaga, Spain

Abstract

Aim: Adherence to inhaled medication in Chronic Obstructive Pulmonary Disease (COPD) reduces hospitalizations, healthcare costs and increases survival. Only 57% of patients report adequate persistence of inhaled therapy according to ABC taxonomy definition. Personal beliefs about the disease and inhaled therapy influence adherence and therefore disease progression. This study aims to explore factors related to adherence in patients with COPD through freely expressed opinions on the internet by the patients.

Methods: Qualitative, exploratory-interpretive design and inductive methodology. Grounded theory. Sources: COPD websites, patient forums, and social networks. Units of analysis: videos, stories, Questions&Answers, conversation threads. Saturation criteria. Constant comparative method. Analyses were conducted at textual (quotes,coding,families) and conceptual (categories, networks, final model) levels using Atlas Ti 7.5. Return report to patients.

Results: 248 patients (51 men, 148 women, 49 unidentified) corresponding to 29 testimonies (6 narratives, 11 videos, 10 conversation threads, 2 questions collections). Adherence to inhalers is based on their effectiveness perception to enable a normal life, benefits should outweigh adverse effects. Adherence facilitators included mutual support between patients encouraging adherence and effective doctor-patient communication. Adherence barriers included 1) side effects; 2) mistaken beliefs about inhalers (habituation, attribution of non-existent side effects, fear of corticosteroids); 3) poor doctor-patient relationship (lack of listening, failure to consider patient's preferences, communication iatrogenesis); 4) consider natural remedies as substitutes for treatment.

Discussion and Conclusion: Persistence to inhalers, according to patients' perspectives, depends on the trade-off between effectiveness versus side effects. Patients need to feel supported by their peers and healthcare professionals.

Pharmacist-assessed medication adherence and quality of life in patients with epilepsy

Michael Petrides^{1,2,3}, Aliki Peletidi^{1,4,3}, Spyros Polyzois², Evangelia Nena², Theodoros Constantinidis², Christos Kontogiorgis²

1 University of Nicosia, Nicosia, Cyprus. 2 Democritus University of Thrace, Alexandroupolis, Greece. 3 Bioactive Molecules Research Center (BioMoReC), University of Nicosia, Nicosia, Cyprus. 4 Kingston University London, Kingston Upon Thames, United Kingdom

Abstract

Aim: Medication adherence markedly shapes seizure control and quality of life (QoL). Applying the ESPACOMP-endorsed ABC Taxonomy, this study quantified implementation-phase antiepileptic-drug adherence and related it to QoL among adults with epilepsy in Cyprus.

Methods: A cross-sectional study (Sept 2022–Oct 2023) enrolled Greek-speaking adults with diagnosed epilepsy attending Limassol General Hospital. All participants had initiated therapy and remained persistent at study entry; the analysis, therefore, centered on implementation. Self-reported quality of implementation by patients who were persistent at the time of the assessment, as measured with the validated 8-item Morisky Medication Adherence Scale and 5-item Medication Adherence Report Scale. QoL was assessed with QOLIE-31. Group differences (t-test/ANOVA, Kruskal-Wallis) and predictors of good QoL (≥ 75 th percentile) were analysed with logistic regression (SPSS v28). Ethical approval: Cyprus National Bioethics Committee (EEBK EP2019.01.130).

Results: Eighty-five participants (mean age 51.54 ± 16.59 years; 44.7 % female) were analysed. High implementation occurred in 55.3% (MMAS-8 score = 8) and 63.5% (MARS-5 score = 5). Mixed non-adherence patterns correlated with poorer QoL (Kruskal-Wallis $H = 11.427$, $p = 0.010$). Mean QOLIE-31 was 75.3 ± 19.91 , exceeding published Greek and U.S. norms. Employment ($p = 0.009$), medium/high MMAS-8 (OR = 7.125, 95 % CI 1.899–26.729), and high MARS-5 (OR = 4.826, 95 % CI 1.738–13.401) independently predicted better QoL.

Discussion and Conclusion: Precise implementation measurement revealed modifiable adherence patterns affecting QoL. Community pharmacists can leverage MMAS-8/MARS-5 to identify and counsel at-risk patients. Improving implementation adherence offers a pragmatic pharmacist-led pathway to enhance QoL in Cypriot adults with epilepsy.

Medication adherence among liver, heart, lung and kidney transplant recipients: first insight from the value-based healthcare system

Lara Elshove¹, Judith Kal-van Gestel¹, Emma Massey¹, Tessa Royaards¹, Marleen Goedendorp-Sluijmer¹, Liselotte Perdaems-Oors¹, Wendy Olde¹, Leonard Seghers¹, Louise Maasdam¹, Jaqueline van de Wetering¹, Olivier Manintveld¹, Marleen van Buren¹, Caroline den Hoed¹

1 Erasmus MC, Rotterdam, Netherlands

Abstract

Aim: Non-adherence to immunosuppressive medication (IS) in solid organ transplantation (SOT) is associated with an increased risk of transplant rejection and graft loss. A joint initiative was taken to gain insight into medication adherence between recipients of different organs with the ultimate aim of promoting adherence in clinic.

Methods: The Basel Assessment of adherence to immunosuppressive (IS) Medication Scale (BAASIS) questionnaire was implemented as one of the post-transplant patient-reported outcome measures (PROM's) in phases from July 2023. The BAASIS measures taking and timing of medication, persistence and adjustment. Recipients received questionnaires 3, 6, 9 and 12 months and yearly after SOT.

Results: 1782 BAASIS questionnaires were completed (response 77%, 61% Male), 220 heart, 230 lung, 453 liver and 879 kidney transplant recipients. Overall, 14% of SOT recipients were non-adherent on the taking scale of which 67% > 2 yrs after SOT. 31% of SOT recipients were non-adherent on the timing scale (27% heart, 21% lung, 42% liver and 28% kidney recipients). The incidence increased in all SOT recipients > 2 yrs after SOT and also the number of times this occurred. 4 kidney transplant recipients stopped their medication without consulting their physician. 11 recipients changed the dose of IS without consulting their physician (1 heart, 3 liver, 1 lung and 6 kidney).

Discussion and Conclusion: More than 30% admitted being non-adherent. However, the adherence of recipients who did not complete the questionnaire, remains unknown. BAASIS is a useful tool to stimulate discussion about medication adherence during outpatient visits. Future research is necessary to promote adherence.

Exploring user experience and usability of medication adherence technologies among older adults with diverse capabilities: a qualitative study

Bincy Baby¹, Ghada Elba¹, SooMin Park¹, Imra Hudani², Rishabh Sharma¹, Kirk Patterson³, Annette McKinnon³, Sara Guilcher⁴, Feng Chang¹, Linda Lee⁵, Catherine Burns², Ryan Griffin⁶, Tejal Pate^{1,7}

1 University of Waterloo School of Pharmacy, Kitchener, Canada. 2 University of Waterloo, Waterloo, Canada. 3 Patient Advisory Network, Toronto, Canada. 4 University of Toronto Faculty of Pharmacy, Toronto, Canada. 5 McMaster University, Hamilton, Canada. 6 National Research Council, Ottawa, Canada. 7 Schlegel-UW Research Institute of Aging, Waterloo, Canada

Abstract

Aim: Electronic and smart medication storage and dispensing devices may address medication taking needs of older adults. However, the usability of such technologies remains to be established. Our aim was to explore usability of such devices among older adults.

Methods: A semi-structured interview was conducted with adults aged 60 years or older with a range and combination of cognitive, physical, sensory, motivational and environmental challenges to medication taking. The semi-structured interview guide explored participants' perceptions of the tested products, focusing on feature usefulness, ease of use, learnability, satisfaction, and willingness to adopt. The transcripts were audio-recorded and transcribed verbatim. After an independent accuracy check by two researchers, the transcripts were analysed by inductive thematic analysis. Ethical approval was obtained.

Results: Sixty five older adults (mean age = 74.3 years; female = 69.2%) were interviewed; of these 30 were coded. Initial inter-coder agreement exceeded 85%, and coding continued to thematic saturation for each type of challenge (cognitive, physical, sensory, motivational and environmental). Five key themes were identified overall: (1) design and usability (preferences for compact, intuitive, and accessible devices); (2) technological adaptation and support; (3) inclusivity and privacy; (4) socio-environmental considerations; and (5) feedback and iterative design.

Discussion and Conclusion: Older adults prefer portability, clear step-by-step instructions, compartment divisions with time of day labels, affordable devices, and specific design elements (e.g. larger button sizes, displays) amongst other findings. These insights can inform the development and selection technologies that support medication adherence, whether it is in the initiation, implementation or persistence.

How do patients talk about their medication use: an explorative observational study

Emma van Tholen¹, Marcia Vervloet², Katja Taxis¹, Liset van Dijk^{2,1}

1 University of Groningen, Groningen, Netherlands. 2 Nivel, Utrecht, Netherlands

Abstract

Aim: Effective communication between patients and pharmacy staff positively influences medication use. Aligning with a patient's own language can improve understanding and engagement. However, most research focuses on what patients say, not how they say it. Greater insight into patients' language can help translate theoretical adherence models into patient-friendly terms. This study explored how patients phrase their thoughts when discussing medications, usage, and barriers with pharmacy staff.

Methods: An exploratory qualitative study was conducted using video recordings from two earlier studies: (1) 22 pharmacy counter conversations across three outpatient pharmacies, mostly first and second dispensing; and (2) 8 medication review consultations. Relevant patient statements were transcribed and inductively coded by one researcher. The coding was refined through team discussions.

Results: Patients expressed their experiences with medication in highly varied ways, across aspects such as timing, dosage, effectiveness, side effects, self-efficacy, and adherence challenges. Variations were observed in specificity, level of detail, and vocabulary. For example, verbs describing medication-taking behavior included: going well, skip, take less, forget, stop, experiment, and use.

Discussion and Conclusion: Pharmacy staff should recognize the broad variation in how patients discuss their medications. Adapting communication to reflect patients' own language can enhance mutual understanding and support adherence. These findings also offer valuable input for creating patient-centered terminology in adherence research and practice.

A qualitative study exploring the barriers and facilitators of adherence to antidiabetic medication among people of South Asian and Saudi Arabian origin from socioeconomically deprived communities in Saudi Arabia

Rayah Asiri^{1,2}, Professor Andy Husband¹, Professor Adam Todd¹, Dr Anna Robinson-Barella¹

1 Newcastle University, Newcastle, United Kingdom. 2 King Khalid University, Abha, Saudi Arabia

Abstract

Aim: This study aims to understand how ethnicity influences adherence to antidiabetic medication by identifying the barriers to, and facilitators of, adherence across all phases in socioeconomically deprived communities of South Asian and Saudi Arabian ethnicity.

Methods: Semi-structured interviews with individuals of Saudi Arabian and South Asian ethnicity from socioeconomically deprived communities were conducted between August and October 2023, either in person, by telephone, or via video-based calls at times convenient to each participant. Interviews were audio-recorded and transcribed verbatim. Reflexive thematic analysis enabled the development of themes. Ethical approval was obtained from the Newcastle University Faculty of Medical Sciences Ethics Committee (reference 33984/2023) and from the Research Ethics Committee at King Khalid University (reference ECM#2023-2107).

Results: Thirty-eight participants were interviewed: 19 Saudi Arabian adults and 19 South Asian adults, of whom 11 were Indian, five were Pakistani, and three were Bangladeshi. Five themes were developed regarding the perceived barriers and facilitators affecting adherence to antidiabetic medication. These centred around individual challenges and adaptation strategies; beliefs and experiences with medications; perceptions related to diabetes management; social and cultural influences; and healthcare-provider influences.

Discussion and Conclusion: The study identified various barriers and facilitators, some unique to each group and others shared by both groups. Future interventions aimed at improving medication adherence for people with diabetes in these communities should adopt approaches that address each group's specific needs while targeting factors common across ethnicities.

Medication adherence in patients with multimorbidity and polypharmacy: patients' perspectives. LOXO-MULTIPAP study

Francisca Leiva^{1,2,3}, Maria Jose Bujalance-Zafra^{1,2}, Alba Gonzalez-Hevilla^{4,2}, Maria Teresa Carrion-De La Fuente^{1,2}, Raquel Sanchez-Ruano^{5,6}, Isabe Del Cura-Gonzalez^{5,6}, Concepcion Violan-Fors^{7,8}, Estibaliz Gamboa-Moreno^{9,10}, Paula Ara-Bardaji^{11,12}, Bernardino Gonzalo Oliva-Fanlo^{13,14}, Beatriz Aragon-Martin⁶

1 Health District Malaga Guadalhorce, Andalusian Health Service, Malaga, Spain. 2 IBIMA Research Institute, Malaga, Spain. 3 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Malaga, Spain. 4 PhD student University of Malaga, Malaga, Spain. 5 Research Unit. Primary Care Management Department, Madrid, Spain. 6 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Madrid, Spain. 7 IP GrenSSAP Research Group. IDIAPJGol en Institut Català de la Salut, Barcelona, Spain. 8 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Barcelona, Spain. 9 Primary Care Research Unit -OSIs, Guipuzcoa, Spain. 10 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Guipuzcoa, Spain. 11 EpiChron Research Group; Research Network on Chronicity, Zaragoza, Spain. 12 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Zaragoza, Spain. 13 Research Unit. Primary Care Management Department, Mallorca, Spain. 14 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Mallorca, Spain

Abstract

Aim: Patients' perspectives are closely related to medication adherence (MA) and are key in person centred approach. This study aims to explore own perspectives in patients with multimorbidity and polypharmacy focusing in the three inter-related ABC taxonomy phases of MA.

Methods: Qualitative study with sixteen focus groups in 103 patients with multimorbidity in seven Spanish regions in 2024, as part of a mixed methods study. Homogeneity criteria: age, gender, socioeconomic level; heterogeneity criteria: disease/treatment burden, working status, social support, comorbidities. Variables: sociodemographic, clinical and treatment profiles. The script used was agreed among researchers (six thematic areas including medication). Recorded audios were transcribed, aggregated and analysed using thematic analysis.

Results: Participants (47 women, 56 men) attribute a relevant role to medication. Organizing their medication is part of the illness burden; pill organizers play a key role. They refer persistence as well implemented and maintained, but acknowledge that it is affected by routine changes; no clear differences by gender, age, region. Differences by socioeconomic status: higher socioeconomic groups showed greater self-knowledge of medications and therapeutic recommendations; women in lowest economic groups act as "supervisors" of their partners' medication. Decision-making is mostly linked to recognition of side effects, rather than initiation or discontinuation of treatment.

Discussion and Conclusion: Participants self-reported compliant but pointed out the difficulty of medication persistence and its burden. The relationship between social determinants and

MA is noteworthy, suggesting that health inequalities should be addressed both structurally and individually.

Detection of patients with therapeutic adherence problems using the 15-STARS questionnaire in Spanish community pharmacy setting: a pilot study

Alba Torres-Sosa¹, Antonio J. Braza¹, Montserrat Viñas-Bastart¹, Maria Sureda-Rosich¹, Carlos Figueiredo-Escribá¹, Isabelle Arnet², Christiane Eickhoff³, Cecilia F. Lastra¹, Pilar Modamio¹

1 Clinical Pharmacy and Pharmaceutical Care Unit, Faculty of Pharmacy and Food Sciences, University of Barcelona, Barcelona, Spain. 2 Pharmaceutical Care Research Group, Pharmaceutical Sciences, University of Basel, Basel, Switzerland. 3 Department of Medicine, ABDA e Federal Union of German Associations of Pharmacists, Berlin, Germany

Abstract

Aim: Therapeutic adherence is critical for effectiveness and safety of medications. Approximately 50% of patients fail to follow prescribed regimens. This pilot study aimed to assess adherence levels in community pharmacy patients using the 15-STARS questionnaire and identify preliminary barriers to adherence for targeted interventions.

Methods: An observational, cross-sectional pilot study was conducted in two community pharmacies in the province of Barcelona (Spain). Participants (n=34) were adults (>18 years) with chronic conditions, recruited based on inclusion criteria (polypharmacy, new/changed medication plans, asking for information). The Spanish version of 15-STARS questionnaire (previously translated and cultural adapted) evaluated (where a higher score indicates lower adherence) practical difficulties, reasons for non-adherence, missed doses, and need for additional support. The study protocol was previously approved by the ethics committee.

Results: The pilot study shows that adherence increases with age, being higher in elderly patients. Non-polymedicated patients showed better adherence than polymedicated patients (mean score 3.2 in non-polymedicated patients vs. 3.7 in polymedicated). Women showed lower adherence (higher 15-STARS scores) compared to men. Lower education levels correlated with poorer understanding of medication instructions (57.1% vs. 88.2% in higher-educated groups).

Discussion and Conclusion: This pilot confirmed the feasibility of the 15-STARS for adherence initial screening in community pharmacies and highlighted key adherence barriers, including medication complexity, patient education gaps, and unintentional non-adherence. Tailored strategies addressing age, gender, and education disparities will be essential to improve adherence. Expanding the sample size in future research will strengthen the evidence supporting the findings from the pilot study.

Protocol for a randomized controlled trial evaluating a smartphone-based intervention to improve medication adherence in cardiovascular patients

Huda Al-Noumani¹, Nasser Al Salmi¹, Joshua Muliira¹, Mohammad Al Qadire²

1 Sultan Qaboos University, College of Nursing, Muscat, Oman. 2 Al al-Bayt University, Mafraq, Jordan

Abstract

Aim: Medication adherence remains a significant challenge in managing cardiovascular disease (CVD), contributing to poor outcomes and increased healthcare burden. Digital health tools may offer scalable support. This study aims to assess the effectiveness of a smartphone-based intervention (MED-AD) on improving medication adherence and clinical outcomes among adults with CVD, compared to text-message reminders and routine care.

Methods: A three-arm randomized controlled trial will enroll 192 adult CVD patients. Participants will be randomized to (1) MED-AD (a mobile app delivering medication reminders, adherence feedback, and educational messages), (2) SMS reminders, or (3) routine care. The intervention addresses all adherence phases: initiation (starting medications), implementation (correct daily use), and persistence (long-term continuation), using prompts, tracking features, and appointment alerts. Adherence will be measured using the Adherence to Refills and Medications Scale (ARMS) and Proportion of Days Covered (PDC) from pharmacy records. Clinical and adherence outcomes will be assessed at baseline and 6 and 12 months. Statistical analyses will include ANOVA and chi-square tests. Ethical approval has been obtained, and written informed consent will be collected from all participants.

Results: We anticipate greater improvements in adherence and clinical outcomes in the MED-AD group compared to controls.

Discussion and Conclusion: This trial will evaluate a comprehensive mobile adherence solution in CVD care. Findings may support the integration of digital tools into chronic disease management.

Development and pilot testing of a protocol for the validation of electronic monitoring devices under simulated real-life and controlled laboratory conditions

Micheline C. Sarbach¹, Muhammed B. Karahan¹, Samuel S. Allemann¹

1 Pharmaceutical Care Research Group, Dept. Pharmaceutical Sciences, University of Basel, Basel, Switzerland

Abstract

Aim: Monitoring long-term medication adherence remains challenging, especially during implementation phase. Electronic monitoring (EM) devices provide objective adherence data, but a validated framework for evaluating their accuracy and reliability is lacking. We developed and pilot-tested a protocol to evaluate the validity and reliability of a button-enabled electronic adherence monitoring (BEAM) device.

Methods: Our protocol tested 20 BEAM devices under (A) simulated real-life and (B) controlled laboratory conditions. (A) To assess the device's validity in measuring adherence during the implementation phase, 20 participants simulated taking medication three times daily over two weeks. BEAM data were compared to an electronic pill bottle, pill count, and a paper-based diary to calculate sensitivity and specificity. User experience and acceptance were assessed using a semi-quantitative approach. (B) Technical validity and reliability were tested under physical stress and various storage conditions (fridge, bathroom, kitchen). Environmental sensors (temperature, humidity) were evaluated in climate chambers at 25°C/40% relative humidity (RH) and 40°C/75% RH.

Results: During simulated real-life conditions, BEAM registered 586 true positive and 14 false positives intakes (823 events total), yielding 98% specificity and 71% sensitivity. It remained accurate under physical stress and elevated temperature/humidity, but failed under refrigeration conditions. Participants found the device easy to use; but were hesitant to recommend it to others.

Discussion and Conclusion: The validation protocol identified the BEAM device's strengths and limitations and may serve as a transferable framework for validating EM devices. This is an important basis for the development and evaluation of interprofessional adherence interventions.

Quantifying predictors of oral anticancer agent adherence: a methodological framework for evidence-based risk stratification

Dominic Tecza¹, Solomon Ayehu¹, David Lytle¹, Jessica McMullen¹, Amanuel Mengistalem¹, Emily Mackler², William Wood^{3,4}, Ashley Bryant^{3,5}, Leah Zullig⁶, Stephanie Wheeler^{3,7}, Jennifer Elston Lafata^{1,3,7}, Marcella Boynton⁴, Benyam Muluneh^{1,3}

1 University of North Carolina Eshelman School of Pharmacy, Chapel Hill, USA. 2 Michigan Oncology Quality Consortium, Ann Arbor, USA. 3 UNC Lineberger Comprehensive Cancer Center, Chapel Hill, USA. 4 University of North Carolina School of Medicine, Chapel Hill, USA. 5 University of North Carolina School of Nursing, Chapel Hill, USA. 6 Duke University School of Medicine, Durham, USA. 7 University of North Carolina Gillings School of Global Public Health, Chapel Hill, USA

Abstract

Aim: Several factors have been associated with nonadherence to oral anticancer agents (OAA); however, their relative contributions remain poorly characterized. We aim to develop and apply a novel methodological framework for systematically comparing the strength of association of diverse predictors of OAA adherence to inform clinical risk stratification and targeted interventions.

Methods: We conducted a systematic review and meta-analysis utilizing PRISMA standards. Searches in PubMed and Elicit targeted 11 OAA adherence-related factors: depression, self-efficacy, health literacy, language barriers, age extremes, caregiver/social support, prior nonadherence, polypharmacy, external pharmacy use, insurance status, OAA affordability. Articles were included if they evaluated any phase of adherence to OAA using one or more of these factors and reported a measurable effect size or comparable statistic. Nonquantitative or non-empirical studies were excluded. Screening and full-text review were conducted in Covidence; data extraction is ongoing. The protocol awaits PROSPERO registration.

Results: This review emphasizes cross-factor comparison of standardized effect sizes, a less common but valuable approach in medication adherence research. This strategy enables a more nuanced understanding of which predictors have the greatest impact, supporting prioritization of modifiable risks in clinical settings. Title and abstract screening are complete; full-text review conflicts are being resolved, and data extraction is forthcoming. Of 318 articles identified, 101 underwent full-text review, with 45 advancing to data extraction.

Discussion and Conclusion: This methodological approach offers a novel means of quantifying and comparing adherence predictors and will inform a structured, evidence-based risk stratification model. Findings will support clinical decision-making and targeted adherence interventions.

Development and validation of a DMARD-specific version of the BAASIS© questionnaire: overview of methodological steps and first results

Barbora Kostalova¹, Kris Denhaerynck², Bart van den Bemt^{3,4}, Janette Ribaut², Catalina-Elena Ionescu⁵, Agnes Kocher^{2,6}, Florian Kollert⁶, Christina Wettengl², Karolina Anderle⁷, Helga Radner⁷, Sabina De Geest^{2,8}

1 Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Kralove, Charles University, Hradec Kralove, Czech Republic. 2 Institute of Nursing Science, University of Basel, Basel, Switzerland. 3 Department of Pharmacy, Sint Maartenskliniek, Nijmegen, Netherlands. 4 Department of Pharmacy, Radboud University Medical Centre, Nijmegen, Netherlands. 5 Rheumatology Department, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania. 6 Department of Rheumatology, University Hospital Basel, Basel, Switzerland. 7 Clinical & Epidemiological Science Unit, Department of Medicine III, Medical University of Vienna, Vienna, Austria. 8 Academic Center for Nursing and Midwifery, KU Leuven, Leuven, Belgium

Abstract

Aim: Despite the importance of accurately assessing adherence to disease-modifying antirheumatic drugs (DMARDs) in rheumatoid arthritis (RA), the validity of existing instruments remains suboptimal. Current tools are not adequately validated, often combine assessment of adherence behavior and its correlates/determinants, do not reflect the three phases of adherence (i.e., initiation, implementation, persistence), and do not account for the complexity of DMARD treatment regimens (e.g., administration route, dosing frequency). Our aim is to adapt the Basel Assessment of Adherence to immunoSuppressive medications Scale (BAASIS©) originally developed for immunosuppressants in transplantation and aligned with the ABC taxonomy, for use in assessing DMARD adherence.

Methods: We followed a 6-step process: (1) literature review mapping existing RA adherence instruments, treatment guidelines, and relevant DMARD adherence domains; (2) expert involvement (i.e., medication adherence researchers, rheumatology clinicians, patient representatives); (3) creating an algorithm reflecting the DMARD treatment complexity as a basis for item generation; (4) BAASIS-RA iterative items generation and determining delivery mode; (5) initial pilot testing (i.e., cognitive debriefing of items and delivery mode); and (6) psychometric validation.

Results: The algorithm defines key components of the questionnaire. It first identifies the specific DMARD and any recent therapy changes, then specifies the concrete combination of DMARDs and administration route. It determines timing&drug holiday window (based on half-life), and recall period (based on prescription frequency). The item development is currently in process.

Discussion and Conclusion: This structured approach is expected to lead to a RA-specific, scientifically rigorous instrument that will facilitate more accurate DMARD adherence assessment in both research and clinical settings.

Intervengine: a digital platform for interprofessional interventions supporting adherence in dementia prevention

Alicia Hughes¹, Khushi Mehta^{1,2}, Laura Meade¹, Chloe Patel¹, Lina Eliasson¹, Hamish Franklin³

1 Sprout Health Solutions, London, United Kingdom. 2 Kings' College London, London, United Kingdom. 3 Intervengine, Auckland, New Zealand

Abstract

Aim: To present the development of Intervengine, a digital platform designed to support a whole-of-health approach to preventative care through interprofessional collaboration. Using dementia prevention as a case study, the platform enables integration of behavioural and medication-related interventions aligned with the ABC taxonomy of medication adherence.

Methods: Co-developed through a participatory design process involving psychologists, dietitians, healthcare providers, digital health developers, and health coaches, Intervengine offers a modular infrastructure for “plug-and-play” intervention delivery. The dementia prevention module was designed to address multiple modifiable risk factors, as identified by the 2020 Lancet Commission, including hypertension, poor diet, physical inactivity, and social isolation. A central component is support for antihypertensive medication adherence—an essential factor in reducing dementia risk. The platform enables collaborative care across the initiation, implementation, and persistence phases of medication use.

Results: The development process resulted in a digital foundation capable of delivering coordinated, multi-stakeholder interventions tailored to individual risk profiles. The platform facilitates integration of professional guidance, lifestyle coaching, and adherence support, allowing for seamless role-based collaboration across disciplines. This reflects a whole-of-health approach—addressing interconnected physical, behavioural, and social factors influencing long-term health outcomes. Usability testing with clinicians and coaches highlighted high system usability, strong alignment with existing workflows, and enthusiasm for its flexibility and scalability.

Discussion and Conclusion: Intervengine offers a promising model for delivering adherence-enhancing, interprofessional interventions through a whole-of-health approach. By supporting medication adherence in the context of dementia prevention, it demonstrates how digital tools can operationalise multidisciplinary strategies to address complex, multifactorial health conditions.

Development of a scalable digital fatigue intervention to support treatment adherence across health conditions

Alicia Hughes¹, Jemima Askew^{2,3}, Diya Patel², Laura Meade², Lina Eliasson², Hamish Franklin⁴

1 Armagh, Armagh, United Kingdom. 2 Sprout Health Solutions, London, United Kingdom. 3 University College London, London, United Kingdom. 4 Intervengine, Auckland, New Zealand

Abstract

Aim: To develop a digital intervention to support the management of fatigue—an often-overlooked factor that undermines adherence to both medication and lifestyle-based treatments across a range of health conditions.

Methods: Fatigue is a transdiagnostic symptom that affects large numbers of patients but is rarely addressed in clinical care. Pharmacological options offer limited benefit; however, psychological and behavioural interventions have demonstrated effectiveness in improving fatigue, and associated outcomes. This intervention was developed to reflect these evidence-based targets, incorporating education on the physiology of fatigue, cognitive strategies for managing symptom-related thoughts, and behavioural components addressing sleep, activity, and diet. Grounded in principles of implementation science, the intervention was designed to be modular and scalable, deliverable as a standalone programme or integrated into existing care pathways.

Results: The intervention provides structured, personalised content to help individuals better understand and manage fatigue. User testing suggested the programme is feasible, acceptable to the intended audience, and relevant to users' experiences of fatigue. Users highlighted the clarity of content, the value of practical strategies, and the usefulness of addressing fatigue in the context of daily life and treatment routines. These findings support the intervention's potential for wider implementation and further evaluation.

Discussion and Conclusion: Fatigue is a critical, modifiable factor that disrupts treatment adherence yet remains under-supported in most health systems. This digital intervention offers a scalable approach to addressing fatigue through behavioural and cognitive strategies. By targeting fatigue directly, it may enhance adherence and overall well-being. Further pilot testing and refinement are planned.

Ongoing development of the SQUEEZE eHealth facilitated integrated care model to improve adherence to disease-modifying antirheumatic drugs in adults with rheumatoid arthritis - an implementation science project

Sofia Calado¹, Christina Wettengl¹, Sabina De Geest^{1,2}, Janette Ribaut¹, Bart van den Bemt^{3,4}, Simone Brand⁵, Loreto Carmona⁶, Kristina Chingov⁷, Mary-Louise Daly⁵, Andreas Dam⁸, Codruta Filip⁷, Estibaliz Loza⁶, Chrysoula Manolaraki⁹, Teresa Oton⁶, Diego Kyburz⁵, Agnes Kocher^{1,5}

1 Institute of Nursing Science, Faculty of Medicine, University of Basel, Basel, Switzerland. 2 Department Public Health and Primary Care, KU Leuven, Leuven, Belgium. 3 Department of Pharmacy, Radboud University Medical Center, Nijmegen, Netherlands. 4 Departments of Pharmacy and Research, Sint Maartenskliniek, Nijmegen, Netherlands. 5 Department of Rheumatology, University Hospital Basel, Basel, Switzerland. 6 Instituto de Salud Musculoesquelética (InMusc), Madrid, Spain. 7 European Alliance of Associations for Rheumatology (EULAR), Zurich, Switzerland. 8 Healthbuddy, Copenhagen, Denmark. 9 Rheuma Basel, Basel, Switzerland

Abstract

Aim: Adherence to disease-modifying antirheumatic drugs (DMARDs) is suboptimal in rheumatoid arthritis (RA). Existing interventions are methodologically weak and not translated into real-world-settings. We describe the ongoing development of the SQUEEZE eHealth facilitated integrated care model to improve DMARDs adherence in adults with RA, to be pilot-tested and implemented in two Swiss-centres.

Methods: Grounded in the eHealth-Enhanced Chronic Care Model, we combine methods from implementation, behavioural, and computer sciences. Intervention development follows the Behaviour Change Wheel (BCW). Simultaneously, we incorporate insights from state-of-the-art medication adherence (MA) interventions in transplantation, specifically the effective real-world Medication Adherence Promotion System (MAPS) intervention. RA evidence is embedded, including a systematic review of DMARD adherence interventions and contextual factors. An international team of clinicians, IT-developers, and patient-research-partners co-designs the intervention, engaging clinician and patient-panels.

Results: Through the BCW, we identified five target behaviours on implementation and persistence adherence across all DMARDs administration routes. Subsequently, multi-level barriers to MA were found, such as lack of MA-monitoring (Swiss-context), and DMARDs side-effects (literature). Like MAPS, the care model is being designed to address frequent barriers. Preliminary components include DMARDs adherence and barriers assessments via Patient-Reported Outcome Measures. Identified barriers are linked to algorithm-driven interventions, tailored to individual preferences. Delivery of components includes trained clinicians and/or digital tools. The model will fit into clinical-workflows, with centre-adapted implementation strategies.

Discussion and Conclusion: By integrating theory, evidence, context and stakeholder collaboration, our dynamic approach upholds RA relevance and strengthens care models' effectiveness and implementation, both to be pilot-tested in a hybrid design.

Interventions for medication adherence management: SWOT analysis involving Italian healthcare stakeholders

Sara Mucherino^{1,2}, Luca Pasina³, Manuela Casula^{4,5}, Carlotta Lunghi^{6,7,8}, Emanuel Raschi⁶, Andrea Rossi^{4,5}, Marco Salluzzo⁶, Stefano Scotti^{4,5}, Valentina Orlando^{1,2}, Alessandro Nobili³, Elisabetta Poluzzi⁶, Enrica Menditto^{1,2}

1 CIRFF-Center of Pharmacoeconomics and Drug Utilization, University of Naples Federico II, Naples, Italy. 2 Department of Pharmacy, University of Naples Federico II, Naples, Italy. 3 Health Policies Research Department, Laboratory of Clinical Pharmacology and Appropriateness of Drug Prescription, Istituto di Ricerche Farmacologiche Mario Negri IRCCS, Milan, Italy. 4 Epidemiology and Preventive Pharmacology Service (SEFAP), Department of Pharmacological and Biomolecular Sciences, University of Milan, Milan, Italy. 5 IRCCS MultiMedica, Milan, Italy. 6 Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy. 7 Department of Life Sciences, Health and Health Professions, Link Campus University, Rome, Italy. 8 Population Health and Optimal Health Practices Research Unit, Centre de Recherche du CHU de Québec-Université Laval, Quebec City, Canada

Abstract

Aim: Medication adherence is challenging to manage in clinical practice; it's unclear which strategies are effective in ensuring optimal adherence levels. This study aims to assess the effectiveness of interventions to improve medication adherence evaluating strengths, weaknesses, opportunities, and threats across the Italian setting. This research is embedded in an EU-funded Project (NextGenerationEU).

Methods: An online SWOT survey was conducted, targeting main representative from Italian scientific societies, professional orders, patients' associations. Qualitative data analysis was performed according to the Framework Method with hybrid approach (deductive/inductive). Mixed-method was used for data integration merging quantitative and qualitative components. A stepwise approach was carried out: identification of items with a consensus of >50% (deductive), integration of open answers (inductive).

Results: Respondents consisted of 10 stakeholders, 70% professional orders (doctors, nurses, pharmacists), 20% scientific societies, 10% patients' associations. Two deductive and six inductive codes generated a 4-Strengths matrix: patient engagement, multiprofessional coordination, consolidated good practice, patient monitoring. Eight deductive and six inductive codes created 5-Weakness matrix: insufficient patient communication, time constraints, limited use of technology, lack of interprofessional collaboration and economic resources. Nine deductive and four inductive created 4-Opportunities matrix: patient empowerment, training/education, digital adoption, healthcare professionals' role empowerment. Six deductive and four inductive codes developed 5-Threats matrix: therapeutic complexity, insufficient training and patient support, poor operational multidisciplinary, political-institutional support.

Discussion and Conclusion: Improving adherence management requires exploit strengths and opportunities considering weaknesses and threats within the healthcare system. Findings will

serve to develop a consensus involving Italian stakeholders, creating practical recommendations for managing adherence.

Development and evaluation of a smartphone application for liver transplant recipients: a randomized controlled trial

Adile Savsar¹, Hatice Ayhan², Murat Kılıç¹, Kaya Oğuz¹

1 Izmir University of Economics, Izmir, Turkey. 2 University of Health Sciences Turkey, Gulhane Faculty of Nursing, Department of Surgical Nursing, Ankara, Turkey

Abstract

Aim: This study aimed to evaluate the effect of a smartphone application developed for liver transplant recipients, on medication adherence, anxiety levels, and quality of life.

Methods: This was a open label, parallel, single center randomized controlled clinical. The study was conducted in an organ transplant center in Turkey with a total of 55 participants. The intervention group (n=27) used an application designed for liver transplant recipients over a 3-month. The control group (n=28) received standard follow-up care. The primary outcome was medication adherence; secondary outcomes included anxiety and quality of life, as well as graft rejection and readmission at 3 months. Chi-Square tests, independent t-tests and Repeated Measures ANOVA tests were used in data analysis. The study reporting complied with the Consolidated Standards of Reporting Trials (CONSORT).

Results: At the 3rd month post-discharge, significantly higher medication adherence was found for the intervention group compared to the control group ($p<0.05$). Also, the intervention group had significantly lower anxiety levels at both the 1st and 3rd months ($p<0.05$), as well as higher SF-36 quality of life subscale scores ($p<0.05$). No significant difference was found between the two groups in terms of graft rejection rates ($p>0.05$), but the intervention group had significantly lower readmission rates ($p<0.05$).

Discussion and Conclusion: The smartphone intervention group showed significant improvements in medication adherence, anxiety levels, and quality of life compared to the control group. Smartphone applications developed specifically for liver transplant recipients are practical and effective in improving medication adherence and overall health outcomes after discharge.

Effectiveness of using manual pill organizers and pill reminder apps in improving medication adherence and health outcomes in Indian elderly population receiving multiple medications (PORA-MEDAdhere): study protocol

Aditi Apte¹, Farah Naaz Fathima², Bhupendra Solanke³, Sumithra Selvam⁴, Dhiraj Agarwal¹, Pooja Shridhar², Harpreet Singh³, Radhika Nimkar¹, Rakesh Patil¹, Jerin Jose Cherian^{5,6}, Sudipto Roy^{5,7}

1 KEM Hospital Research Centre, Pune, India. 2 St Johns Medical College, Bengaluru, India. 3 Armed Forces Medical College, Pune, India. 4 St Johns Research Institute, Bengaluru, India. 5 Indian Council of Medical Research, New Delhi, India. 6 Karolinska Institutet, Stockholm, Sweden. 7 Academy of Scientific and Innovative Research, Gaziabad, India

Abstract

Aim: Medication non-adherence affects 60-75% of elderly individuals taking medications for chronic diseases. There is limited evidence about interventions for improving medication adherence and its impact on health outcomes amongst geriatric population of low- and middle-income countries. The primary objective is to assess the impact of manual pill organizer (MPO) and pill reminder app (PRA), individually and in combination on medication adherence amongst Indian elderly patients receiving multiple medications. Secondary objectives include assessment of impact on morbidity profile, health care utilisation, quality of life and cost-effectiveness as well as cost-utility of the interventions.

Methods: This open-label, 2x2 factorial randomized controlled study is being conducted at two geographically distinct locations in India. A total of 752 participants aged 60-80 years, receiving ≥ 3 medications are randomized into four groups: Control, MPO, PRA, and MPO+PRA. All participants receive education on the importance of medication adherence. The PRA is an indigenously developed Android App 'MedSathi' that provides real-time customised reminder for medications. **Measurements:** Medication adherence is assessed using Medication Adherence Rating Scale (MARS-5), self-reported seven-day point prevalence of non-adherence, and pill count at 3, 6 and 12 months. Additional parameters include morbidity profile, healthcare utilization and health-related quality of life (EQ-5D-5L).

Discussion and Conclusion: The study will provide first evidence on whether MPO and PRA in Indian elderly patients is beneficial and cost-effective in improving medication adherence and health outcomes. The interventions developed through the study can be potentially scaled up in health programs and clinical practice settings.

Effectiveness and implementation of disease-modifying antirheumatic drugs (DMARDs) adherence interventions in rheumatoid arthritis: a systematic review

Janette Ribaut¹, Barbora Kostalova², Bart Van den Bemt^{3,4}, Loreto Carmona⁵, Paul Studenic^{6,7}, Valentin Ritschl^{8,9}, Nasim Nakhost-Lotfi¹⁰, Agnes Kocher^{1,11}, Estibaliz Loza⁵, Teresa Otón⁵, Sabina De Geest^{1,12}, Anja Renner^{1,13}, Diego Kyburz^{11,14}, Kristina Chingov¹⁵, Victor Huiskes^{16,17}

1 Institute of Nursing Science, University of Basel, Basel, Switzerland. 2 Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Kralove, Charles University, Hradec Kralove, Czech Republic. 3 Department of Rheumatology Research, Sint Maartenskliniek, Nijmegen, Netherlands. 4 Department of Pharmacy, Radboud Institute for Health Sciences, Radboud University Medical Centre, Nijmegen, Netherlands. 5 Instituto de Salud Musculoesquelética (InMusc), Madrid, Spain. 6 Department of Internal Medicine 3, Division of Rheumatology, Medical University of Vienna, Vienna, Austria. 7 Department of Medicine (Solna), Division of Rheumatology, Karolinska Institutet, Stockholm, Sweden. 8 Institute of Outcomes Research, Center for Medical Data Science, Medical University of Vienna, Vienna, Austria. 9 Ludwig Boltzmann Institute for Arthritis and Rehabilitation, Vienna, Austria. 10 Division of Rheumatology, Department of Internal Medicine III, Medical University of Vienna, Vienna, Austria. 11 Department of Rheumatology, University Hospital Basel, Basel, Switzerland. 12 Academic Center for Nursing and Midwifery, KU Leuven, Leuven, Belgium. 13 University Hospital of Bern (Inselspital), Department of Pneumology and Allergology, Bern, Switzerland. 14 Department of Biomedicine, University of Basel, Basel, Switzerland. 15 EUROPEAN ALLIANCE OF ASSOCIATIONS FOR RHEUMATOLOGY (EULAR), Zurich, Switzerland. 16 Department of Pharmacy, Radboud University Medical Centre, Nijmegen, Netherlands. 17 Department of Pharmacy, Sint Maartenskliniek, Ubbergen, Gelderland, Netherlands

Abstract

Aim: Recent reviews on adherence to Disease-modifying antirheumatic drugs (DMARDs) in rheumatoid arthritis (RA) lack focus on methodological quality, real-world implementation, and use of current adherence and behavioral science taxonomies. We aimed to identify DMARD adherence-enhancing interventions in RA, evaluate methodological quality, implementation aspects and effectiveness.

Methods: We conducted a systematic review including studies targeting adult RA patients; testing DMARD adherence-enhancing interventions; published since 1998 in eight languages. Exclusion criteria were provider-initiated DMARD changes, lack of original quantitative results or non-peer-reviewed. Searches covered PubMed, CINAHL, Embase, and PsycINFO. Methodological quality was appraised using the adapted Risk of Bias instrument for Interventional Adherence Studies. Interventions were coded using Behavior Change Technique (BCT) taxonomy, and outcomes categorized (adherence, clinical, economic, other). Implementation-relevant content was evaluated using adapted Peters' criteria.

Results: Of 8,904 screened records, 25 studies (23,930 participants, range 17-17,371) testing 26 interventions were included, mostly randomized controlled trials (72%). Risk of bias was high to critical in 76% studies. Totally, 113 BCTs (mean 4.3, standard deviation 2.5) were used,

mainly education (58%) and problem solving (50%). Eleven interventions (42%) improved adherence, one (6%) disease activity. Meta-analysis was not possible due to too high heterogeneity. Reporting on implementation in daily clinical practice was limited; while 60% of the studies were conducted in real-world settings and 56% involved stakeholders, use of implementation theories (4%) and strategies (8%) were rare.

Discussion and Conclusion: Despite some adherence improvements, poor methodological quality and limited implementation reporting hinder real-world application. Better-designed studies with implementation focus are needed.

Pharmacist-led interventions to enhance medication adherence and patients' satisfaction in atrial fibrillation: a systematic review and meta-analysis

Fernanda S. Tonin¹, Victoria García-Cardenas¹, Ross T. Tsuyuki², Fernando Fernandez-Llimos³, Ulrich Laufs⁴, Martin Schulz^{5,6}

1 University of Granada, Granada, Spain. 2 University of Alberta, Alberta, Canada. 3 University of Porto, Porto, Portugal. 4 Leipzig University Hospital, Leipzig, Germany. 5 Freie Universität Berlin, Berlin, Germany. 6 ABDA – Federal Union of German Associations of Pharmacists, Berlin, Germany

Abstract

Aim: Tailored pharmacy-based interventions have potential to improve cardiovascular outcomes, but their impact on atrial fibrillation (AF) remains unclear. We aimed to evaluate the effectiveness of pharmacist support in medication adherence to prescribed therapies in AF care.

Methods: A systematic review of randomized and non-randomized trials (CRD42025647848) was performed with searches in PubMed, Scopus, Web of Science. Intervention details were collected following the ABC taxonomy (initiation, implementation, and discontinuation) and the TIDieR checklist. Data was synthesized using random-effects meta-analyses, with findings reported as risk ratios (RR) with 95% confidence intervals (CI). Risk of bias was assessed using RoB 2.0 and ROBINS-I tools.

Results: Eight studies (2017-2024) of moderate methodological quality, mainly from Asia (n=4) and North America (n=2) were included. Patients were predominantly aged 65-75 years (58% male), with comorbidities including hypertension (64%), diabetes (28%), and history of stroke (20%). Most interventions (88%) focused on anticoagulation management combined with education and counseling; only one study included pharmacist-led prescribing. Half of the studies lacked information on intervention procedures. Three studies used MPR, while others used SMAQ28 and MMAS-8 questionnaires. Although individual studies reported a significant positive impact of pharmacists on adherence, the meta-analysis did not show statistical differences (RR 1.35 [95%CI 0.80-2.27]; p=0.26). However, patient satisfaction with pharmacist-led care was significantly higher (67-100% vs. 25-90% in usual care, p=0.0002).

Discussion and Conclusion: While pharmacist-led care enhances satisfaction in AF, its effect on medication adherence remains limited. Future studies should ensure standardized reporting (EMERGE guidelines) and consistent adherence assessment.

Acceptability and adherence of health interventions among people experiencing homelessness: a systematic scoping review

Fernanda S. Tonin¹, Daniela Gorski², Miguel de Almeida³, Filipa Alves da Costa³

1 University of Granada, Granada, Spain. 2 Federal University of Paraná, Curitiba, Brazil. 3 University of Lisbon, Lisbon, Portugal

Abstract

Aim: Adherence to healthcare interventions remains a significant challenge among people experiencing homelessness (PEH), a population at high risk of morbidity and mortality. We aimed to map adherence-related outcomes (including levels of uptake, persistence, acceptability) of health-specific interventions delivered to PEH across clinical settings.

Methods: A systematic scoping review (CRD42025635835) was conducted using PubMed, Scopus, and Web of Science to identify peer-reviewed interventional or observational studies reporting on healthcare access and acceptability among PEH. Findings were synthesized descriptively using concepts from the ABC taxonomy.

Results: We included 105 studies (n=51,691 PEH), published between 1989-2024, mostly by the United States (61.0%). A range of interventions was covered, primarily general healthcare (18.1%), addiction treatment (10.5%), immunization programs (6.7%). Overall, 45 studies (42.9%) reported adherence-related outcomes, with considerable variation across intervention types and clinical conditions. High adherence was observed in HIV care (up to 86%) and pharmacist-led programs (improved from 31% to 42%). Conversely, persistence was low in addiction care, with buprenorphine retention falling from 41.5% to 10.2% at 12 months. Immunization programs had high initial uptake (up to 85%), but only 35-40% completed full vaccination schedules. Digital interventions were well accepted (usability score 4.4/5), but long-term engagement dropped below 50%. Chronic medication adherence ranged from 30-40% (cardiovascular) to 80-90% (gastrointestinal).

Discussion and Conclusion: Despite promising uptake and acceptability of some health-specific interventions, long-term adherence and persistence among PEH remain suboptimal. Tailored, simplified, and incentivized approaches may enhance sustained engagement and medication-taking behavior. Standardized adherence metrics and EMERGE-guided longitudinal studies remain essential to advance implementation.

Prevention of iatrogenesis (PI) and medication non-adherence (MNA) in the elderly: context analysis pre-implementation and co-design of pilot actions

Jesús Cunalema-Fernández^{1,2}, Francisca Leiva-Fernández^{3,1,4}, Marcos Castillo-Jimena^{5,1,2}, José Ángel Fuentes-Ruiz^{6,7}, Alexandra Casais-Carballo⁷, Belén Ripoll-Padilla⁷, Paula Villalobos-Escalante⁷, Gonzalo Verdugo-Reviglione⁷

1 Biomedical Research Institute of Málaga and Nanomedicine Platform (IBIMA Plataforma BIONAND), Málaga, Spain. 2 University of Malaga, Málaga, Spain. 3 Andalusian Health Care. Malaga Valle Guadalhorce Health District, Málaga, Spain. 4 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Madrid, Spain. 5 Campillos Health Centre. Northern Health Area of Malaga., Málaga, Spain. 6 Carlinda Health Centre. Andalusian Health Service. Malaga-Guadalhorce Valley Health District., Málaga, Spain. 7 Multiprofessional Family and Community Care Teaching Unit (UDMAFyC). Malaga-Guadalhorce Primary Care District., Málaga, Spain

Abstract

Background: PI and MNA in the elderly is a multifactorial public health problem. The Knowledge-to-Action framework allows for the implementation of proven effective strategies.

Aims: 1.Describe the pre-implementation context; 2.Co-design implementation actions involving patients and healthcare professionals (HCPs) in Andalusia.

Methods: Descriptive studies based on documentary analysis, online surveys, semi-structured interviews, co-design workshops in primary care and hospital settings. Procedures: Overview of local evidences, mapping of care processes and guidelines, qualitative immersion techniques (professionals' knowledge, practices), collective intelligence methods: focus group with HCPs (doctor, nurse, nurse assistant, pharmacist from hospital, primary care and community pharmacy). Variables: knowledge regarding drug iatrogenesis, medication optimization, adherence (ABC taxonomy), autonomy loss prevention. Pilot actions designed through co-creation workshops (patients, HCPs). Prioritization of actions (Impact-Feasibility Matrix). Descriptive and qualitative analysis. Ethical approval, written informed consent.

Results: 24 documents identified (ministry of health, patients and HCPs' associations); 37 studies were reviewed. Eleven HCPs were interviewed; 64 HCPs responded the online survey; 32 participants (15 patients, 17 HCPs) in co-creation workshops; one focus group (6 HCPs). HCPs reported on interviews barriers (lack of time, interlevel coordination) and facilitators (adherence to protocols) on PI/MNA. The online survey results contradicts these findings and identify training needs. Co-creation workshops main thematic groups: healthcare system better organization, patient empowerment, therapeutic optimization/adherence, better communication, non-pharmacological treatments, and support-training strategies. Matching results in focus group. Nine pilot actions were identified and prioritised (Impact/Feasibility).

Discussion and Conclusion: Context information and collective intelligence methods shed light and trigger tailored actions to improve PI-MNA.

Adherence to a standardized mindfulness-based stress reduction program in COPD Patients: a feasibility study

Saïda Bensliman^{1,2}, Vitalie Faoro¹, David Zarka²

1 Research Unit in Cardio-respiratory Physiology, Exercise&Nutrition, Faculty of Human Movement Sciences (FSM, ULB), Brussels, Belgium. 2 Osteopathic Sciences Research Unit (FSM, ULB), Brussels, Belgium

Abstract

Aim: Chronic Obstructive Pulmonary Disease (COPD) is a multidimensional illness impacting physical, emotional, and behavioral domains. While Mindfulness-Based Stress Reduction (MBSR) shows promise in chronic illness, its feasibility and adherence in COPD remain understudied. Most previous research used adapted MBSR formats, limiting program fidelity and the ability to evaluate true adherence.

Methods: This study assessed adherence to a standardized 8-week MBSR program among COPD outpatients enrolled in pulmonary rehabilitation. Eighteen patients (mean age 68.1 ± 7.4 years) participated in the program, comprising 9 sessions, including 8 weekly sessions of 150 minutes each, plus a day of retreat and 45 minutes/day of meditation practice at home. A single adaptation was made to the first body scan meditation, in which only general bodily sensations were explored, avoiding respiratory sensations to reduce discomfort.

Results: Initiation: 100% attended the first session. Implementation: Among 14 completers (78%), 85% attended at least 8 sessions. Discontinuation: 4 participants (22%) dropped out due to time constraints or physical discomfort. Home practice averaged 4.4 ± 0.4 days/week, based on weekly self-reported questionnaires, which remain the most widely used method to assess practice adherence in Mindfulness-Based Interventions (MBIs) studies.

Discussion and Conclusion: High adherence may be encouraged by individualized information prior the intervention, a familiar hospital environment and peer support. This study demonstrates the feasibility of delivering a standardized MBSR program in COPD care and highlights the role of contextual and interpersonal factors in supporting adherence to non-pharmacological interventions for chronic disease management.

STOPIATRO: an implementation project to prevent iatrogenesis and improve medication adherence in older people in Europe

Jesús Cunalema-Fernández^{1,2}, Francisca Leiva-Fernández^{3,1,4}, Philippe Cestac⁵, Chiara Alfarano⁵, María Teresa Herdeiro⁶, Fátima Roque⁷, Ramón Miralles Basseda⁸, María Montoya Martínez⁸

1 Biomedical Research Institute of Málaga and Nanomedicine Platform (IBIMA Plataforma BIONAND), Málaga, Spain. 2 University of Malaga, Málaga, Spain. 3 Andalusian Health Care. Malaga Valle Guadalupe Health District, Málaga, Spain. 4 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Madrid, Spain. 5 Centre Hospitalier Universitaire de Toulouse Pôle Pharmacie, Toulouse, France. 6 University of Aveiro Department of Medical Sciences, Aveiro, Portugal. 7 Guarda Polytechnic Institute School of Health Technical-Scientific Unit - Health Technologies., Guarda, Portugal. 8 Health and Ageing Foundation - Autonomous University of Barcelona., Barcelona, Spain

Abstract

Aim: 1.Raise awareness of iatrogenesis risks (adverse health effects related to health care, lack of adherence according ABC taxonomy definitions, loss of autonomy) in older adults throughout six European territories from France, Portugal, Spain; 2.Adopt collective strategies to prevent iatrogenesis.

Methods: 4-lines Implementation study: 1.State-of-the-art, territory care context analysis; 2.Multiprofessional strategies with collective-social intelligence methods; 3.Co-designed training plans on iatrogenic loss of autonomy, treatment adherence and prevention of drug-related iatrogenesis based on prior training needs identification (healthcare professionals, patients); 4.Prioritized pilot actions to implement at professional-patient levels. **Procedures/outcomes:** transnational documentary analysis; qualitative immersion techniques (professionals' knowledge and practices): semi-structured interviews, online survey, focus group with professionals (doctor, nurse, nurse assistant, pharmacist) from hospital, primary care and community; process map with territorial care organization for the elderly; pilot action co-creation workshops (patients, professionals). Identification-Prioritization of pilot actions to implement. Ethical approval will be obtained.

Results: Interlinked activities (previous results will inform the development of next ones) according to the Knowledge-To-Action framework. The results will be prioritized with the Impact-Feasibility Matrix. The project team will agree and decide on the pilot actions with patients and HCPs to be implemented on a territory-specific basis (hospital, rural and urban primary care settings, community pharmacy offices). Training needs of professionals will also be identified, and training activities (online, face-to-face) will be designed and implemented accordingly.

Discussion and Conclusion: This project is intended to shed light on the process of implementing actions to reduce the high burden of iatrogenesis in the elderly and foster person-centred care.

A systematic review of Behaviour Change Techniques (BCTs) reported in effective medication adherence interventions in adults with long term conditions

Maryam Khan¹, Jackie Martin-Kerry¹, Eric Abrefa Kyeremaa¹, Federico Germini², Debi Bhattacharya¹

1 University of Leicester, Leicester, United Kingdom. 2 McMaster University, Hamilton, Ontario, Canada

Abstract

Aim: To identify Behaviour Change Techniques (BCTs) in interventions improving both medication adherence and clinical outcomes.

Methods: The Cochrane review of ‘interventions for enhancing medication adherence’ was updated; searches were from January 2013 to May 2025. The review followed PRISMA guidelines, and certainty of evidence was assessed using GRADE. We included RCTs of interventions reported as effective both for improving medication adherence and clinical outcomes with $\geq 80\%$ follow-up. Guided by the Behaviour Change Intervention Ontology (BCIO), we extracted and categorised BCTs and the intended mechanisms of action (MOA).

Results: From nine effective interventions, the median (IQ) BCTs per study was 9 (7,11). Seven studies reported providing information about health consequences, practical support, social support and using credible sources to present information. Goal setting appeared in six studies and instruction on how to perform behaviour, action planning and prompts/cues were reported in five studies. Self-monitoring of behaviour and demonstration of the behaviour were used in four studies. Problem solving and feedback on behaviour across two studies. Restructuring the environment, evaluating pros and cons, reducing negative emotions, and verbal persuasion about capability were each reported in one study. Studies did not explicitly report MOAs; we inferred from the study results and discussion, the following MOAs: knowledge, setting goals, behavioural regulation, habit formation, modifying the physical environment, and engaging memory, attention, and decision-making processes.

Discussion and Conclusion: Effective interventions are associated with using multiple BCTs. Studies need to explicitly report the MOA and evaluate the mechanism by which the intervention has exerted its effect.

Determinants of routinely delivering the Identification of Medication Adherence Barriers Questionnaire intervention (IMAB-Qi) within medication reviews: user testing with primary care healthcare professionals

Sion Scott¹, Bethany Atkins¹, Maryam Khan¹, Jackie Martin-Kerry¹, Laurence Woollard¹, Debi Bhattacharya¹

1 University of Leicester, Leicester, United Kingdom

Abstract

Aim: The Identification of Medication Adherence Barriers Questionnaire intervention (IMAB-Qi) is a behavioural-science questionnaire linking barriers of adherence to medication with Behaviour Change Techniques (BCTs). We aimed to user test IMAB-Qi with primary care Healthcare Professionals (HCPs) to identify the determinants of its routine delivery within Medication Reviews (MRs).

Methods: Three purposively sampled general practices in England were invited to recruit 1-2 patients to co-develop user testing scenarios and five HCPs to user test IMAB-Qi in a simulated MR with a professional patient actor. A subsequent focus group captured HCPs' determinants of routinely delivering IMAB-Qi in MRs. We mapped determinants to the Consolidated Framework for Implementation Research (CFIR).

Results: Four patients co-developed five user testing scenarios prompting HCPs to deliver a range of BCTs. Fifteen HCPs user tested IMAB-Qi and the resulting determinants mapped to all five CFIR domains. HCPs perceived IMAB-Qi as superior to current practice (Innovation). However, alternative health system priorities (Outer setting) and limited capacity (Inner setting) disincentivises resource allocation to support adherence to medication. Implementation was thought by two practices, to require advocacy from leaders within the practice, however, the third practice thought that support from leaders of the wider health system was required (Individuals, Implementation process).

Discussion and Conclusion: HCPs recognise that IMAB-Qi addresses a deficit in current practice. However, IMAB-Qi implementation requires health systems to prioritise addressing non-adherence to medication and provide incentives that permit general practices to allocate resource to enable delivery within existing MRs.

From plan to practice: using implementation mapping to develop theory based, adaptable, and context appropriate implementation strategies for the delivery of myCare Start in Switzerland

Sarah Serhal^{1,2}, Juliane Mielke³, Karima Shamuratova^{1,2}, Cedric Lanier⁴, Dagmar M. Haller⁴, Natascha Krauer^{1,2}, Samuel Allemann⁵, Fanny Mulder^{6,7,8}, Stephen P. Jenkinson^{7,6}, Alice Panchaud⁶, Stéphane Guerrier^{2,1,9}, Joachim Marti¹⁰, Giulio Cisco¹⁰, Clemence Perraudin¹⁰, Sabina De Geest^{3,11}, Marie P. Schneider^{1,2}

1 School of Pharmaceutical Sciences, Faculty of Science, University of Geneva, Geneva, Switzerland. 2 Institute of Pharmaceutical Sciences of Western Switzerland, University of Geneva, Geneva, Switzerland. 3 Institute of Nursing Science, Department Public Health, University of Basel, Basel, Switzerland. 4 University Institute for Primary Care, Faculty of Medicine, University of Geneva, Geneva, Switzerland. 5 Pharmaceutical Care Research Group, Department of Pharmaceutical Sciences, University of Basel, Basel, Switzerland. 6 Institute of Primary Health Care (BIHAM), University of Bern, Bern, Switzerland. 7 Swiss Pharmacists' Association (pharmaSuisse), Liebfeld, Switzerland. 8 Graduate School for Health Sciences (GHS), University of Bern, Bern, Switzerland. 9 Department of Earth Sciences, University of Geneva, Geneva, Switzerland. 10 University Centre for Primary Care and Public Health (Unisanté), University of Lausanne, Lausanne, Switzerland. 11 Academic Centre for Nursing and Midwifery, Department of Public Health and Primary Care, KU Leuven, Leuven, Switzerland

Abstract

Aim: Effective implementation of innovative pharmacy services requires structured planning to address context-specific barriers, facilitators, and practice patterns. Since its inception in the UK in 2011, the New Medicine Service (NMS) has been attempted in 11 countries, with only three achieving nationwide integration. Barriers including low patient uptake, underdeveloped pharmacist-physician relationships, and ambiguous pharmacist roles have hindered broader adoption. In Switzerland, the NMS has been adapted into myCare Start, an interprofessional service supporting adherence during treatment initiation. This study aimed to develop an implementation strategy bundle for the successful implementation of myCare Start in Swiss ambulatory primary care and community pharmacy settings.

Methods: Using a co-creation approach (involving pharmacists, GPs, patients), the five-step Implementation Mapping framework was followed: (1) conducting a context analysis, (2) defining implementation outcomes, identifying determinants and setting change objectives, (3) mapping evidence-based behaviour change methods to determinants, (4) selecting implementation strategies (5) designing an evaluation plan. Strategies were operationalised following Procter et al.'s reporting recommendations.

Results: Key determinants identified included time constraints, workflow variability, and patient engagement challenges. Twenty-three strategies—16 core and 7 adaptable—were identified to meet diverse needs. Core strategies include standardised training, workflow integration guidance, interprofessional collaboration support, technical assistance, and

champion selection. Adaptable components allow for local tailoring, including facilitation and custom engagement materials.

Discussion and Conclusion: Implementation Mapping enabled the creation of a structured yet adaptable implementation strategy bundle. A hybrid trial launching in 2025 will evaluate the effectiveness and implementation of myCare Start to support broader pharmacy service scalability.

Evaluating the myCare Start Service to improve adherence during treatment initiation: protocol for a hybrid type II effectiveness–implementation study

Sarah Serhal^{1,2}, Natascha Krauer^{1,2}, Karima Shamuratova^{1,2}, Dagmar M. Haller³, Cedric Lanier³, Juliane Mielke⁴, Samuel Allemann⁵, Fanny Mulder^{6,7,8}, Stephen P. Jenkinson⁷, Alice Panchaud⁶, Stéphane Guerrier^{1,2,9}, Mucyo Karemera^{1,2,9}, Joachim Marti¹⁰, Giulio Cisco¹⁰, Clemence Perraudin¹⁰, Sabina De Geest^{4,11}, Marie P. Schneider^{1,2}

1 School of Pharmaceutical Sciences, Faculty of Science, University of Geneva, Geneva, Switzerland. 2 Institute of Pharmaceutical Sciences of Western Switzerland, University of Geneva, Geneva, Switzerland. 3 Institute for Primary Care, Faculty of Medicine, University of Geneva, Geneva, Switzerland. 4 Institute of Nursing Science, Department Public Health, University of Basel, Basel, Switzerland. 5 Pharmaceutical Care Research Group, Department of Pharmaceutical Sciences, University of Basel, Basel, Switzerland. 6 Institute of Primary Health Care (BIHAM), University of Bern, Bern, Switzerland. 7 Swiss Pharmacists' Association (pharmaSuisse), Liebefeld, Switzerland. 8 Graduate School for Health Sciences (GHS), University of Bern, Bern, Switzerland. 9 Department of Earth Sciences, University of Geneva, Geneva, Switzerland. 10 University Centre for Primary Care and Public Health (Unisanté), University of Lausanne, Lausanne, Switzerland. 11 Academic Centre for Nursing and Midwifery, Department of Public Health and Primary Care, KU Leuven, Leuven, Switzerland

Abstract

Aim: In Switzerland, nearly half of the population lives with a long-term condition, yet medication non-adherence remains a major barrier to optimal care and health system efficiency. Inspired by the UK's New Medicine Service, myCare Start—an effective interdisciplinary, person-centered service supporting adherence during treatment initiation—was adapted for Swiss primary care using stakeholder co-design and implementation science. **Purpose:** This abstract presents the protocol for evaluating myCare Start through a Hybrid Type II effectiveness–implementation study.

Methods: The service will be implemented in 30 to 40 early-adopter pharmacies across French- and German-speaking regions of Switzerland using a randomised stepped wedge design. Eligible participants are adults prescribed new medications for cardiovascular disease, hyperlipidaemia, diabetes, respiratory illnesses (asthma or COPD), or mental health conditions (depression). Adherence, the primary outcome, will be assessed via health insurance data (using AdhereR) and patient self-reports (BAASIS®). Cost-effectiveness will be evaluated based on healthcare utilisation and quality-adjusted life years (EQ-5D-5L), with long-term outcomes modelled using Markov Modelling. A mixed methods approach will be used to evaluate implementation outcomes (acceptability, appropriateness, adoption, feasibility, fidelity, and implementation cost) including semi-structured qualitative interviews, validated measures (including Time-Driven Activity-Based Costing), investigator logs, facilitation checklists and consultation records.

Results: The 12–18-month trial is set to launch in September 2025 following ethics approval.

Discussion and Conclusion: By evaluating both implementation and effectiveness, this study will reveal if, how, and why the intervention works—guiding the scale-up of myCare Start in Swiss primary care and offering insights for broader global application.

The ENABLE repository for digital technologies to support medication adherence: perspectives of healthcare providers and medication users on its presentation, navigation and content

Marit Kromhout¹, Liset van Dijk^{2,1}, Alexandra Dima^{3,4,5,6}, Marcia Vervloet²

1 Faculty of Science and Engineering, Pharmacotherapy, Epidemiology and Economics, Groningen Research Institute of Pharmacy, Groningen, Netherlands. 2 Nivel, Netherlands institute for health services research, Utrecht, Netherlands. 3 Avedis Donabedian Research Institute (FAD), Barcelona, Spain. 4 Universitat Autònoma de Barcelona (UAB), Barcelona, Spain. 5 Avaluació de tecnologies sanitàries en atenció primària i salut mental (PRISMA), Institut de Recerca Sant Joan de Déu (IRSJD), Barcelona, Spain. 6 Consortium “Centro de Investigación Biomédica en Red” Epidemiology and Public Health (CIBERESP), Madrid, Spain

Abstract

Aim: The European Network to Advance Best practices and technoLogY on medication adherence (ENABLE) has created a repository including to date 29 digital technologies to support patients in their medication adherence. This study investigated user perspectives of the repository.

Methods: Semi-structured interviews were held with healthcare providers (HCPs) and medication users. Participants had to be ≥18 years, understand English, and have some digital skills. HCPs were recruited in six countries via ENABLE and medication users mainly via the Dutch Lung Foundation. Prior to the interview, participants watched an introductory video and completed an assignment to familiarize themselves with the repository. Interviews were recorded and transcribed. Deductive thematic analyses were performed using Atlas.ti.

Results: Ten medication users (nine Dutch) and eight HCPs (four pharmacists, three nurses, one general practitioner) participated. Both groups found the presentation and structure of the repository clear, logical and visually appealing, but desired more visual information of the technologies. Practical details on costs and how the technology works were missed. While most HCPs found the search process for information and technologies easy, patients reported difficulties in navigating. The complex terminology and the website being available only in English made it more difficult for some patients to use, while most HCPs indicated the information to be understandable.

Discussion and Conclusion: HCPs and patients differed in their perspectives of the repository. This emphasizes the need to tailor information and navigation, and to actively involve end users in the development of such repositories to meet their needs and preferences.

Evaluating the effectiveness of a medication adherence module on immunosuppressant adherence: secondary analysis of two hybrid implementation-effectiveness randomized control trials

Marek Veneny¹, Janette Ribaut¹, Kris Denhaerynck¹, Sabine Valenta^{1,2}, Lynn Leppla^{1,3}, Sabine Gerull⁴, Anja Schmid³, Alexandra Teynor⁵, Sabina De Geest^{1,6}

1 University of Basel, Basel, Switzerland. 2 University Hospital Basel, Basel, Switzerland. 3 Medical Center – University of Freiburg, Freiburg, Germany. 4 Cantonal Hospital of Aarau, Aarau, Switzerland. 5 University of Applied Sciences Augsburg, Augsburg, Germany. 6 Academic Center for Nursing and Midwifery KU Leuven, Leuven, Belgium

Abstract

Aim: The detrimental impact of non-adherence to immunosuppressants (IS) after allogeneic stem cell transplantation (alloSCT) necessitates effective medication adherence (MA) interventions. We tested the effectiveness of an MA module before IS-tapering (3 months post-alloSCT) within the SMILE-integrated care model to enhance IS implementation adherence.

Methods: Secondary analysis of two similar hybrid effectiveness-implementation RCTs. German-speaking adults undergoing alloSCT were randomized 1:1 to usual care (UCG) or intervention (IG). The MA module comprised 24 tailored behavior-change techniques (BCTs) delivered via the SMILEApp daily monitoring and five care coordinators visits with additional support as needed. MA—no deviation from the regimen—was measured monthly using the BAASIS© self-report; electronic monitoring (EM) was used in one study. MA was analyzed using generalized estimating equations with an autoregressive working correlation structure.

Results: 152 patients were randomized (NUCG=76; NIG=76). BAASIS©: IG showed a trend towards higher self-reported MA (OR 2.98, 95%-CI 0.87-10.19, $p=0.081$). This trend persisted at 1 month (OR 2.05, 95%-CI 0.88-4.75, $p=0.095$). By month 3, the groups converged (OR 0.997, 95%-CI 0.42-2.34, $p=0.994$). EM: MA was similar at baseline, with IG showing a nonsignificant trend toward higher adherence over time by month 3 (OR 2.15, 95% CI 0.67–6.85, $p=0.20$).

Discussion and Conclusion: The MA module initially demonstrated a positive trend in self-reported adherence, although this effect did not sustain over time. No significant impact on EM adherence was observed. Enhancing the adherence module by incorporating the most effective BCT, i.e., EM-outprint feedback, should guide intervention planning, while ensuring feasibility and cost-effectiveness in daily clinical practice.

Struck by a stroke – and by a pile of pills? development of a clinical-pharmaceutical counselling session to encourage adherence in stroke patients

Veronika Palme¹, Lisa Cuba¹, Birgit Maentler¹, Iris Leisser², Yvonne Mondorf², Andreas Zwiefler¹, Peter Lackner²

1 Pharmacy Department, Clinic Floridsdorf, Vienna, Austria. 2 Department of Neurology, Clinic Floridsdorf, Vienna, Austria

Abstract

Aim: A stroke diagnosis often leads to treatment with several drugs for secondary stroke prevention. Adherence to this medication is essential to reduce the risk for recurrence. Our aim is to develop a structured clinical-pharmaceutical counselling session to address adherence in stroke patients and systematically evaluate the implementation process.

Methods: In this ongoing, prospective evaluation, clinical-pharmaceutical counselling sessions were tested for implementation in the in- and outpatient setting (at discharge from the stroke unit or at the three-month follow-up). Patients newly diagnosed with an ischemic stroke and treated with any medication for secondary stroke prevention were eligible. Patient characteristics were analysed and the primary outcome was medication adherence assessed by the validated MARS-D questionnaire. The implementation process (e.g., time requirements, organizational barriers) was evaluated using the Consolidated Framework for Implementation Research (CFIR).

Results: So far, 24 patients were counselled (8 inpatients, 16 outpatients). On average, patients were 68 years old and used 8 different drugs (range 3-14). The MARS-D questionnaire was evaluable in 17 patients. Thereof, 35.3% reported a MARS-D score of 24/25 points, which is considered not fully adherent. Counselling sessions lasted about 31 minutes on average. The evaluation of the implementation process revealed different pros and cons for counselling in the in- and outpatient setting (e.g., integration into existing workflows).

Discussion and Conclusion: Stroke patients are confronted with a high number of drugs and demonstrate optimizable levels of adherence. Clinical-pharmaceutical counselling should be implemented within interprofessional neurological care. The implementation process will be continuously optimized based on this evaluation.

PERSonalized IMMunosuppression for ONe kidney for life: a multicenter, multidisciplinary project outline

Celine Broekhuizen¹, Coby Annema², Dennis Hesselink¹, Emma Massey¹

1 Erasmus MC Transplant Institute, Rotterdam, Netherlands. 2 University Medical Center Groningen, Groningen, Netherlands

Abstract

Aim: Adherence to the immunosuppressive regimen is a major challenge for kidney transplant recipients (KTRs) and professionals struggle to identify, monitor and support for non-adherence. Prevalence of non-adherence to the immunosuppressive regimen ranges from 30-50%. Within the 'PERSonalized IMMunosuppression for ONe kidney for life' (PERSIMMON) project, we aim to conceptualize, describe, and understand the multiple factors influencing adherence, and to develop patient-approved adherence-promoting strategies.

Methods: The Context and Implementation of Complex Interventions (CICI)-framework will be used for a context analysis. An explanatory mixed-methods design will be used, combining quantitative and qualitative methods to assess (1) prevalence rates, evolution, and profiles of non-adherence and (2) geographical, epidemiological, sociocultural and socioeconomic factors and current practice patterns influencing the development and implementation of an adherence-promoting program. Retrospective data (n>1,200) will be analyzed to gain insight into the prevalence and evolution of non-adherence among KTRs and explore profiles of non-adherence based on demographic, clinical, and personal factors. A multicenter prospective cohort study will further investigate predictors of adherence. Interviews and focus groups with stakeholders will help identify potential barriers and facilitators for implementing an adherence management toolbox in daily practice. Finally, within the Collaborative Living-Lab for Adherence Support (CLAS) we will develop, together with stakeholders, an adherence toolbox comprised of measures to identify, monitor, and manage adherence in KTRs that can be tailored to individual needs and preferences.

Discussion and Conclusion: The PERSIMMON project aims to realize personalized immunosuppression and patient-centered strategies to support adherence, ultimately improving survival and quality of life for KTRs

Exploring potential interventions aimed at improving medication self-management in young patients with a chronic disease: a participatory action research study

Minke Copping^{1,2}, Marit Buiting^{2,3,4}, Femke van Schelven³, Bart Pouls^{5,6}, Johanna E. Vriezekolk⁷, Bart van den Bemt^{5,6}, Patricia van den Bemt^{1,2}, Mirthe Vergeer³, Liset van Dijk^{2,3}, Jacqueline Hugtenburg⁴, Victor Huisjes^{5,6}, Job F.M. van Boven^{1,2}, Marcia Vervloet³

1 Department of Clinical Pharmacy and Pharmacology, University Medical Centre Groningen, Groningen, Netherlands. 2 Faculty of Science and Engineering, Department of PharmacoTherapy, Groningen Research Institute of Pharmacy, Epidemiology & Economics (PTEE), University of Groningen, Groningen, Netherlands. 3 Nivel Netherlands institute for health services research, Utrecht, Netherlands. 4 Department of Pharmacy and Clinical Pharmacology, Amsterdam, Netherlands. 5 Department of Pharmacy, Sint Maartenskliniek, Nijmegen, Netherlands. 6 Department of Pharmacy, Pharmacology and Toxicology, Radboud University Medical Center, Nijmegen, Netherlands. 7 Department of Research, Sint Maartenskliniek, Nijmegen, Netherlands

Abstract

Aim: Adolescents and young adults with a somatic chronic disease (AYAs-SCD) face challenges in medication self-management, while this is a prerequisite for medication adherence, safe and effective medication use and good treatment outcomes. This participatory action research study aims to identify promising interventions, to be included as part of the 'FUTURE toolbox' which aims to support AYAs-SCD in their medication self-management.

Methods: In-person co-design workshops with AYAs-SCD were held with help of co-researchers. AYAs-SCD were invited to a tour in a zoo to create a setting where they felt comfortable to share their experiences with medication self-management and needs for support. Using individual workbooks and group-based brainstorm sessions, they discussed and identified interventions that could help them tackle barriers in their medication self-management. The workshops were audiotaped and transcribed ad-verbatim. Deductive, thematic coding was used. Co-researchers (AYAs-SCD) were involved in analysing and interpreting results.

Results: Seven AYAs-SCD with cystic fibrosis or inflammatory bowel disease, aged 12-18 years, participated. Promising interventions were: educative videos, reminders, group chats, medication schemes, organizers, and tools, such as games, to get distracted during injections. Furthermore, AYAs-SCD expressed preferences for communication with healthcare providers, such as being empathetic, being taken seriously, not trivializing complaints or cutting off conversations.

Discussion and Conclusion: By using co-design workshops, interventions aligning with AYAs-SCD preferences and needs to optimize their medication self-management were identified. These end-user preferred interventions contribute to the 'FUTURE toolbox'. In the next steps, this toolbox will be finalized and evaluated in a hybrid type 2 study.

Protocol for a pilot cluster randomised controlled trial of a community pharmacy-based intervention to enhance adherence to adjuvant endocrine therapy in breast cancer survivors

Sophie Lauzier^{1,2}, Julie Lapointe², Laurence Guillaumie¹, Anne Dionne¹, Lyne Lalonde³, Julie Lemieux⁴, Michel Dorval¹, Hermann Nabi¹, Martine Lemay⁴, Line Guénette¹, Jason Guertin¹, Benoît Mâsse³

1 Université Laval, Québec, Canada. 2 CHU de Québec Research-Center, Québec, Canada. 3 Université de Montréal, Montreal, Canada. 4 Breast Disease Center - CHU de Québec-Université Laval, Québec, Canada

Abstract

Background: Adjuvant endocrine therapy (AET) is an oral treatment prescribed for 5 to 10 years to women with hormone-sensitive breast cancer to reduce the risk of recurrence and mortality. Despite AET benefits, suboptimal implementation and non-persistence is common. Community pharmacists are well positioned to support women undergoing AET.

Aim: To assess the acceptability, feasibility and preliminary effects of PACHA, a structured program delivered in community pharmacies for women receiving AET.

Methods: This is a pilot cluster randomised trial using mixed methods. Following advertisements aimed at community pharmacies, recruited pharmacists and their patients who had initiated AET ≤ 30 months are randomly assigned to two groups (n=33 pharmacies by group). Pharmacists assigned to the intervention group complete a web-based training and perform consultations using a standardized guide based on motivational interviewing principles and evidence-based strategies to cope with AET side effects. Women in the intervention group have access to a website with videos on AET, strategies to cope with side effects, and testimonies of women who had an AET. Pharmacists assigned to the control group provide their usual services. Data on feasibility, acceptability, and psychosocial factors influencing AET adherence are collected at baseline and six months. Adherence is measured using pharmacy dispensing data: persistence (anniversary method) and implementation (proportion of days covered). In-depth interviews explore the experiences of both patients and pharmacists (Clinicaltrials.gov NCT05887102).

Discussion and Conclusion: Findings will inform refinements to the PACHA program and determine whether a fully powered trial is warranted to test its efficacy in improving adherence with AET.

Evaluation of the implementation of medication adherence interventions in type 2 diabetes mellitus patients in Aruba and Curaçao: a mixed method study

Nitza Hooi^{1,2}, Sahar Hannika³, Adrienne Tromp⁴, Stephanie C. van Heijningen⁵, Kimberly Grêaux⁶, Bart van den Bemt^{7,8}, Liset van Dijk^{9,10}, Jacqueline Hugtenburg^{1,5}

1 Amsterdam University Medical Center, Amsterdam, Netherlands. 2 Botika Sorsaka B.V., Willemstad, Curaçao. 3 University of Utrecht, Utrecht, Netherlands. 4 Botica di Servizio, Oranjestad, Aruba. 5 University of Curaçao, Willemstad, Curaçao. 6 University of Aruba, Oranjestad, Aruba. 7 Sint Maartenskliniek, Nijmegen, Netherlands. 8 Radboudumc, Nijmegen, Netherlands. 9 Netherlands Institute for Health Services Research, Nivel, Utrecht, Netherlands. 10 University of Groningen, Groningen, Netherlands

Abstract

Aim: Many patients with Type 2 diabetes mellitus (T2DM) in Aruba and Curaçao do not adhere to their medication leading to a high prevalence of disease-related complications and increased health care costs. To enhance medication adherence, T2DM patients treated with oral antidiabetics received animated medication information followed by proactive telephone counseling from their community pharmacist. This study aimed to evaluate the implementation of these evidence-based interventions and to identify influencing factors.

Method: A mixed-method approach was used to evaluate the implementation of these interventions in 12 community pharmacies in Aruba and Curaçao. Both quantitative and qualitative data were collected through semi-structured individual interviews and reflection meetings with the participating pharmacies during and after the 11-month intervention period. For the analysis, the RE-AIM framework domains, Reach, Adoption and Implementation as well as Consolidated Framework Implementation Research constructs were used.

Results: With a dropout rate of 17% of the participating pharmacies, the attrition rate was low. A total of 416 patients received the intervention. Success factors for the implementation included the perceived need for useful information provision and patient counseling (tension for change) as well as gratitude expressed by patients (external incentives). Conversely, barriers to implementation included short staffing (available resources), digital shortcomings (intervention characteristics) and difficulties with behavioral change among personnel (the implementation climate).

Discussion and Conclusion: The performance of interventions to enhance medication adherence in daily pharmacy practice was feasible. Pharmacies were engaged adopters of the interventions. However, to sustain and upscale the interventions the barriers identified should be addressed.

Developing an equality impact assessment to design inclusive methods for a medication adherence study

Maryam Khan¹, Laurence Woollard¹, Dalvir Kandola¹, Mahomed Khatri¹, Sandra Barker¹, Debi Bhattacharya¹

1 University of Leicester, Leicester, United Kingdom

Abstract

Aim: An Equality Impact Assessment (EIA) aims to guide development of resources and processes suitable for all people within a target audience thus promoting equity. In the context of research, an EIA supports developing inclusive study design and the framework for culturally competent research offers an evidence-based approach to EIA development. We aimed to develop an EIA to design inclusive methods for a study to develop a medication-adherence intervention.

Methods: A literature review was undertaken to identify patient groups disproportionately affected by medication non-adherence, highlighting those who require additional support to participate meaningfully in research. Findings were shared with the Patient and Public Involvement (PPI) team, who collaborated with the research team to develop study processes aligned with key components of the framework for culturally competent research.

Results: Medication non-adherence disproportionately affects the following populations due to increased prevalence of (characteristics):

- * Ethnic-minority communities (language barriers, cultural stigma, or lack of trust in healthcare systems)
- * Older adults (polypharmacy, cognitive decline, or physical limitations that hinder medication-taking)
- * People with low health-literacy (misunderstanding of condition and/or treatment instructions)
- * Individuals living in rural or underserved urban areas (who face reduced healthcare access, transportation issues, and limited continuity of care)

Four PPI team members representing a range of lived experiences with adhering to medication will work with us to develop the EIA.

Discussion and Conclusion: Designing inclusive research methods should enable research findings to be driven by people who do not adhere to medication, ensuring the resulting intervention is both relevant and equitable.

Applying behavioral frameworks, theories, and models to digital health interventions for better medication adherence: a narrative review

Blete Isufi¹, Victoria Garcia-Cardenas¹, Kreshnik Hoti²

1 Universidad de Granada, Granada, Spain. 2 University of Prishtina, Pristina, Albania

Abstract

Aim: Designing effective adherence management interventions often depends on the application of behavioral theories, models, and frameworks. As digital solutions continue to expand, the extent and quality of behavioural theory integration in their development is relevant. This review aimed to explore the theories, models, and frameworks that guide the design of digital health interventions aimed at improving medication adherence.

Methods: A narrative review was conducted across PubMed, Web of Science, and Google Scholar. Search terms were related to behavioural theories, models and frameworks, digital health interventions, and medication adherence. Studies including evidence of behavioral theory, model, or framework integration into digital platforms, mobile apps, SMS services, web-based portals, and chatbots aiming at improving medication adherence were included.

Results: Social Cognitive Theory, Health Belief Model, and the Capability Opportunity Motivation model were frequently employed. Digital health interventions grounded in behavioural theories, models, and frameworks were effective at improving medication adherence, especially when multiple were integrated. Self-efficacy emerged as a foundational construct across most behaviour theories, models, and frameworks, highlighting its role in medication adherence interventions. Long-term engagement was rarely guided by behavioral approaches.

Discussion and Conclusion: This review highlights that behavioural theories, models, and frameworks are increasingly being used to develop digital interventions aimed at supporting medication adherence. A significant gap was identified, as many studies lacked transparency in presenting how these approaches were applied to specific intervention components. Future digital health interventions should be explicitly grounded in behavioural theories, models, and frameworks and clearly link their components to theoretical constructs.

BMI and other risk factors on bowel preparation quality in a colorectal cancer screening population in Curaçao

Tanne Kreeke, van de¹, Soraya Verstraeten¹, Janine Ierland, van¹, Jacqueline Huqtenburg²

1 Fundashon Prevenshon, Willemstad, Curaçao. 2 AmsterdamUMC, Amsterdam, Netherlands

Abstract

Aim: Curaçao reported the highest colorectal cancer (CRC) mortality rate in the Caribbean. In response, Fundashon Prevenshon (FP) launched a nationwide CRC screening program offering colonoscopies to at-risk individuals. Adequate bowel preparation is essential for high-quality colonoscopy, but adherence to preparation instructions, including a laxative treatment and low-fiber diet, may be influenced by various risk factors, including obesity, which is highly prevalent in Curaçao. This study examined the association between BMI and inadequate bowel preparation (IBP), as well as other risk factors for poor adherence.

Methods: A retrospective cohort study was conducted using data from 611 screening colonoscopies performed by FP (2020–2024). Univariate logistic regression assessed associations between IBP and BMI (categorical and continuous), gender, diabetes, smoking, medication use, and procedure timing (morning vs. afternoon).

Results: Of 611 participants, 4.4% had IBP; 80.9% had above-normal BMI. Afternoon procedures were significantly associated with IBP (OR: 3.4; 95% CI: 1.16–9.96). BMI as a continuous variable was inversely associated with IBP (OR: 0.93; 95% CI: 0.87–1.00; $p=0.05$). Underweight (OR: 2.13), male gender (OR: 1.51), diabetes (OR: 1.49), and smoking (OR: 1.44) showed increased odds of IBP, though not statistically significant.

Discussion and Conclusion: The low rate of IBP reflects the effectiveness of the program's strong preparatory guidance despite the presence of potential risk factors for poor adherence. An above-normal BMI is not a risk factor for IBP. Although not statistically significant, male gender, smoking behavior, and diabetes indicate a higher risk for IBP and may signal poor instruction adherence.

Motivational interviewing (MI) workshops to enhance specialist nurses' support for treatment adherence in homozygous familial hypercholesterolaemia (HoFH)

Alicia M Hughes¹, Audrey Grahame², Daniel Risson², Tom Kenny², Chloe Patel¹, Lina Eliasson¹

1 Sprout Health Solutions, London, United Kingdom. 2 Chiesi, Manchester, United Kingdom

Abstract

Aim: To equip specialist nurses with MI skills to better support patients with HoFH, —a rare and severe condition marked by premature atherosclerotic cardiovascular disease—by addressing adherence challenges across the ABC taxonomy.

Methods: Patients with HoFH face early cardiovascular complications, and one key barrier to optimal management is lack of adherence to long-term lifestyle and medication regimens, including dietary restrictions. Specialist nurses play a crucial role in patient care. To empower nurses in this area, two workshops combining MI and design thinking were delivered to 9 specialist nurses from 6 UK centres. The workshops focused on building skills to identify and overcome barriers to adherence and enhance patient-centred conversations. Feedback was collected to refine strategies and explore unmet patient needs.

Results: Nurses reported increased confidence in using MI techniques to engage patients holistically, fostering intrinsic motivation for adherence to complex treatment plans. The training highlighted the value of MI in addressing the unique challenges of HoFH, where sustained behavioural change is vital for preventing serious cardiovascular events. Collaborative design thinking promoted creative solutions to adherence issues.

Discussion and Conclusion: MI is a validated approach that supports healthcare professionals in facilitating lasting behaviour change. Its application in HoFH care addresses a critical gap in adherence support and aligns with best practices for managing lifestyle modification. MI-based workshops empower specialist nurses to enhance adherence support and holistic care for HoFH patients. This approach holds potential for broader application across conditions where behavioural change is key to treatment.

Perceptions of medication adherence among diabetes patients living in rural areas: a qualitative study conducted at a family health center in western Türkiye

Ebru Diğrak¹

1 Izmir University of Economics, Izmir, Turkey

Abstract

Aim: Medication adherence is essential for effective chronic disease management in diabetes. Despite evidence-based guidelines, many individuals with type 2 diabetes struggle to achieve treatment goals. This study explores how patients in a rural family health center in western Türkiye perceive medication use.

Methods: Semi-structured interviews were conducted with 20 type 2 diabetes patients attending a rural family health center in western Türkiye. Discussions focused on experiences with medication, challenges faced, and sources of support. Data were analyzed using thematic analysis.

Results: Participants reported facing various difficulties in maintaining regular medication use. The main challenges included forgetfulness, side effects of medications, polypharmacy, low levels of health literacy, limited access to healthcare services in rural areas, and socioeconomic barriers. Additionally, some patients reported turning to herbal remedies—such as olives, cinnamon, black seed, onions, and garlic—as alternatives or supplements to avoid side effects from prescribed medications. Key sources of motivation included family support, trust-based communication with healthcare professionals, and an increased awareness of the impact of diabetes on quality of life. Many participants stated that interactions with healthcare providers made them feel more valued and supported, which positively influenced their medication adherence.

Discussion and Conclusion: The findings suggest that these insights can contribute significantly to the planning of patient-centered healthcare services and the development of individualized approaches. Furthermore, the interviews appeared to enhance participants' awareness of their medication practices and helped them articulate the challenges and motivations related to their treatment more clearly.

Health care professionals training on iatrogenesis prevention and medication adherence in real contexts: barriers and solutions

Jesús Cunalema-Fernández^{1,2}, Gema Cabrera-Domínguez³, Paula Conforto-López³, Cristina Miguez-Devesa³, Loreto Rueda-Zaldívar³, Francisca Leiva-Fernández^{4,1,5}

1 Biomedical Research Institute of Málaga and Nanomedicine Platform (IBIMA Plataforma BIONAND), Málaga, Spain. 2 University of Malaga, Málaga, Spain. 3 Multiprofessional Family and Community Care Teaching Unit (UDMAFyC). Malaga-Guadalhorce Primary Care District, Málaga, Spain. 4 Andalusian Health Care. Malaga Valle Guadalhorce Health District, Málaga, Spain. 5 Research Network on Chronicity, Primary Care and Health Prevention and Promotion, Madrid, Spain

Abstract

Aims: Continuing professional education is key to maintain professional skills on iatrogenesis prevention (IP) and medication adherence (MA) according to ABC Taxonomy. Lack of time is a core barrier. This study aims to improve professional practice through tailored training activities focused on IP and MA in the context of STOPIATRO-Andalusia project.

Method: Cross-sectional study to evaluate training activities (face-to-face, online: synchronous and asynchronous) aimed at primary care and hospital professionals. **Procedures/outcomes:** 5 training activities/9 editions (1 hour duration) delivered in face-to-face, synchronous and asynchronous online formats; contents varied among editions: IP, MA and continuity of care. **Assessment procedure:** Kirkpatrick model, level 1 through an attendance form and satisfaction questionnaire (professional profile, nine statements about the activity, willingness to future participation, qualitative feed-back by an open question). **Descriptive and qualitative analysis.** Ethical approval; written informed consent.

Results: 197 professionals (65 % nursing, 34 % medicine) participated, mainly from primary care; 158 (80.2%) face-to-face attendance. Ninety-four satisfaction questionnaires collected: mean ratings for applicability, interest, clarity of content and coordination ranged from 4.2 to 4.9 out of 5. Four out of five participants agreed to attend future editions, mainly face-to-face (64.9 %). Open comments highlighted clarity, clinical applicability and proposed improvements: inclusion of clinical cases, participatory dynamics and greater diversity of profiles (patients, emergency professionals).

Discussion and Conclusion: The diversification of formats allowed high uptake in primary care, although hospital and other profiles were under-represented. The high level of satisfaction endorses the strategy and encourages thematic and methodological adjustments for future editions.

Bridging knowledge and practice: a case study on pharmacy students' understanding of medication adherence and its implications for treatment efficacy and patient outcomes

Hanna Keidong¹, Daisy Volmer¹, Margit Valge¹

1 University of Tartu, Tartu, Estonia

Abstract

Aim: The aim of this study was to evaluate pharmacy students competency in understanding and applying principles of medication adherence during medication reviews.

Methods: The Brown Bag method was used by fifth-year pharmacy students (N = 21) during their internship for medication review of older polypharmacy patients (65+ years, using ≥5 medicines/supplements). Each student conducted one structured review based on prescription data and a patient interview. A panel of three healthcare specialists evaluated the reviews and compared with data collected. The WHO classification was used to identify adherence-related factors.

Results: Patients (mean age 75; 16 women, 5 men) used an average of 13 medicines and supplements. Self-assessment revealed adherence issues in 5 patients (24%), while actual use indicated problems in 12 (57%).

Pharmacy students correctly identified adherence issues in 11 cases (52%), including only 4 of the 12 patients with confirmed problems. Eight patients with adherence issues were misclassified as adherent, and 2 were not assessed. Common barriers included adverse drug reactions and complex treatment regimens, key facilitators were healthcare/social support and adherence tools.

Discussion and Conclusion: Pharmacy students with formal education in pharmacology/public health overestimated medication adherence and missed subtle signs of nonadherence, highlighting the need for better skills in interpreting patient behavior and identifying barriers. This reflects the complexity of adherence in real-world settings. Medication adherence is shaped by various treatment- and patient-related factors. Integrating practical adherence and communication training into pharmacy education is essential to prepare students for patient-centered care and improve pharmacist-led outcomes.