

Multimedia Appendix 2. Medication adherence of the included randomized controlled trials.

Source	Total length of intervention	Medications monitoring	Medication adherence measurement	Medication adherence results
Brath et al [19]	20 weeks (5 months)	Antihypertensive medication (ramipril) Antihyperglycemic medication (metformin) Lipid-lowering medication (simvastatin, rosuvastatin)	Intervention: remote mAMS ^a Control: pill count of standard medication blisters	Intervention: median (IQR) ^b , min, max: Metformin 1(1–1),0.93,1 Simvastatin 1(1–1),0.93,1 Rosuvastatin 1(1–1), 0.97,1 Ramipril 1(1–1),0.96,1 Control: Metformin 1(1–1),0.89,1 Simvastatin 1(1–1),1,1 Rosuvastatin 1(1–1),0.91,1 Ramipril 1(1–1),0.93,1
Chandler et al [20]	9 months	Antihypertensive medications	Intervention and control: 8-MMAS ^c	Intervention: mean (SD) ^d Baseline: 6.83 (1.99) 1 month: 9.42 (0.95) 3 months: 9.13 (1.50) 6 months: 10.22 (0.43) 9 months: 9.81 (1.31) Control: Baseline: 6.99 (2.39) 1 month: 7.85 (1.66) 3 months: 7.98 (1.95) 6 months: 7.48 (1.7) 9 months: 6.84 (1.52)
Fang and Li [21]	6 months	Lipid-lowering medications (statin)	Intervention and control: 4-MMAS ^e	Intervention: mean (SD) Baseline: 2.88 (0.71) 2.86 (0.71) Control: Baseline: 2.86 (0.87) 6 months: logistic regression analysis results

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Frias et al [22]	12 weeks (3 months)	Antihypertensive medications (lisinopril, losartan, amlodipine) Antihyperglycemic medications (metformin, glipizide) Lipid-lowering medications (atorvastatin)	Intervention: DMO ^f ; mean ingestion adherence	Intervention: % of the ingestion adherent Baseline: 86% 3 months: 84% Control: not assessed
Goldstein et al [23]	28 days (1 month)	Not specified	Intervention: electronic self-report Control: pillbox bin openings	Intervention: % (SD) adherent patients 1 month: Overall: 76% (36) Active arm: 73% (39) Passive arm: 79% (33) Control: 1 month: Overall: 80% (33) Active arm: 84% (32) Passive arm: 76% (33)
Guo et al [24]	3 months	Oral anticoagulants	Intervention and control: 3-item Adherence Estimator: Low risk= score of 0, moderate risk= score of 2-7, and high risk=score of 8-36	Intervention: Baseline: 4 (4-11) 1 month: 0 (0-4) 3 months: 2 (0-4) Control: Baseline: 4 (4-11) 1 month: 4 (0-11) 3 months: 4 (0-11)
Johnston et al [25]	6 months	Oral anticoagulants (ticagrelor)	Intervention and control: patient self-reported questionnaire (for non-adherence measure)	Intervention: mean (SD) 6 months: 16.6 (42.9) Control: 6 months: 22.8 (41.3)

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Kim et al [26]	6 months	Antihypertensive medications	Intervention and control: 4-MMAS	Intervention: mean (SD) Baseline: 6.6 (1.4) 6 months: 6.7 (1.4) Control: Baseline: 6.3 (1.4) 6 months: 6.5 (1.5)
Labovitz et al [27]	12 weeks (3 months)	Oral anticoagulants (warfarin, dabigatran, rivaroxaban, or apixaban)	Intervention and control: pill counts and plasma samples (plasma samples were marked as adherent if drug concentration levels were above the minimum required therapeutic range (C _{min}))	For all OACs ^g , 3 months: based on pill count, mean% (SD) Intervention: 97.2% (4.4) Control: 90.6% (5.8) Based on plasma samples: Intervention: 100% Control: 50% For DOACs ^h , 3 months: based on pill count, mean (SD) Intervention: 96.4 (5.1) Control: 90.9 (6.0) Based on plasma samples: Intervention: 100% Control: 33%
Liu et al [28]	12 weeks (3 months)	Lipid-lowering medications	Intervention and control: 4-MMAS	Intervention: % adherent patients Baseline: 43.33% 3 months: 82.14% Control: Baseline: 30.00% 3 months: 37.93%

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Márquez Cantreras et al [29]	12 months	Antihypertensive medications	Intervention and control: MEMS ⁱ	Intervention: % global adherence (95% CI) ^j 6 months: 93.15% (87.36 to 98.94) 12 months: 91.78% (85.48 to 98.08) Control: 6 months: 74.66% (64.7 to 84.6) 12 months: 62.66% (51.26 to 73.14)
Mertens et al [30]	28 days (1 month)	Not specified	Intervention and control: A14-scale questionnaire: 5-point Likert scale, ranging from “never” (0) to “very often” (4), based on the A14 scale, values <50 as nonadherent, and values 50-56 as adherent	Intervention: mean (SD) Baseline: 50.02 (3.44) 1 month: 53.96 (2.01) Control: Baseline: 50.02 (3.44) 1 month: 52.60 (2.49)
Morawski et al [31]	12 weeks (3 months)	Antihypertensive medications (thiazide, calcium channel blocker, b-blocker, angiotensin converting enzyme inhibitor, or angiotensin receptor blocker)	Intervention and control: 8-MMAS	Intervention: mean (SD) Baseline: 6.0 (1.8) 3 months: 6.3 (1.6) Control: Baseline: 5.7 (1.8) 3 months: 5.7 (1.8)

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Ni et al [32]	30 days (1 month)	Cardiovascular medications	Intervention and control: 3-question Voils Medication Non-adherence Extent Scale	Intervention: mean (SD) Baseline: 6.28 (2.14) 1 month: -1.35 (2.18) Control: Baseline: 6.28 (1.99) 1 month: -0.69 (1.58)
Santo et al [33]	3 months	Cardiovascular medications	Intervention and control: 8-MMAS	Intervention: mean (SD) Baseline: 6.8 (1.40) 3 months: 7.11 (1.05) Control: Baseline: 7.0 (1.29) 3 months: 6.63 (1.04)
Sarfo et al [34]	3 months	Antihypertensive medications	Intervention and control: mean MPR ^k and 8-MMAS	Intervention: mean (SD) Baseline: 10.3 (3.1) 9 months: 13.0 (1.5) MPR: 3 months: 0.88 (0.40) 9 months: 0.95 (0.16) Control: Baseline: 11.5 (2.8) 9 months: 13.0 (1.7) MPR: 3 months: 0.64 (0.45) 9 months: 0.98 (0.24)

^amAMS: medication adherence measurement system.

^bIQR: interquartile range.

^c8-MMAS: 8-item Morisky Medication Adherence Scale.

^dSD: standard deviation.

^e4-MMAS: 4-item Morisky Medication Adherence Scale.

^fDMO: digital medicine offering system.

^gOACs: oral anticoagulants.

^hDOACs: direct oral anticoagulants.

ⁱMEMSs: Medication Event Monitoring Systems.

^j95% CI: 95% confidence interval.

^kMPR: medication possession ratio.