Table 1. Characteristics of included studies.

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| 1st author(year/ country) | Design | Stroke Type (no. participants) | Follow-up Duration | Medication class | Persistence Measurement | Quality |
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| Budimkic et al. (2016/Serbia) | Retrospective observational study | IS and without intravenous thrombolysis(203+197) | Median: 3 years (range 1–7 years) | AntiplateletsOral anti-coagulantsAntihypertensive drugsStatinsHypoglycemic drugs | Determined by comparing the recommended hospital discharge medications with the current medications reported by the patients (self-report) | 0.67 |
| Burke et al. (2010/USA) | Retrospective observational study | IS (1,413) | Mean: 1.5 years | Antiplatelets | \*Nonpersistence: Defined as the first incident of failure to refill index medication within 30 days from the run-out date of the prior prescription. | 0.78 |
| Bushnell et al. (2011/USA) | Observational cohort study | IS, TIA (2,457) | 1 year | Warfarin Antiplatelet AntihypertensiveLipid-lowering agentsDiabetes medications | Defined as continuation of all secondarypreventive medications prescribed at hospital discharge | 0.91 |
| Bushnell et al. (2010/USA) | Observational cohort study | IS, TIA (2,598) | 3 months | Warfarin Antiplatelet AntihypertensiveLipid-lowering agentsDiabetes medications | Defined as continuation of all secondarypreventive medications prescribed at hospital discharge | 0.82 |
| Glader et al. (2010/Sweden) | Prospective observational study | All types of stroke(21,077) | 2 years | StatinsAntiplateletWarfarin(for only IS) | Defined as a patient who had purchased the drug at a pharmacy at least once during each 4-month interval after hospital discharge. | 0.78 |
| Ji et al. (2013/China) | Prospective observational study | IS, TIA (9,998) | 3 months | AntiplateletsWarfarinAntihypertensivesStatinsDiabetic agents | Defined as medication(s) continuation from hospital discharge to 3-month post discharge. | 0.89 |
| Jiang et al.(2017/China) | Longitudinal observational study | IS and TIA(18,344) | 3 months | AntiplateletsWarfarinAntihypertensive drugsStatinsDiabetes medications | Defined as continuation of all secondary preventive medications prescribed at discharge (self-report) | 0.89 |
| Ostergarrd et al. (2012/Denmark) | Longitudinal observational study | IS(503) | Median of 2.8 years (IQR 0.8–7.8) | Antiplatelets | \*Nonpersistence: Defined as the first episode during the study period when a subject failed to present a subsequent prescription within the time window defined by the duration of the preceding prescription. | 0.66 |
| Ostergarrd et al. (2014/Denmark) | Longitudinal observational study | TIA (594) | Median of 1.7 years (IQR 0.9–3.0) | Antiplatelets | \*Nonpersistence: Defined as failure to present a prescription for antiplatelet drugs within 180 days after the dosage of a previous prescription had run out.  | 0.78 |
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| Rijkmans et al. (2018/Netherlands) | Retrospective cohort study | IS(286) | Median of 5.5 year | AntiplateletsStatinsAntihypertensive drugsAnticoagulants | Defined as still using the medication after discharge from hospital during follow-upor until death | 0.73 |
| Rodriguez et al. (2011/USA) | Longitudinal observational study | TIA, IS (2,720) | 12 months | AntiplateletsWarfarin AntihypertensivesLipid-lowering agents, Diabetic agents | Defined as continuing on a therapy or class of therapy from discharge to either 3-month or 12-month follow-up | 0.67 |
| Sjölander et al. (2012/Sweden) | Longitudinal observational study | IS (18,349) | 2 years | Antihypertensives StatinsAntiplateletsWarfarin | Defined as at least one filled prescriptionin every 4-month period after discharge. | 0.89 |
| Tsai et al.(2014/Canada) | Retrospective cohort study | IS(6,347) | 2 year | Antihypertensive drugsLipid-lowering agents | Prescription filling was used as a proxy measure | 0.64 |
| Ullberg et al.(2017/Sweden) | Longitudinal observational study | IS(5,602) | 14 months | Antihypertensive drugsAntithrombotic drugsWarfarinStatins | Drug adherence: defined as filling the first drug prescription within 120 days after strokeDuring persistence: defined as filling a prescription between 10 and 14 months after stroke | 0.78 |
| Wang et al.(2016/China) | Prospective cohort study | IS with and without medical complications(1,061+6,532) | 1 year | AntiplateletsAntihypertensive drugsDiabetic agents | Defined as medication(s) continuation during discharge and 12-month post-onset. | 0.73 |
| Wawruch et al.(2016/Slovak Republic) | Retrospective cohort study | IS(4,319) | 3 years | Antiplatelets | Measured as the time period between the initiation date and the beginning of the treatment gap, if such a gap occurred | 0.73 |
| Wawruch et al.(2017/Slovak Republic) | Retrospective cohort study | IS(2,748) | 3 years | Statins | Evaluated by reference to the periodof time during which the drug was continually prescribed in a patient  | 0.73 |
| Wawruch et al.(2017/Slovak Republic) | Retrospective cohort study | TIA(854) | 3 years | Antiplatelets | Measured as the time period between the initiation date and the beginning of the treatment gap, if such a gap occurred | 0.73 |

Note: IS, ischemic stroke; TIA, transient ischemic attack; IQR, interquartile range.

Table 2. Outcomes of included studies.

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| 1st author(year, country) | Significant Factors | Extent of Persistence |
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| Budimkic et al. (2016, Serbia) | PersistenceIntravenous thrombolysis  | 3 months: 91.3–96.1%1–7 years: 69–88.7%  |
| Burke et al. (2010, USA) | NonpersistenceMedication copayment of >$40 (vs. copayment of <$20) | 1.5 years of mean follow-up period:44.8–53.7%  |
| Bushnell et al. (2011, USA) | PersistenceFewer medications prescribed at discharge Inpatient/Outpatient rehabilitation  Adequate incomeHistory of hypertension or dyslipidemiaLess than college education Age Appointment with primary care provider or neurologist | 1 year: 65.9% |
| Bushnell et al. (2010, USA) | PersistenceAgeNo history of atrial fibrillationHistory of HTN, DM, CAD/prior MI, dyslipidemiaNumber of medication classes prescribedFinancial hardshipHospital regions other than NortheastUnderstanding why medications are prescribed, how to refill medsQuality of life |  3 months: 75.5% |
| Glader et al. (2010, Sweden) | N/A |  4 months: 89.1–96.4% 8 months: 75.0–85.6%12 months: 65.1–79.3%16 months: 56.0–71.6%20 months: 49.2–67.4%24 months: 45.0–63.7% |
| Ji et al. (2013, China) | PersistenceMale sexHistory of hypertension No history of atrial fibrillationIndex vascular event of acute ischemic stroke (vs. TIA)Treated in academic center Length of hospital stay (per day increase)Number of medications at discharge  |  3 months: 63.6% |
| Jiang et al.(2017, China) | PersistenceAgeHistory of DM, atrial fibrillationHigher family incomeNIHSS score at admissionIndex vascular event of TIA (vs. IS)Being treated in a stroke unit or in a hospital with more than 80 beds |  3 months: 46.2%. |
| Østergarrd et al. (2012, Denmark) | NonpersistenceNIHSS score ≥7 (vs. NIHSS score 0–3)  | 2.8 years of median follow-up period: 36.0% (overall nonpersistence rate) |
| Østergarrd et al. (2014, Denmark) | NonpersistenceAge <54 (vs. 55–74) 7+ days TIA onset to hospital contact (vs. 0–1) | 1.7 years of median follow-up period: 23.6% (overall nonpersistence rate) |
| Rijkmans et al. (2018/Netherlands) | PersistenceNo significant factors | median 5.5 years of follow-up period or death: 59.6–93.0% |
| Rodriguez et al. (2011, USA) | PersistenceNo significant factors |  3 months: 74.8–78.6%12 months: 61.1–65.1% |
| Sjölander et al. (2012, Sweden) | PersistenceFemale sex  |  4 months: 88.6-95.8% 2 years: 41.7–76.3% |
| Tsai et al.(2014, Canada) | PersistenceProviding a prescription before discharge Prior drug userEarly persistence  |  1 year: 79.9–85.8% 2 years: 77.0–81.1% |
| Ullberg et al.(2017, Sweden) | PersistenceWithout stroke unit care ADL dependency (vs. no dependency) Without follow-up visit within 90 days after dischargeUniversity education Non-European origin  |  4 months: 89.7%14 months: 67.9% |
| Wang et al.(2016, China) | PersistenceIn-hospital medical complications (no > yes) |  3 months: 76.3–96.7% 6 months: 79.6–96.4%12 months: 54.9–72.7% |
| Wawruch et al.(2016/Slovak Republic) | NonpersistenceAge ≥75 years Female sex Comorbid of DM, dementia, epilepsySwitch in antiplatelet in follow-up period | Nonpersistence rate 1 year: 11.2% 2 years: 18.7% 3 years: 27.4% |
| Wawruch et al.(2017, Slovak Republic) | NonpersistenceAge ≥75 years Polypharmacy Comorbid of DM, dementia, hypercholesterolemia, anxiety disorders | Nonpersistence rate 1 year: 21.9% 2 years: 30.6% 3 years: 39.7% |
| Wawruch et al.(2017, SlovakRepublic) | Nonpersistence Age ≥75 years Polypharmacy Comorbid of hypertension, diabetes, hypercholesterolemiaSwitch in antiplatelet in follow-up period | Nonpersistence rate 1 year: 20.6% 2 years: 30.3% 3 years: 40.4% |

Note:HTN, Hypertension; DM, Diabetes; CAD, Coronary Artery Disease; MI, Myocardial infarction; OR, odds ratio; HR, hazard ratio; NIHSS, National Institutes of Health Stroke Scale; ADL, activities of daily living; PR, prevalence ratio.