Supplementary Table 1. Search strategies

Database (Search time)	Search	Search String
PubMed and MEDLINE [November 21, 2022]	1	(Ischemic Stroke* OR Ischaemic Stroke* OR CryptogenicIschemic Stroke* OR Cryptogenic Stroke* OR Cryptogenic Embolism Stroke* OR Wake up Stroke* OR AcuteIschemic Stroke* OR Embolic Stroke* OR Cardioembolic Stroke* OR Cardio-embolic Stroke* OR Thrombotic Stroke* OR Acute Thrombotic Stroke* OR Lacunar Stroke* OR Lacunar Syndrome* OR Lacunar Infarction* OR Lacunar Infarct*)
	2	(Medication Adherence OR Medication Nonadherence OR Medication Noncompliance OR Medication Persistence OR Medication Compliance OR Medication Non-Compliance) OR AB=(Medication Adherence OR Medication Nonadherence OR Medication Noncompliance OR Medication Persistence OR Medication Compliance OR Medication Non-Compliance)
	3	(Barrier*)
	4	1 AND 2 AND 3
Web of Science [November 21, 2022]	1	(TI=(Ischemic Stroke* OR Ischaemic Stroke* OR CryptogenicIschemic Stroke* OR Cryptogenic Stroke* OR Cryptogenic Embolism Stroke* OR Wake up Stroke* OR AcuteIschemic Stroke* OR Embolic Stroke* OR Cardioembolic Stroke* OR Cardio-embolic Stroke* OR Thrombotic Stroke* OR Acute Thrombotic Stroke* OR Lacunar Stroke* OR Lacunar Syndrome* OR Lacunar Infarction* OR Lacunar Infarct*))
	2	(TI=(Medication Adherence OR Medication Nonadherence OR Medication Noncompliance OR Medication Persistence OR Medication Compliance OR Medication Non-Compliance) OR AB=(Medication Adherence OR Medication Nonadherence OR Medication Noncompliance OR Medication Persistence OR Medication Compliance OR Medication Non-Compliance))
	3	(TI=(Barrier*))
	4	1 AND 2 AND 3
CINAHL Plus Full Text [November 21, 2022]	1	TX(Ischemic Stroke* OR Ischaemic Stroke* OR CryptogenicIschemic Stroke* OR Cryptogenic Stroke* OR Cryptogenic Embolism Stroke* OR Wake up Stroke* OR AcuteIschemic Stroke* OR Embolic Stroke* OR Cardioembolic Stroke* OR Cardio-embolic Stroke* OR Thrombotic Stroke* OR Acute Thrombotic Stroke* OR

Database (Search time)	Search	Search String
		Lacunar Stroke* OR Lacunar Syndrome* OR Lacunar Infarction* OR Lacunar Infarct*)
	2	TX(Medication Adherence OR Medication Nonadherence OR Medication Noncompliance OR Medication Persistence OR Medication Compliance OR Medication Non-Compliance) OR AB(Medication Adherence OR Medication Nonadherence OR Medication Noncompliance OR Medication Persistence OR Medication Compliance OR Medication Non-Compliance)
	3	TX=(Barrier*)
	4	1 AND 2 AND 3

Supplementary Table 2. Summary data

Reference, country, year	Study design, Sample size of target population (n), age (year)	Study aim, medication adherence (MA) measurement	Key findings	Themes (Barriers to MA) based on Social Determinants of Health Domains	Summarize/Further research implication
40 French 2020	Design: Qualitative Study • Ischemic Stroke (IS) (n=22) • Transient Ischemic Attack (TIA) (n=14) Age (Mean, SD): 70.2±16.3	• To explore barriers and facilitators to adherence to medication after IS or TIA • Semi-Structured Interview	**<u>Barriers to MA</u>** • Lack of information due to three barriers preventing effective patient education, including lack of consultation time, use of technical jargon, and individual's cognitive impairment. • Lack of understanding of the disease ***"No. I didn't ask him, but he didn't tell me. Oh doctors . . . they're not like those we had in the past who explained everything to us, what we had, explained the medicine to us, what it would do. [. . .] they don't have the time anymore"*** • Difficulties related to the Practical Management of Medications ***"It is true that when you've, for example, guests at home, you think more about taking care of the guests, you do not necessarily care about the pills."*** • Side Effects ***"Anything to do with aspirin, for me that is a problem, because I've a hiatal hernia and***	• Lack of health information • Health literacy and health perception • Medication side effects • Medication belief • Medication management due to social context	Providing more tailored information at opportune moments, in particular by promoting discussions with primary care physicians throughout the course of illness and recovery, is essential to ensure that patients are not left alone in the decision-making process regarding adherence to secondary prevention medications.

Reference, country, year	Study design, Sample size of target population (n), age (year)	Study aim, medication adherence (MA) measurement	Key findings	Themes (Barriers to MA) based on Social Determinants of Health Domains	Summarize/Further research implication
			[. . .] I get terrible heart burn. And aspirin is a factor that . . . that does that. That's why I did not . . . I did not continue very long, because it was uncomfortable." • The Healing Function of Treatments ***"For me it was . . . it was an indicator. The less I took the healthier I was, like."*** ***"And, the doctor, he already stopped, last year . . . I think two [pills]. I was relieved. To tell me that there were two less. I see it as something of an . . . improvement"***		
34 Lebanon 2021	Design: A cross-sectional study • IS (n=100) Age (Mean, SD): 74.04±10.03	• To assess medication adherence for secondary stroke prevention among Lebanese stroke survivors and identify the barriers behind non-compliance • The Lebanese Medication Adherence Scale (LMAS-14)	**<u>Barriers to MA</u>** • Patients with concerns about medications' side effects • Patients with concerns about medications cost	• Financial restrain • Medication side effects	The lack of social security insurance was a significant barrier to medication adherence in Lebanese stroke survivors and increased concerns about medication costs and side effects. Therefore, strategies to reduce patients' medication concerns and provide them with medical insurance can further improve medication adherence for secondary stroke prevention in the Lebanese community.

Reference, country, year	Study design, Sample size of target population (n), age (year)	Study aim, medication adherence (MA) measurement	Key findings	Themes (Barriers to MA) based on Social Determinants of Health Domains	Summarize/Further research implication
41 Singapore 2022	Design: A cross-sectional study • IS (n=171) • TIA (n=29) Age (Mean, SD): 62.91±11.88	• To investigate the relationship between medication adherence, trust in physicians, and beliefs about medication among stroke survivors. To determine whether beliefs about medications would mediate the relationship between trust in physicians and medication adherence. • The shortened Medication Adherence Report Scale (MARS-5)	**<u>Barriers to MA</u>** • Trust in physician • Belief about medication • Concern about medication • Medication overuse (the belief that doctors overuse the medication)	• Medication belief • Patient-Physician relationship	Future interventions to improve medication adherence may benefit from improving stroke survivors' trust in physicians and addressing their beliefs about medication.
36 Republic of Korea 2020	Design: A cross-sectional study • Acute Ischemic Stroke (AIS) (n=250) Age (Mean, SD): 62.2±12.9	• To investigate medication adherence among Korean stroke survivors within one year of their acute ischemic stroke and to identify the factors influencing their medication adherence	**<u>Optimal MA</u>** • Being a non-smoker (OR = 3.19; 95% CI, 1.29–7.87; p = 0.012) • More prescribed medicines (OR = 1.27; 95% CI, 1.05–1.54; p = 0.014) • Less frequency of daily doses (OR = 0.37; 95% CI, 0.18–0.79; p = 0.010) • Stronger beliefs about medication (OR = 1.09; 95% CI, 1.03–1.15; p = 0.004)	• Health behavior • Medication belief • Polypharmacy	Post-stroke care should concentrate on supporting patients' belief in the necessity of medication and encouraging lifestyle modifications, such as stopping smoking and prescribing medicine with simple regimens to improve the medication adherence of patients with stroke.

Reference, country, year	Study design, Sample size of target population (n), age (year)	Study aim, medication adherence (MA) measurement	Key findings	Themes (Barriers to MA) based on Social Determinants of Health Domains	Summarize/Further research implication
		• The 8-item Morisky Medication Adherence Scale (MMAS-8)			
35 India 2021	Design: A cross-sectional study •IS (n=201) •TIA (n=9) •Hemorrhagic stroke (HS) (n=30) Age (Mean, SD): 58.64 ± 10.96	• To determine factors associated with medication adherence among stroke survivors • Self-reported medication adherence was defined as the consumption of at least > 80% of their medications for the last two weeks, based on the patient's last prescription	**<u>Barriers to MA</u>** • Memory issues (OR = 0.34; 95% CI, 0.16–0.71) • Side effects (OR = 0.24; 95% CI, 0.11–0.42) • Financial constraints (OR = 0.46; 95% CI, 0.24–0.91)	• Financial restrain • Medication side effects • Cognitive impairment	To improve medication adherence establishing daily routines, frequent reminders, financial aid to purchase medicines, and patient education are recommended to improve medication adherence to prevent future strokes.
38 India 2022	Design: A prospective study (A cross-sectional) IS (n=132) Age (Mean): 55 years	• To determine the barriers to medication adherence for secondary prevention in patients with IS • A medication adherence assessment questionnaire was	**<u>Barriers to MA</u>** • Worry about taking medication for a long time • Stopping medications when feeling better • Stopping medications intentionally • Whitecoat adherence • Forgetfulness • Frequency (taking medication) • Confusion in taking medications	• Health literacy and health perception • Medication belief • Patient-Physician relationship • Polypharmacy • Access to healthcare • Cognitive impairment	It is essential to identify the barriers to medication adherence and determine them at the earliest to avoid recurrent strokes. Among the significant barriers, one of the most important factors was worrying about taking medications for a long time. Therefore, healthcare professionals, caregivers, and patients should work together to help patients understand

Reference, country, year	Study design, Sample size of target population (n), age (year)	Study aim, medication adherence (MA) measurement	Key findings	Themes (Barriers to MA) based on Social Determinants of Health Domains	Summarize/Further research implication
		developed based on the common problems faced by patients in the local setting	• Number of medications • Difficulty in accessing the hospital • Difficulty in understanding the doctor		their medication more to enhance medication adherence.
39 China 2020	Design: A cross-sectional study IS (n=306) Age (Mean, SD): 63.47±10.20	• To examine the association and the mediating effect among medication beliefs, perception of illness, and medication adherence in IS patients • The shortened Medication Adherence Report Scale (MARS-5)	**<u>Barriers to MA</u>** • Specific concern (a higher score indicates a more significant worry about ischemic stroke medications) • Perception of illness (a higher overall perception of illness score indicates that the patient views the illness as more dangerous)	• Health Literacy and health perception • Medication belief	Beliefs about IS medication and perceptions of IS components should be considered in the intervention to enhance adherence.
42 Greece 2019	Design: A cross-sectional study IS (n=140) Age (Mean, SD): 64.2±9	• To measure the level of compliance with the treatment and to identify socio-demographic, clinical, and subjective factors related to the long-term compliance of stroke patients with their treatment • The shortened Medication	**<u>Optimal MA</u>** • The perception of medication necessity (OR = 1.26; 95% CI, 1.01–1.56) • The doctor-patient communication (OR = 1.76; 95% CI, 1.15–2.70) • Patient's mental state (OR = 3.94; 95% CI, 1.84–4.46)	• Medication belief • Patient-Physician relationship	Effective management of medication necessity perception and improving doctor-patient communication are crucial factors that influence compliance in the treatment of stroke patients. Taking these factors into consideration is essential for rehabilitation and return-to-work programs that aim to provide comprehensive support to individuals recovering from a stroke.

Reference, country, year	Study design, Sample size of target population (n), age (year)	Study aim, medication adherence (MA) measurement	Key findings	Themes (Barriers to MA) based on Social Determinants of Health Domains	Summarize/Further research implication
		Adherence Report Scale (MARS-5)			

Supplementary Table 3. The methodological quality of the included studies

Appraisal questions/Reference	40	34	41	36	35	38	39	42
JBI CRITICAL APPRAISAL CHECKLIST FOR ANALYTICAL CROSS-SECTIONAL STUDIES								
1. Were the criteria for inclusion in the sample clearly defined?		+	+	+	+	+	+	+
2. Were the study subjects and the setting described in detail?		+	+	+	+	+	+	+
3. Was the exposure measured in a valid and reliable way?		+	?	?	+	\	+	+
4. Were objective, standard criteria used for the measurement of the condition?		+	+	+	+	+	+	+
5. Were confounding factors identified?		+	+	+	-	+	+	+
6. Were strategies to deal with confounding factors stated?		+	+	+	-	-	+	+
7. Were the outcomes measured in a valid and reliable way?		+	?	+	-	+	+	+
8. Was appropriate statistical analysis used?		+	+	+	+	+	+	+
JBI CRITICAL APPRAISAL CHECKLIST FOR QUALITATIVE RESEARCH								
1. Is there congruity between the stated philosophical perspective and the research methodology?	?							
2. Is there congruity between the research methodology and the research question or objectives?	+							
3. Is there congruity between the research methodology and the methods used to collect data?	+							
4. Is there congruity between the research methodology and the representation and analysis of data?	+							
5. Is there congruity between the research methodology and the interpretation of results?	+							
6. Is there a statement locating the researcher culturally or theoretically?	?							
7. Is the influence of the researcher on the research, and vice-versa, addressed?	?							
8. Are participants, and their voices, adequately represented?	+							

Appraisal questions/Reference	40	34	41	36	35	38	39	42
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	+							
10. Do the conclusions drawn in the research report flow from the analysis or interpretation of the data?	+							
Percentage of yes* (%)	70 %	100 %	75 %	87.5 %	62.5 %	75 %	100 %	100 %

"+": yes; "-": no; "?": unclear; "\": not applicable

*The number of “yes” / total items in the checklist ×100

Reference

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