

Supplemental Materials

Supplementary tables

Table S1. Full list of participating hospitals in this study.

Table S2. The price of generic drugs and brand-name drugs in this study.

Table S3. Analysis of DBP-lowering efficacy between generic drugs and brand-name drugs in the matched cohort.

Table S4. Sensitive analysis of BP-lowering efficacy after excluding patients with self-reported BP at follow-up.

Table S5. Sensitive analysis of BP-lowering efficacy after excluding patients who had cross-over in the use of generic and brand-name drugs at follow-up.

Table S6. Analysis of SBP-lowering efficacy between generic drugs and brand-name drugs in the original cohort.

Table S7. Analysis of DBP-lowering efficacy between generic drugs and brand-name drugs in the original cohort.

Table S8. Cox regression analysis for the association of generic and brand-name drugs with cardiovascular endpoints at follow-up.

Supplementary figures

Figure S1. Percentage of BP control in patients using generic drugs and brand-name drugs groups at follow-up in the original cohort.

Supplementary methods

Data collection

Demographics and clinical data were collected via structured questionnaires at baseline, including age, sex, current smoking and drinking status, medical co-morbidities such as history of diabetes mellitus, stroke, and cardiovascular diseases. Information on anti-hypertensive medication use, including the drug names and doses, was collected from the doctor's prescriptions. Body weight and height were measured by trained nurses.

At the baseline survey and during the follow-up clinic visits, blood pressure (BP) was measured by trained nurses with a validated electronic BP monitor with appropriately sized arm cuffs (regular adult, large, or small) in all participating hospitals. Participants were required to rest for at least 5 min before the initial BP reading was obtained. Trained nurses measured the BP 3 times in a seated position for at least 5-min interval. The average of the 3 readings was used for final recorded BP data.

Blood samples after a 12-hour overnight fast were collected, and serums were separated on-site, then transported on dry ice to Beijing center laboratory. Laboratory examinations included serum lipid profiles and fasting blood glucose, which were measured by automatic analyzer (Hitachi 7060, Hitachi, Tokyo, Japan) at Fuwai Clinical Laboratory qualified by the Centers for Disease Control and Prevention.

Outcome assessment

The diagnosis of myocardial infarction (MI) was confirmed if met the criteria of the World Health Organization (WHO) of the symptoms such as retrosternal pain last for at least 30 minutes and not relieve after taking nitroglycerine, and either electrocardiographic abnormal

observed or elevated cardiac enzyme levels.^[1] Fatal coronary heart disease (CHD) was confirmed under the situations: fatal MI confirmed by hospital records; CHD or MI as the main cause of death on the death certificate.^[2] Stroke was diagnosed according to the WHO criteria definition as “the sudden onset of focal (or global) deficit of cerebral function lasting more than 24 hours (except interrupted by surgery or death)”, which was also confirmed by a brain computed tomography or magnetic resonance.^[3] Deaths were reported by family members, work associates and/or obtained from death certificates and medical records.

The end-points were ascertained by local physicians primarily through self-reports and review of medical records, meanwhile, clinical medical records and imaging evidence were required to support all diagnosis.

Table S1. Full list of participating hospitals in this study.

| Participating hospitals | Province/ Municipality | City |
|--|-----------------------------------|--------------|
| The Second People's Hospital of Chuzhou | Anhui | Chuzhou |
| Benxi Railway Hospital | Liaoning | Benxi |
| The Second Hospital of Longyan | Fujian | Longyan |
| The First Affiliated Hospital of Fujian Medical University | Fujian | Fuzhou |
| Henan province Luoyang 613 Hospital | Henan | Luoyang |
| Henan province people's hospital | Henan | Zhengzhou |
| Hongxinglong Center Hospital | Heilongjiang | Shuangyashan |
| The First Bethune Hospital of Jilin University | Jilin | Changchun |
| Qingdao Municipal Hospital | Shandong | Qingdao |
| Ri Zhao Port Hospital | Shandong | Rizhao |
| Affiliated Hospital of Jining Medical University | Shandong | Jining |
| First Hospital of Shanxi Medical University | Shanxi | Taiyuan |
| Tianjin Chest Hospital | Tianjin | Tianjin |
| The Second Hospital of Tianjin Medical University | Tianjin | Tianjin |
| Tongji Hospital, Tongji Medical College Huazhong University of Science and Technology | Hubei | Wuhan |
| Union Hospital, Tongji Medical College Huazhong University of Science and Technology | Hubei | Wuhan |
| Xuzhou Third People's Hospital | Jiangsu | Xuzhou |
| The First Affiliated Hospital of Hebei North University | Hebei | Zhangjiakou |

Table S2. The price of generic drugs and brand-name drugs in this study.

| | Brand-name drugs | Generic drugs |
|--|-----------------------------|---------------------------|
| | Per pill (RMB) | Per pill (RMB) |
| Antihypertensive drugs | | |
| Angiotensin-converting enzyme inhibitors | | |
| Captopril Tablets | - | 0.8 |
| Benazepril Hydrochloride Tablets | - | 2.1 |
| Imidapril Hydrochloride Tablets | - | 2.5 |
| Enalapril Maleate Tablets | - | 1.1 |
| Perindopril and Indapamide Tablets (BIPREL [®] forte; SERVIER Pharmaceutical Co., Ltd) | 4.7 | - |
| Perindopril Tablets (ACERTIL [®] ; SERVIER Pharmaceutical Co., Ltd) | 3.9 | - |
| Benazepril Hydrochloride Tablets (Novartis Farma S.p.A) | 3.1 | - |
| Ramipril Tablets (Tritace [®] ; Sanofi Pharmaceuticals Co., Ltd) | 6.1 | - |
| Fosinopril sodium Tablets (Monopril [®] ; Sino-American Squibb Pharmaceuticals Ltd.) | 3.3 | - |
| Angiotensin receptor blockers | | |
| Valsartan Capsules | - | 1.8 |
| Candesartan Cilexetil Tablets | - | 1.6 |
| Valsartan Dispersible Tablets | - | 2.3 |
| Losartan Potassium Tablets | - | 6.4 |
| Irbesartan and Hydrochlorothiazide Tablets | - | 3.5 |
| Telmisartan Tablets (DAWNRAYS Pharmaceutical Co., Ltd.) | 1.8 | - |
| Valsartan and Hydrochlorothiazide Tablets (Novartis Farma S.p.A) | 6.4 | - |
| Valsartan Capsules (Diovan [®] ; Novartis Farma S.p.A) | 5.7 | - |
| Olmesartan Medoxomil Tablets (OLMETEC [®] ; DAICHI SAMKYO Pharmaceutical Co., Ltd.) | 7.1 | - |
| Losartan Potassium Tablets (Merck Sharp & Dohme Ltd.) | 6.4 | - |
| Losartan Potassium and Hydrochlorothiazide Tablets (HYZAAR [®] ; Merck Sharp & Dohme Ltd.) | 7.7 | - |
| Irbesartan Tablets (APROVEL [®] ; Sanofi Pharmaceuticals Co., Ltd) | 5.7 | - |
| Telmisartan Tablets (Micardis [®] ; Boehringer Ingelheim International GmbH) | 6.0 | - |
| Calcium channel blockers | | |
| Levoamlodipine Maleate Dispersible Tablets | - | 4.5 |
| Nitrendipine Tablets | - | 0.9 |
| Nimodipine Tablets | - | 0.7 |
| Verpamil Hydrochloride Tablets | - | 0.3 |

(Continued)

| | Brand-name drugs | Generic drugs |
|--|---------------------|-------------------|
| Antihypertensive drugs | Per pill (RMB) | Per pill (RMB) |
| Calcium channel blockers | | |
| Nifedipine Sustained-release Tablets (II) | - | 0.9 |
| Nifedipine Tablets | - | 0.02 |
| Amlodipine Besylate Tablets | - | 0.9 |
| Diltiazem Hydrochloride Sustained Release Capsules (II) | - | 2.5 |
| Levamlodipine Besylate Tablets | - | 2.5 |
| Nifedipine Controlled released Tablets | - | 3.1 |
| Levamlodipine Besylate Tablets | - | 2.6 |
| Amlodipine Besylate Tablets | - | 3.4 |
| Manidipine Hydrochloride Tablets | - | 8.0 |
| Cilnidipine Tablets | - | 2.0 |
| Lacidipine Tablets (LACIPIL®; GlaxoSmithKline, S.A.) | 4.3 | - |
| Nifedipine Controlled Released Tablets (Bayer Weimar GmbH & Co. KG) | 6.0 | - |
| Amlodipine Besylate Tablets (Pfizer Inc.) | 5.6 | - |
| Felodipine Sustained Release Tablets (Plendil®; AstraZeneca AB) | 3.5 | - |
| Thiazide-type diuretics | | |
| Indapamide Tablets | - | 0.8 |
| Hydrochlorothiazide Tablets | - | 0.04 |
| Indapamide Sustained Release Tablets (NATRILIX®; SERVIER Pharmaceutical Co., Ltd.) | 2.2 | - |
| Beta-blocker | | |
| Propranolol Hydrochloride Tablets | - | 0.2 |
| Atenolol Tablets | - | 0.1 |
| Metoprolol Tartrate Controlled-release Tablets | - | 1.6 |
| Bisoprolol Fumarate Tablets | - | 1.9 |
| Labetalol Hydrochloride Tablets | - | 1.5 |
| Carvedilol Tablets | - | 1.1 |
| Metoprolol Succinate Sustained-release Tablets (BETALOC ZOK®; AstraZeneca AB) | 3.1 | - |
| Arotinolol Hydrochloride Tablets (Almarl®; Sumitomo Dainippon Pharma Co., Ltd.) | 4.2 | - |

Table S3. Analysis of DBP-lowering efficacy between generic drugs and brand-name drugs in the matched cohort.

| Variables | Mean (95% CI) of DBP lowering*, mmHg | | Adjusted mean (95% CI) of DBP lowering†, mmHg | | Adjusted between- group difference (95% CI) of DBP lowering†, mmHg | P value† |
|--|---|----------------------|--|----------------------|---|-------------|
| | Brand-name drug | Generic drug | Brand-name drug | Generic drug | | |
| Matched cohort (n=6528) | -4.1 (-4.2, -3.5) | -3.7 (-4.1, -3.3) | -4.6 (-6.1, -3.1) | -4.5 (-5.9, -3.0) | 0.1 (-0.6, 0.9) | 0.71 |
| By age | | | | | | |
| <60 years (n=3258) | -7.1 (-8.0, -6.1) | -5.8 (-6.4, -5.2) | -5.8 (-8.0, -3.6) | -5.4 (-7.6, -3.2) | 0.4 (-0.6, 1.5) | 0.43 |
| ≥60 years (n=3270) | -1.3 (-2.1, -0.5) | -1.5 (-2.0, -1.0) | -3.2 (-5.3, -1.2) | -3.3 (-5.4, -1.3) | -0.1 (-1.1, 0.9) | 0.88 |
| By sex | | | | | | |
| Men (n=3236) | -5.4 (-6.3, -4.4) | -4.4 (-5.0, -3.8) | -4.6 (-6.9, -2.3) | -4.2 (-6.4, -1.9) | 0.4 (-0.7, 1.4) | 0.47 |
| Women (n=3292) | -2.8 (-3.6, -2.0) | -3.0 (-3.5, -2.4) | -4.9 (-6.9, -2.8) | -5.1 (-7.1, -3.1) | -0.2 (-1.2, 0.7) | 0.65 |
| By FRS | | | | | | |
| <10% (n=3956) | -5.1 (-5.9, -4.3) | -4.0 (-4.5, -3.5) | -5.4 (-7.2, -3.5) | -5.1 (-6.9, -3.3) | 0.3 (-0.6, 1.2) | 0.08 |
| 10%-19% (n=1472) | -2.4 (-3.7, -1.1) | -4.3 (-5.2, -3.5) | -1.2 (-4.6, 2.3) | -2.2 (-5.6, 1.1) | -1.0 (-2.6, 0.5) | 0.10 |
| ≥20% (n=1100) | -2.5 (-4.2, -0.9) | -1.7 (-2.7, -0.8) | -6.2 (-10.8, -1.5) | -5.7 (-10.3, -1.1) | 0.5 (-1.4, 2.4) | 0.62 |
| By no. of antihypertensive drug | | | | | | |
| 1 medication (n=2659) | -3.3 (-4.2, -2.3) | -1.1 (-1.7, -0.6) | -4.0 (-6.4, -1.6) | -3.3 (-5.7, -0.9) | 0.6 (-0.4, 1.7) | 0.22 |
| 2 medications (n=2560) | -4.2 (-5.1, -3.2) | -4.3 (-4.9, -3.6) | -3.1 (-5.6, -0.7) | -2.6 (-5.1, -0.2) | 0.5 (-0.7, 1.7) | 0.42 |
| ≥3 medications (n=1309) | -5.5 (-7.0, -3.9) | -8.8 (-9.9, -7.7) | -8.3 (-11.7, -4.8) | -9.7 (-13.1, -6.4) | -1.5 (-3.3, 0.3) | 0.11 |
| By stage of BP at baseline‡ | | | | | | |
| Normal BP (n=1954) | 3.3 (2.5, 4.1) | 3.6 (2.9, 4.2) | 2.5 (0.1, 4.9) | 3.0 (0.7, 5.4) | 0.5 (-0.5, 1.6) | 0.31 |
| Stage 1 (n=2360) | -3.0 (-3.8, -2.2) | -2.9 (-3.4, -2.3) | -3.6 (-5.8, -1.4) | -3.8 (-6.0, -1.6) | -0.2 (-1.3, 0.8) | 0.67 |
| Stage 2 (n=1447) | -8.5 (-9.9, -7.2) | -7.2 (-8.0, -6.4) | -8.5 (-12.4, -4.6) | -9.4 (-13.2, -5.5) | -0.9 (-2.5, 0.7) | 0.29 |
| Stage 3 (n=767) | -21.8 (-24.1, -19.6) | -16.1 (-17.6, -14.6) | -17.1 (-22.2, -12.0) | -16.8 (-21.7, -11.9) | 0.3 (-2.5, 3.2) | 0.82 |

Values are presented as mean (95% CI).

* Mean (95% CI) of DBP lowering was calculated using the Student *t* test.

† Adjusted mean (95% CI) of DBP lowering, adjusted between-group difference (95% CI) of DBP lowering, and *P* value were calculated using generalized linear model after adjusting for age, sex (except in sex-stratified analysis), body mass index, BP (except in BP stage-stratified analysis), current smoking and alcohol status, medical history, annual household income, lipids profile, and number of antihypertensive medications at baseline (except in antihypertensive medication-stratified analysis).

‡ The normal BP was defined as BP <140/90 mmHg, stage 1 as SBP 140–159 mmHg and/or DBP 90–99 mmHg, stage 2 as SBP 160–179 mmHg and/or DBP 100–109 mmHg, and stage 3 as SBP ≥180 mmHg, and/or DBP ≥110 mmHg.

DBP: Systolic blood pressure; CI: Confidence interval; FRS: Framingham risk score.

Table S4. Sensitive analysis of BP-lowering efficacy after excluding patients with self-reported BP at follow-up.

| | Mean (95% CI) of BP lowering*, mmHg | | Adjusted mean (95% CI) of BP lowering [†] , mmHg | | Adjusted between-group difference (95% CI) of BP lowering [†] , mmHg | <i>P</i> value [†] |
|-----------------------------|--|--------------------------|--|--------------------------|---|--------------------------------|
| | Brand-name drug (n=1506) | Generic drug (n=3867) | Brand-name drug (n=1506) | Generic drug (n=3867) | | |
| BP-lowering efficacy | | | | | | |
| ΔSBP | −9.0 (−10.3, −7.8) | −7.6 (−8.3, −6.8) | −8.7 (−11.2, −6.3) | −8.4 (−10.8, −5.9) | 0.4 (−0.8, 1.5) | 0.55 |
| ΔDBP | −3.9 (−4.4, −3.5) | −4.0 (−4.8, −3.2) | −4.9 (−6.7, −3.1) | −5.1 (−6.9, −3.3) | −0.2 (−1.0, 0.7) | 0.68 |

Values are presented as mean (95% CI).

* Mean (95% CI) of BP lowering was calculated by the Student *t* test.

[†] Adjusted mean (95% CI), between-group difference (95% CI) of BP lowering and *P* values were calculated by generalized linear model after adjusting for age, sex, body mass index, BP, current smoking and alcohol status, medical history, annual household income, lipids profile, and number of antihypertensive medications at baseline.

BP: Blood pressure; SBP: Systolic blood pressure; DBP: Diastolic blood pressure; CI: Confidence interval.

Table S5. Sensitive analysis of BP-lowering efficacy after excluding patients who had cross-over in the use of generic and brand-name drugs at follow-up.

| | Mean (95% CI) of BP lowering*, mmHg | | Adjusted mean (95% CI) of BP lowering [†] , mmHg | | Adjusted between-group difference (95% CI) of BP lowering [†] , mmHg | <i>P</i> value [†] |
|-----------------------------|--|--------------------------|--|--------------------------|---|--------------------------------|
| | Brand-name drug (n=1798) | Generic drug (n=4095) | Brand-name drug (n=1798) | Generic drug (n=4095) | | |
| BP-lowering efficacy | | | | | | |
| ΔSBP | −9.3 (−10.4, −8.4) | −7.0 (−7.7, −6.3) | −7.9 (−10.2, −5.7) | −6.9 (−9.1, −4.7) | 1.0 (−0.1, 2.1) | 0.06 |
| ΔDBP | −4.4 (−5.1, −3.7) | −3.4 (−3.8, −3.0) | −4.8 (−6.5, −3.2) | −4.3 (−5.9, −2.7) | 0.5 (−0.3, 1.3) | 0.19 |

Values are presented as mean (95% CI).

The footnote was the same as mentioned in Table S4.

BP: Blood pressure; SBP: Systolic blood pressure; DBP: Diastolic blood pressure; CI: Confidence interval.

Table S6. Analysis of SBP-lowering efficacy between generic drugs and brand-name drugs in the original cohort.

| Variables | Mean (95% CI) of SBP lowering*, mmHg | | Adjusted mean (95% CI) of SBP lowering†, mmHg | | Adjusted between-group difference (95% CI) of SBP lowering†, mmHg | P value‡ |
|---|---|----------------------|--|----------------------|---|-------------|
| | Brand-name drug | Generic drug | Brand-name drug | Generic drug | | |
| Original cohort (n=7955) | -9.6 (-10.6, -8.6) | -9.4 (-10.0, -8.8) | -10.6 (-12.7, -8.5) | -10.0 (-12.1, -8.0) | 0.6 (-0.5, 1.6) | 0.28 |
| By age | | | | | | |
| <60 years (n=3902) | -10.6 (-12.1, -9.1) | -8.2 (-9.1, -7.3) | -9.4 (-12.2, -6.7) | -7.8 (-10.4, -5.1) | 1.7 (0.3, 3.0) | 0.02 |
| ≥60 years (n=4053) | -8.6 (-9.9, -7.3) | -10.5 (-11.4, -9.7) | -10.1 (-12.9, -7.4) | -9.8 (-12.5, -7.2) | 0.3 (-1.1, 1.6) | 0.67 |
| By sex | | | | | | |
| Men (n=3599) | -10.4 (-11.8, -9.0) | -9.1 (-10.1, -8.2) | -9.4 (-12.6, -6.2) | -8.3 (-11.4, -5.2) | 1.1 (-0.4, 2.6) | 0.16 |
| Women (n=4356) | -8.7 (-10.1, -7.3) | -9.6 (-10.4, -8.7) | -11.0 (-13.9, -8.0) | -10.9 (-13.7, -8.0) | 0.1 (-1.3, 1.6) | 0.88 |
| By FRS | | | | | | |
| <10% (n=4849) | -8.6 (-9.9, -7.4) | -7.6 (-8.3, -6.8) | -8.8 (-11.1, -6.4) | -8.0 (-10.3, -5.7) | 0.8 (-0.4, 1.9) | 0.18 |
| 10%–19% (n=1728) | -8.8 (-10.9, -6.7) | -10.5 (-11.8, -9.2) | -6.7 (-11.1, -2.3) | -5.2 (-9.4, -1.0) | -1.5 (-0.6, 3.6) | 0.15 |
| ≥20% (n=1378) | -14.4 (-16.8, -12.0) | -14.1 (-15.5, -12.6) | -14.8 (-20.7, -8.8) | -14.0 (-19.7, -8.2) | 0.8 (-1.9, 3.5) | 0.55 |
| By no. of antihypertensive drugs | | | | | | |
| 1 medication (n=3466) | -6.6 (-8.2, -5.1) | -4.9 (-5.7, -4.1) | -8.7 (-12.0, -5.3) | -8.3 (-11.6, -5.1) | 0.3 (-1.2, 1.8) | 0.65 |
| 2 medications (n=2991) | -10.3 (-11.8, -8.9) | -11.1 (-12.1, -10.0) | -11.4 (-15.0, -7.9) | -9.9 (-13.3, -6.5) | 1.5 (-0.2, 3.3) | 0.09 |
| ≥3 medications (n=1498) | -13.5 (-15.8, -11.1) | -17.8 (-19.4, -16.2) | -7.9 (-12.7, -3.1) | -8.8 (-13.5, -4.1) | -0.9 (-3.6, 1.7) | 0.48 |
| By stage of BP at baseline‡ | | | | | | |
| Normal BP (n=2081) | 5.6 (4.5, 6.8) | 8.1 (7.1, 9.0) | 10.3 (7.1, 13.5) | 10.3 (7.2, 13.4) | -0.1 (-1.5, 1.4) | 0.96 |
| Stage 1 (n=2809) | -7.9 (-9.0, -6.7) | -5.5 (-6.3, -4.8) | -5.3 (-8.3, -2.4) | -5.7 (-8.6, -2.8) | -0.4 (-1.9, 1.1) | 0.63 |
| Stage 2 (n=1936) | -20.2 (-22.0, -18.4) | -15.8 (-16.8, -14.8) | -21.6 (-26.2, -16.9) | -19.8 (-24.3, -15.3) | 1.8 (-0.4, 4.0) | 0.11 |
| Stage 3 (n=1129) | -41.8 (-44.8, -38.8) | -34.0 (-35.7, -32.2) | -38.5 (-45.3, -31.8) | -35.4 (-41.8, -29.0) | 3.2 (-0.7, 7.0) | 0.11 |

Values are presented as mean (95% CI).

The footnote was the same as mentioned in Table S3.

SBP: Systolic blood pressure; BP: Blood pressure; CI: Confidence interval; FRS: Framingham risk score.

Table S7. Analysis of SBP-lowering efficacy between generic drugs and brand-name drugs in the original cohort.

| Variables | Mean (95% CI) of DBP lowering*, mmHg | | Adjusted mean (95% CI) of DBP lowering†, mmHg | | Adjusted between-group difference (95% CI) of DBP lowering†, mmHg | P value‡ |
|---|---|----------------------|--|----------------------|---|-------------|
| | Brand-name drug | Generic drug | Brand-name drug | Generic drug | | |
| Entire cohort (n=7955) | -4.1 (-4.7, -3.5) | -4.1 (-4.4, -3.7) | -4.9 (-6.4, -3.5) | -4.7 (-6.1, -3.3) | 0.3 (-0.4, 1.0) | 0.47 |
| By age | | | | | | |
| <60 years (n=3902) | -7.1 (-8.0, -6.1) | -6.1 (-6.6, -5.6) | -6.5 (-8.6, -4.4) | -5.8 (-7.8, -3.8) | 0.7 (-0.3, 1.7) | 0.18 |
| ≥60 years (n=4053) | -1.3 (-2.1, -0.5) | -2.1 (-2.6, -1.7) | -3.5 (-5.4, -1.5) | -3.6 (-5.5, -1.8) | -0.2 (-1.1, 0.8) | 0.74 |
| By sex | | | | | | |
| Men (n=3599) | -5.4 (-6.3, -4.4) | -5.1 (-5.6, -4.5) | -5.1 (-7.3, -2.9) | -4.7 (-6.8, -2.5) | 0.4 (-0.6, 1.5) | 0.43 |
| Women (n=4356) | -2.8 (-3.6, -2.0) | -3.3 (-3.8, -2.9) | -5.0 (-6.8, -3.1) | -5.0 (-6.8, -3.2) | -0.03 (-1.0, 0.9) | 0.94 |
| By FRS | | | | | | |
| <10% (n=4849) | -5.1 (-5.9, -4.3) | -4.3 (-4.7, -3.8) | -5.5 (-7.3, -3.8) | -4.9 (-6.6, -3.2) | 0.7 (-0.2, 1.5) | 0.13 |
| 10%–19% (n=1728) | -2.4 (-3.7, -1.1) | -4.9 (-5.7, -4.2) | -1.7 (-4.9, 1.4) | -2.8 (-5.8, 0.2) | -1.1 (-2.6, 0.4) | 0.17 |
| ≥20% (n=1378) | -2.5 (-4.2, -0.9) | -2.3 (-3.1, -1.5) | -7.4 (-11.5, -3.3) | -7.5 (-11.4, -3.5) | -0.1 (-1.9, 1.8) | 0.93 |
| By no. of antihypertensive drugs | | | | | | |
| 1 medication (n=3466) | -3.3 (-4.3, -2.3) | -2.0 (-2.5, -1.5) | -4.4 (-6.6, -2.2) | -3.8 (-6.0, -1.7) | 0.6 (-0.4, 1.6) | 0.24 |
| 2 medications (n=2991) | -4.2 (-5.1, -3.2) | -4.7 (-5.2, -4.1) | -3.8 (-6.1, -1.5) | -3.2 (-5.4, -0.9) | 0.6 (-0.5, 1.8) | 0.28 |
| ≥3 medications (n=1498) | -5.5 (-7.0, -3.9) | -8.5 (-9.4, -7.5) | -7.4 (-10.6, -4.1) | -8.4 (-11.6, -5.3) | -1.1 (-2.9, 0.7) | 0.24 |
| By stage of BP at baseline‡ | | | | | | |
| Normal BP (n=2081) | 3.2 (2.5, 4.0) | 3.5 (2.9, 4.0) | 2.7 (0.5, 4.9) | 3.4 (1.2, 5.5) | 0.7 (-0.3, 1.7) | 0.18 |
| Stage 1 (n=2809) | -3.0 (-3.8, -2.2) | -3.0 (-3.5, -2.6) | -3.3 (-5.4, -1.2) | -3.8 (-5.9, -1.8) | -0.5 (-1.5, 0.5) | 0.35 |
| Stage 2 (n=1936) | -8.7 (-9.9, -7.5) | -6.4 (-7.1, -5.8) | -7.8 (-11.0, -4.6) | -8.2 (-11.3, -5.1) | 0.4 (-1.9, 1.1) | 0.58 |
| Stage 3 (n=1129) | -21.6 (-23.6, -19.5) | -14.2 (-15.3, -13.0) | -16.1 (-20.9, -11.3) | -15.2 (-19.7, -10.7) | 0.9 (-1.8, 3.6) | 0.53 |

Values are presented as mean (95% CI) for continuous variables.

The footnote was the same as mentioned in Table S3.

DBP: Diastolic blood pressure; BP: Blood pressure; CI: Confidence interval; FRS: Framingham risk score.

Table S8. Cox regression analysis for the association of generic and brand-name drugs with cardiovascular endpoints at follow-up.

| Outcomes | Brand-name drugs | Generic drugs | <i>P</i> value |
|------------------------------------|-------------------------|----------------------|-----------------------|
| Patients, <i>n</i> | 2176 | 4352 | |
| Total CVD, <i>n</i> | 103 | 198 | |
| Person-years | 4575 | 11070 | |
| HR (95% CI), Model I [*] | 1.0 | 0.75 (0.54-1.03) | 0.08 |
| HR (95% CI), Model II [†] | 1.0 | 0.81 (0.58-1.13) | 0.21 |
| Coronary heart diseases, <i>n</i> | 61 | 97 | |
| Person-years | 4626 | 11233 | |
| HR (95% CI), Model I [*] | 1.0 | 0.74 (0.48-1.14) | 0.17 |
| HR (95% CI), Model II [†] | 1.0 | 0.81 (0.53-1.25) | 0.35 |
| Stroke, <i>n</i> | 47 | 115 | |
| Person-years | 4613 | 11171 | |
| HR (95% CI), Model I [*] | 1.0 | 0.90 (0.56-1.46) | 0.68 |
| HR (95% CI), Model II [†] | 1.0 | 0.91 (0.56-1.50) | 0.72 |

Abbreviations: HR: hazards ratio; CI: confidence interval; CVD: cardiovascular disease.

Values are presented as number and HR (95% CI).

HR (95% CI) and *P* value were calculated using the Cox proportional-hazards regression model: with brand-name drugs as the reference.

^{*} Model I adjusted for age, sex, body mass index, blood pressure, current smoking and alcohol status, medical history, and annual household income.

[†] Model II further adjusted for total cholesterol, triglycerides, HDL-C, LDL-C, and number of antihypertensive medications at baseline.

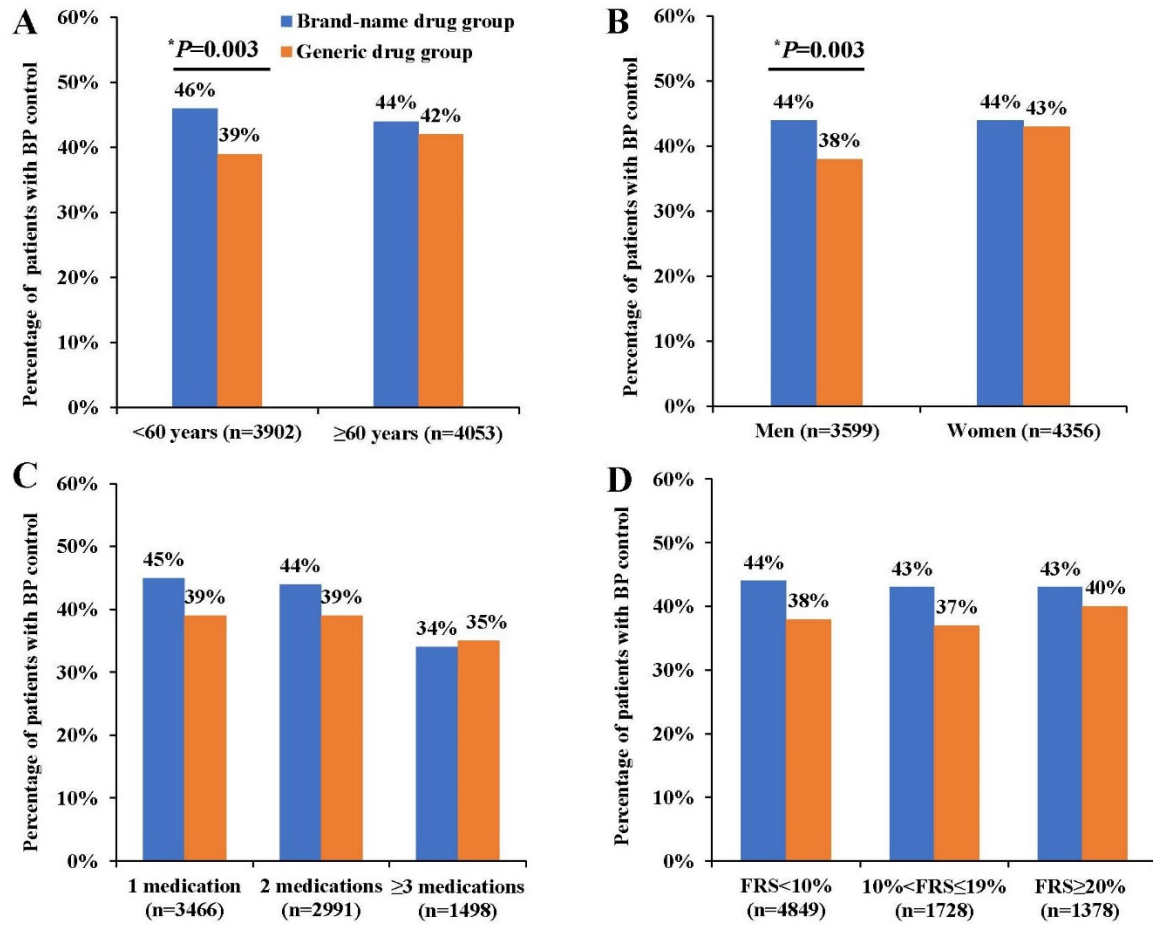


Figure S1. Percentage of BP control in patients using generic drugs and brand-name drugs groups at follow-up in the original cohort

BP: blood pressure; FRS: Framingham risk score.

Blood pressure control was defined as BP <140/90 mmHg. Comparisons of BP control rate between generic drugs and brand-name drugs in subgroups stratified by age and sex (A), by number of antihypertensive medications (B), and by Framingham risk score (C), respectively.

P values were evaluated by using the logistic regression model which adjusted for baseline characteristics including age, sex (except in sex-stratified analysis), body mass index, BP, smoking and alcohol status, medical history, annual household income, total cholesterol, triglycerides, HDL-C, LDL-C, and number of antihypertensive medications at baseline (except in antihypertensive medication-stratified analysis). **P*<0.05, generic drug group vs. brand-name drug group.

References

1. Luepker RV, Apple FS, Christenson RH, Crow RS, Fortmann SP, Goff D, et al. Case definitions for acute coronary heart disease in epidemiology and clinical research studies: a statement from the AHA Council on Epidemiology and Prevention; AHA Statistics Committee; World Heart Federation Council on Epidemiology and Prevention; the European Society of Cardiology Working Group on Epidemiology and Prevention; Centers for Disease Control and Prevention; and the National Heart, Lung, and Blood Institute. *Circulation* 2003;108:2543-2549. doi: 10.1161/01.CIR.0000100560.46946.EA.
2. Thygesen K, Alpert JS, Jaffe AS, Simoons ML, Chaitman BR, White HD, et al. Third universal definition of myocardial infarction. *J Am Coll Cardiol* 2012;60:1581-1598. doi: 10.1016/j.jacc.2012.08.001.
3. Adams HJ, Bendixen BH, Kappelle LJ, Biller J, Love BB, Gordon DL, et al. Classification of subtype of acute ischemic stroke. Definitions for use in a multicenter clinical trial. TOAST. Trial of Org 10172 in Acute Stroke Treatment. *Stroke* 1993;24:35-41. doi: 10.1161/01.str.24.1.35.