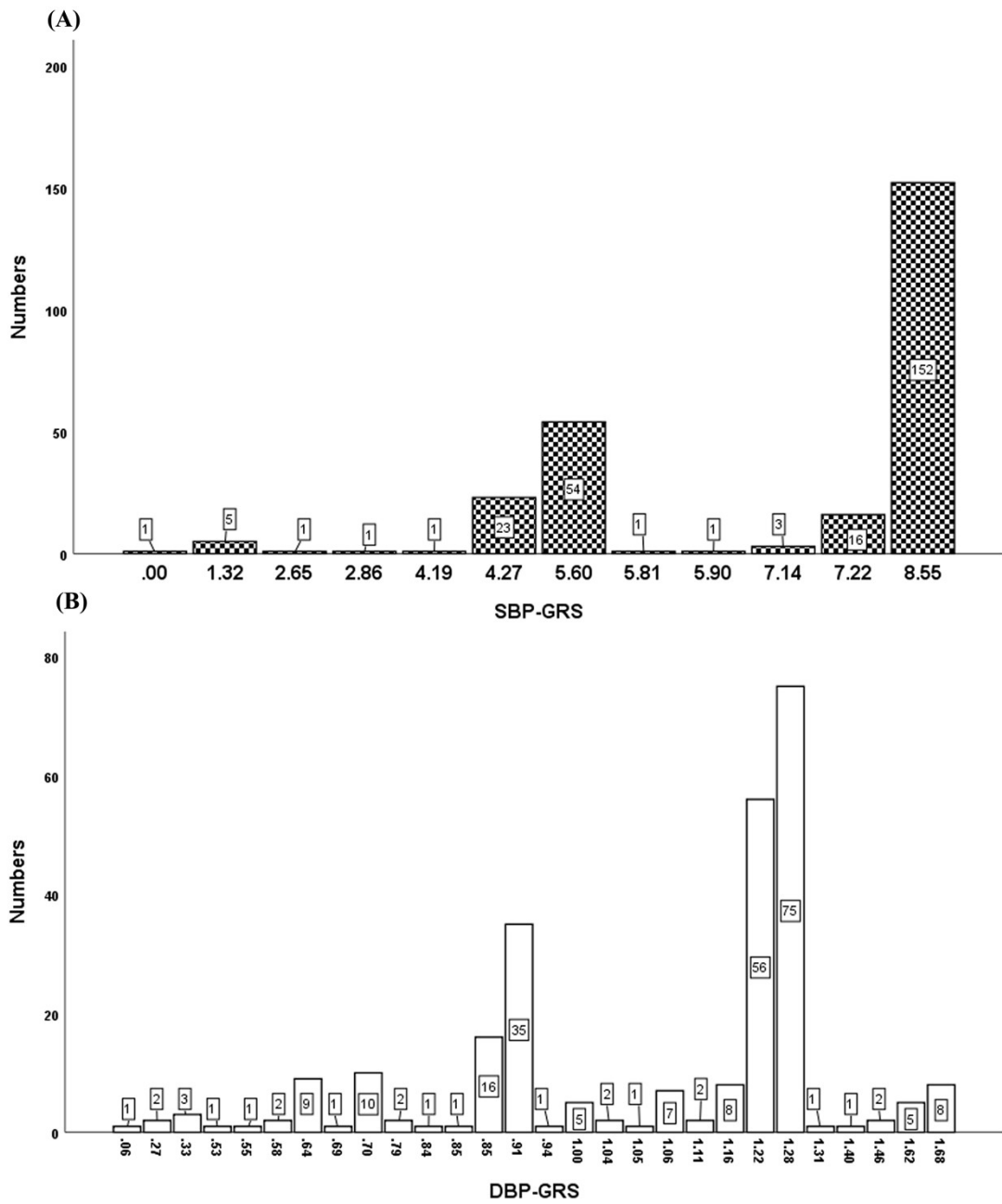**Figure S1.** Flowchart of participant recruitment in our study

Figure S2. Distribution of GRS score. Figure S2A, distribution of SBP-GRS score; Figure S2B, distribution of DBP-GRS score. DBP, diastolic blood pressure; GRS, genetic risk score; SBP, systolic blood pressure.

Table S1. Information of the 13 polymorphisms genotyped and the association with baseline SBP/DBP among the study population

Gene	SNP[a]	Position	Major/minor allele	MAF	P value [b]	
					SBP	DBP
SCNN1A	rs4764586	chr12: 6471071	C>A	A=0.404	0.549	0.300
SCNN1A	rs3782724	chr12: 6466081	A>G	G=0.238	0.530	0.140
SCNN1A	rs2228576	chr12: 6457062	C>T	T=0.490	0.983	0.426
SCNN1A	rs11542844	chr12: 6464581	C>T	T=0.161	0.712	0.657
SCNN1B	rs7190829	chr16: 23347304	A>G	G=0.202	0.922	0.351
SCNN1B	rs8055868	chr16: 23348251	G>A	A=0.226	0.800	0.264
SCNN1G	rs4421986	chr16: 23191250	G>A	A=0.060	0.587	0.092
SCNN1G	rs7404408	chr16: 23196738	C>T	T=0.166	0.067	0.058
SCNN1G	rs5735	chr16: 23200848	T>C	C=0.183	0.133	0.136
SCNN1G	rs4401050	chr16: 23217402	C>T	T=0.084	0.975	0.954
SCNN1G	rs4499238	chr16: 23221379	C>T	T=0.103	0.116	0.077
SCNN1G	rs4297681	chr16: 23225041	G>T	T=0.079	0.944	0.409
SCNN1G	rs5728	chr16: 23227362	A>G	G=0.192	0.967	0.708

a: All polymorphisms were in Hardy-Weinberg equilibrium (P >0.05).

b: P value was calculated by generalized linear regression model included polymorphisms as allele model, adjusted with age. $P<0.20$ indicated possible significant association among study population.

SNP, single nucleotide polymorphism; MAF, minor allele frequency.

Table S2. Polymorphisms information for genetic risk score construction

SBP/DBP	SNP	Risk allele	β *
SBP	rs5735	T	1.18
	rs7404408	C	1.29
	rs4499238	C	1.11
DBP	rs5735	T	0.36
	rs7404408	C	0.44
	rs4499238	C	0.47
	rs3782724	G	0.13
	rs4421986	A	0.88

*：β was derived from GenSalt Study. *Zhao et al. 2011*

Table S3. Baseline characteristics of participants by SBP/DBP-GRS groups

Characteristics	Total	SBP-GRS High (8.55)	SBP-GRS Low (0~7.14)	P value	DBP-GRS High (1.22~1.68)	DBP-GRS Low (0.06~1.16)	P value
N	259	152	107		148	111	
Age (years)	49.51±11.51	49.38±11.11	49.69±12.10	0.831	49.63±10.38	49.35±12.90	0.853
Gender				0.941			0.943
Male	129 (49.8%)	76 (50.0%)	53 (49.5%)		74 (50.0%)	55 (49.5%)	
Female	130 (50.2%)	76 (50.0)	54 (50.5%)		74 (50.0%)	56 (50.5%)	
BMI (kg/m²)	27.12±3.96	27.62±4.15	26.41±3.58	0.015	27.69±4.06	26.35±3.71	0.007
Smoking	115 (44.4%)	67 (44.1%)	48 (44.9%)	0.901	65 (43.9%)	50 (45.0%)	0.857
Alcohol drinking	98 (37.8%)	57 (37.5%)	41 (38.3%)	0.894	57 (38.5%)	41 (36.9%)	0.796
Family history of hypertension	149 (57.5%)	92 (60.5%)	57 (53.3%)	0.245	90 (60.8%)	59 (53.2%)	0.217
History of cardiovascular disease	55 (21.2%)	37 (24.3%)	18 (16.8%)	0.145	35 (22.0%)	19 (25.3%)	0.273
Antihypertensive medication use	145 (56%)	87 (57.6%)	58 (54.7%)	0.645	84 (56.8%)	59 (53.2%)	0.564
SBP (mmHg)	163.07±22.19	164.91±23.09	160.45±20.66	0.112	165.11±23.00	160.35±20.85	0.087
DBP (mmHg)	96.22±11.89	96.95±12.22	95.18±11.37	0.240	97.45±12.24	94.57±11.24	0.053
Heart rate (bpm)	81.07±11.71	80.85±10.68	81.38±13.09	0.718	80.72±10.46	81.54±13.24	0.589
TG (mmol/L)	1.76±1.86	1.81±1.80	1.69±1.95	0.630	1.82±1.18	1.69±1.92	0.603
TC (mmol/L)	5.26±1.21	5.22±1.24	5.31±1.17	0.553	5.23±1.24	5.31±1.16	0.613
HDL (mmol/L)	1.64±0.43	1.60±0.43	1.68±0.43	0.158	1.61±0.43	1.68±0.43	0.201
LDL (mmol/L)	2.52±0.79	2.50±0.78	2.55±0.80	0.257	2.49±0.78	2.55±0.79	0.566
Salt intervention				0.133			0.315
Low-sodium salt intervention	133 (51.4%)	84 (55.3%)	49 (45.8%)		80 (54.1%)	53 (47.7%)	
Normal salt intervention	126 (48.6%)	68 (44.7%)	58 (54.2%)		68 (45.9%)	58 (52.3%)	

Data were expressed as mean (SD) or n (%).

BMI, body mass index; DBP, diastolic blood pressure; GRS, genetic risk score; HDL, high-density lipoprotein; LDL, low-density lipoprotein ; SBP, systolic blood pressure; TC, total cholesterol; TG, triglyceride.

Table S4. Blood pressure levels by salt intervention group at baseline, 1 year, 2 years and 3 years

Blood pressure	SBP (mmHg)			DBP (mmHg)		
	Low-sodium salt intervention	Normal salt intervention	*P* value	Low-sodium salt intervention	Normal salt intervention	*P* value
At each time point						
Baseline	166.00±23.15	159.98±20.77	0.003	97.67±11.32	94.69±12.32	0.018
1 year	149.62±20.32	149.63±24.46	0.599	91.33±12.57	88.86±13.34	0.327
2 year	138.72±18.88	148.18±22.34	<0.001	85.96±9.50	90.43±11.30	<0.001
3 year	148.75±20.72	155.05±24.33	0.049	91.35±12.47	93.83±14.61	0.056

SBP/DBP was described as mean ± SD.

P value was analyzed by generalized linear regression model adjusted with age, gender, antihypertensive medication use, alcohol drinking, family history of hypertension, TC, HDL, baseline SBP and DBP (except for baseline blood pressure level).

DBP, diastolic blood pressure; GRS, genetic risk score; HDL, high-density lipoprotein; SBP, systolic blood pressure; TC, total cholesterol.
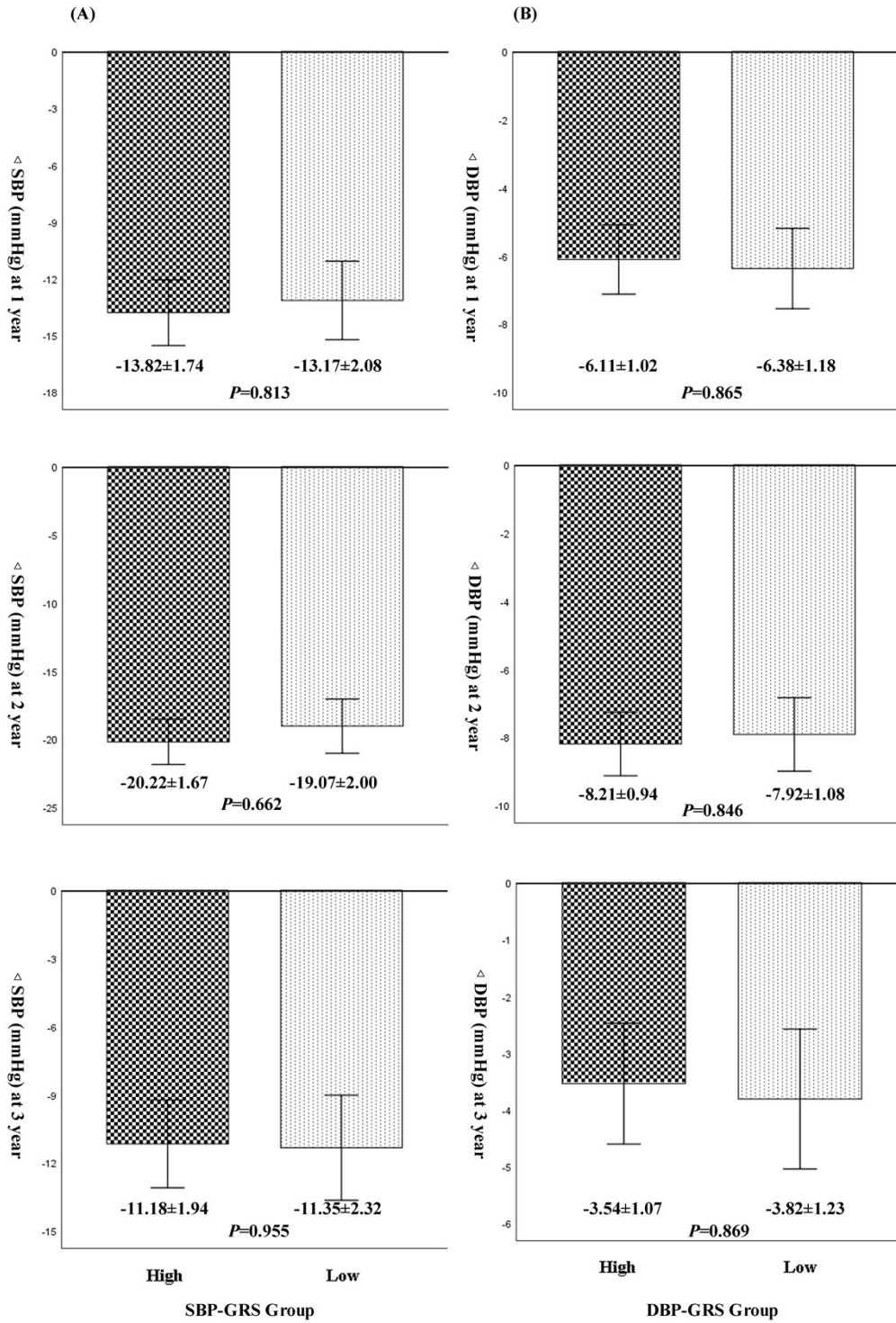
Table S5. Blood pressure levels by SBP/DBP-GRS at baseline, 1 year, 2 years and 3years

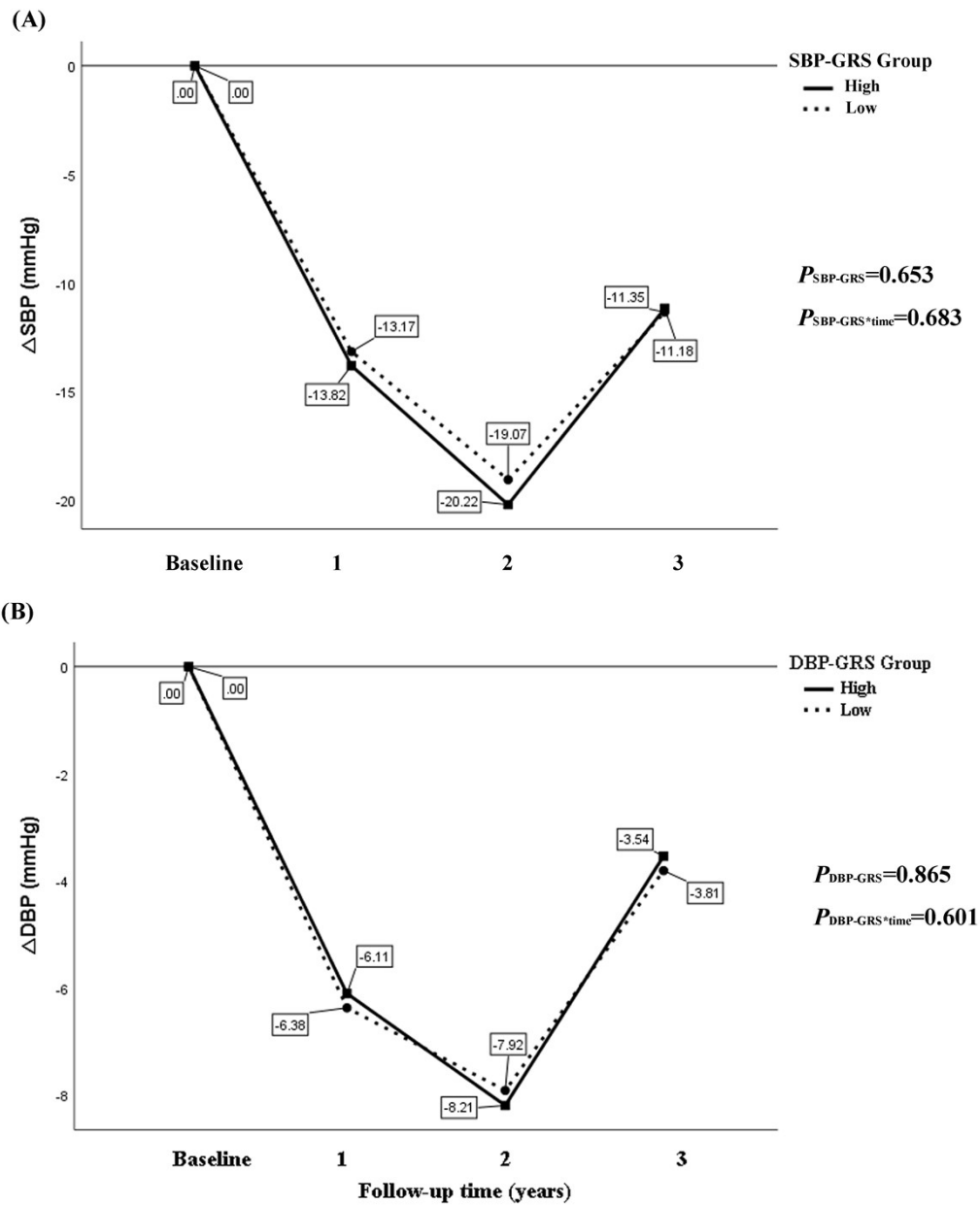| Blood pressure (mmHg)	SBP-GRS			DBP-GRS		
	High	Low	*P* value	High	Low	*P* value
SBP/DBP						
Baseline	164.91±23.09	160.45±20.66	0.416	97.45±12.24	94.57±11.25	0.300
1 year	151.09±23.21	147.61±21.29	0.572	97.69±12.33	88.13±13.59	0.200
2 year	143.90±20.93	142.50±21.49	0.704	88.86±10.75	87.16±10.44	0.358
3 year	152.97±22.89	150.17±22.49	0.402	93.55±14.57	91.23±12.08	0.311

SBP/DBP was described as mean ± SD.

P value was analyzed by generalized linear regression model adjusted with age, gender, BMI, antihypertensive medication use and salt intervention groups.

DBP, diastolic blood pressure; GRS, genetic risk score; SBP, systolic blood pressure.

Figure S3. Changes in blood pressures by SBP/DBP-GRS groups at 1 year, 2 years and 3 years. Figure S3A, SBP changes (△SBP) at each time by SBP-GRS group; Figure S3B, DBP changes (△DBP) at each time by DBP-GRS group. △SBP=SBP at follow-up visit − SBP at baseline; △DBP=DBP at follow-up visit–DBP at baseline; Blood pressure changes were expressed as estimate marginal means± standard error of mean (SEM) and P value was calculated with general linear regression model, adjusted with age, gender, BMI, antihypertensive medication use and salt intervention groups. DBP, diastolic blood pressure; GRS, genetic risk score; SBP, systolic blood pressure.

(A)

$P_{\text{SBP-GRS}}=0.653$

$P_{\text{SBP-GRS*time}}=0.683$

(B)

$P_{\text{DBP-GRS}}=0.865$

$P_{\text{DBP-GRS*time}}=0.601$

Figure S4. Trajectory of changes in blood pressure by SBP/DBP-GRS groups over 3 years. Figure S4A, 3-year trajectory of SBP change; Figure S4B, 3-year trajectory of DBP change. △SBP=SBP at follow-up visit-SBP at baseline;△DBP=DBP at follow-up visit-DBP at baseline; $P_{\text{SBP/DBP-GRS}}$ value was calculated with a generalized mixed model, adjusted with age, gender, BMI, antihypertensive medication use and salt intervention groups and $P_{\text{SBP/DBP-GRS}\beta\text{time}}$ was included in model as interaction terms. DBP, diastolic blood pressure; GRS, genetic risk score; SBP, systolic blood pressure.

Table S6. Interaction effect of salt intervention and SBP-GRS on SBP changes over 3 years

SBP-GRS group	Salt intervention group	N	△SBP （95% CI）
High	Low-sodium salt	84	-18.77 (-21.94 to -15.61)
High	Normal salt	68	-9.58 (-13.09 to -6.07)
Low	Low-sodium salt	49	-15.71 (-19.82 to -11.61)
Low	Normal salt	58	-14.62 (-18.38 to -10.86)

△SBP: SBP changes=SBP at follow-up visit-SBP at baseline, shown as estimate marginal means with 95% confidence interval (CI) was calculated by a generalized mixed model, age, gender, antihypertensive medication use, alcohol drinking, family history of hypertension, TC, HDL, baseline SBP and DBP. DBP, diastolic blood pressure; GRS, genetic risk score; HDL, high-density lipoprotein; SBP, systolic blood pressure; TC, total cholesterol.
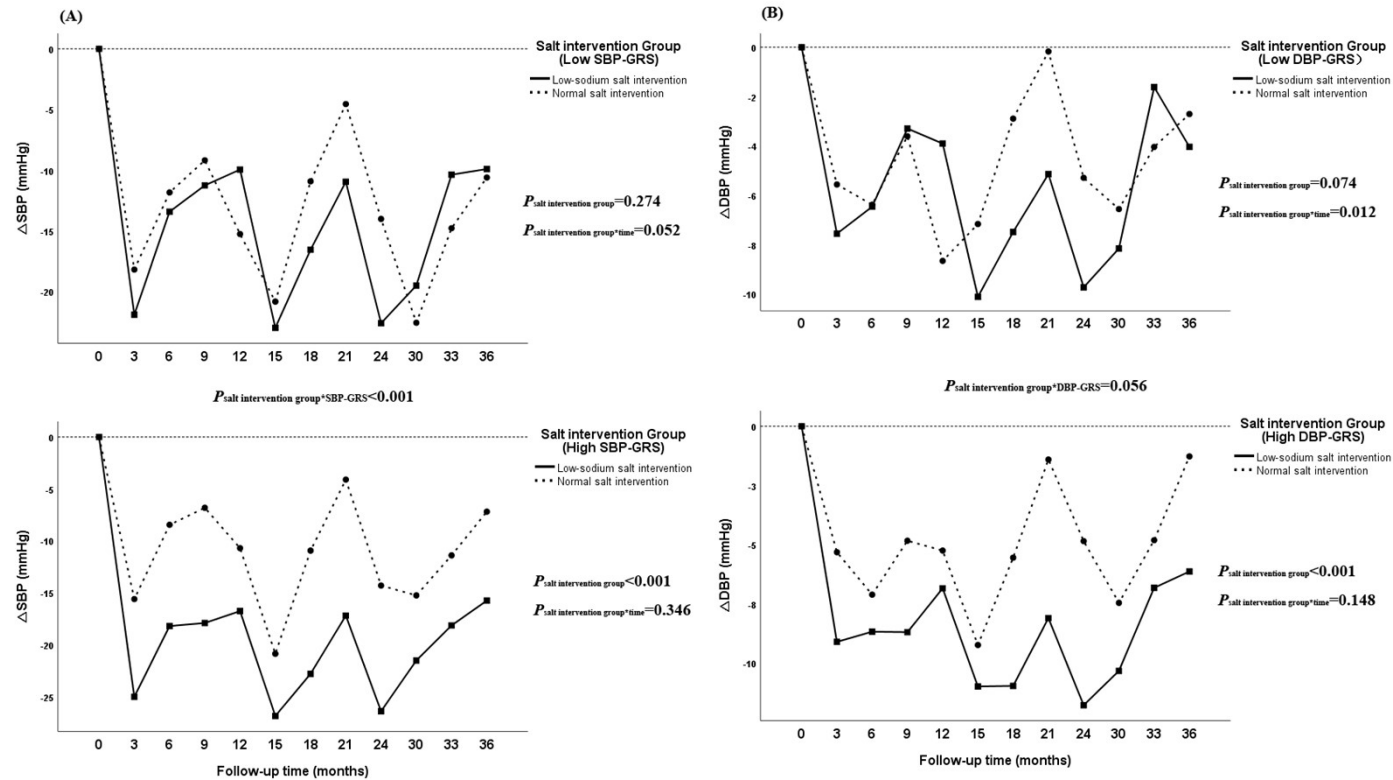
Figure S5. Trajectory of changes in blood pressure by SBP/DBP-GRS and salt intervention groups at 12 follow-up visits. Figure S1A, 3-year trajectory of SBP change in low-sodium salt and normal salt intervention; Figure S1B, 3-year trajectory of DBP change in low-sodium salt and normal salt intervention. $\triangle$SBP=SBP at follow-up visit-SBP at baseline; $\triangle$DBP=DBP at follow-up visit-DBP at baseline; $P_{SBP/DBP-GRS}$ value was calculated with a generalized mixed model, adjusted with adjusted with age, gender, antihypertensive medication use, alcohol drinking, family history of hypertension, TC, HDL, baseline SBP and DBP, $P_{salt\ intervention\ group}$✕$_{SBP/DBP-GRS}$ and $P_{salt\ intervention\ group}$✕$_{time}$ were included in model as interaction terms. DBP, diastolic blood pressure; GRS, genetic risk score; HDL, high-density lipoprotein; SBP, systolic blood pressure; TC, total cholesterol.