

Excluded diseases	Excluded drugs
Hypertension	Vitamins: Vitamins B12, Vitamins C, Vitamins B2, etc.
Diabetes	Antidiabetic medicines: insulin, metformin, Nigestedglinide, etc.
Angina	Non-steroidal anti-inflammatory drugs: aspirin, acetaminophen, indomethacin, diclofenac, celecoxib, etc.
Myocardial infarction	Antibiotics: penicillin, cephalosporins, aztreonam, ofloxacin, clarithromycin, etc.
Stroke	Cimetidine:
Gout	Glucocorticoids: hydrocortisone, prednisone, methylprednisolone, hexadecadrol, etc.
Rheumatoid arthritis	
Prostatitis	
Hepatitis B	
Various cancers	
Parotiditis	
Urolithiasis	
Pelvic floor surgery	

Table S1. The list of diseases and drugs excluded in this study



Mild	<b>767.519</b>	<b>1.649-3.573E5</b>	<b>0.034</b>	4.093	0.337-49.760	0.269	0.677	0.038-12.139	0.791	0.645	0.008-52.675	0.845
Moderate	11.236	0.098-1.289E3	0.317	2.266	0.283-18.119	0.441	1.067	0.092-12.408	0.959	2.717	0.049-150.689	0.626
Severe	70.920	0.291-1.729E4	0.129	3.281	0.316-34.092	0.320	0.424	0.037-4.866	0.491	0.027	0.000-3.577	0.148

Table S2. Association between ED and HCY, B12, FA level in four ages groups (<40, 40-49, 50-59 and ≥60 years) after adjusting multivariate

\* Linear regression for the IIEF-5; binary regression analysis for ED; multinomial logistic regression for the severity of symptom of ED

\* ED is divided into four groups according to the IIEF-5 scores: None=22-25 scores, Mild=17-21 scores, Moderate=12-16 scores and Severe=5-11 scores. None ED is treated as the reference.

\* ED: erectile dysfunction; HCY= homocysteine; B12= vitamin B12; FA= folic acid; BMI: body mass index; WHR: waist hip rate; OR: odd ratio; 95%CI: 95% confidence interval

\* Binary\_HCY: Normal HCY (5-15μmol/L); hyperhomocysteinemia (>15umol/L)

\* Multi-adjusted: age, BMI, WHR, smoke and drink



	Mild	0.765	0.351-1.669	0.501	1.403	0.924-2.130	0.112	1.156	0.612-2.183	0.655	1.202	0.587-2.462	0.615
	Moderate	1.581	0.567-4.414	0.381	1.800	0.849-3.818	0.126	0.640	0.225-1.821	0.403	1.244	0.345-4.481	0.739
	Severe	0.479	0.064-3.567	0.472	1.170	0.461-2.970	0.741	0.491	0.142-1.691	0.259	0.569	0.116-2.788	0.487
Age-Adjusted													
Marital status													
Live together		9.868	0.559-1.347	0.528	1.110	0.873-1.412	0.394	1.333	0.954-1.861	0.092	1.122	0.743-1.694	0.584
	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	0.940	0.586-1.508	0.796	1.157	0.892-1.501	0.271	1.436	0.996-2.072	0.053	1.176	0.752-1.839	0.478
	Moderate	0.874	0.402-1.902	0.735	1.110	0.735-1.676	0.620	1.015	0.583-1.766	0.958	0.947	0.469-1.909	0.878
	Severe	0.378	0.114-1.258	0.113	0.762	0.428-1.357	0.356	1.353	0.622-2.943	0.445	1.193	0.459-3.097	0.717
Alone		1.611	0.566-4.586	0.371	1.406	0.793-2.493	0.243	1.391	0.653-2.961	0.392	0.622	0.257-1.506	0.292
	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	0.850	0.216-3.352	0.817	1.210	0.598-2.451	0.596	<b>3.742</b>	<b>1.258-11.129</b>	<b>0.018</b>	0.799	0.294-2.169	0.659
	Moderate	1.019	0.132-7.836	0.986	0.831	0.272-2.542	0.745	1.492	0.339-6.562	0.597	0.341	0.060-1.947	0.226
	Severe	<b>5.085</b>	<b>1.195-21.636</b>	<b>0.028</b>	<b>2.448</b>	<b>1.046-5.733</b>	<b>0.039</b>	0.450	0.175-1.159	0.098	0.516	0.122-2.174	0.367
educational status													
Primary		0.285	0.001-61.236	0.647	0.212	0.010-4.431	0.317	10.044	0.027-3.674E <sup>3</sup>	0.444	0.421	0.080-2.228	0.309
	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	1.588	0.004-601.127	0.879	0.228	0.010-5.326	0.357	4.021	0.062-259.697	0.513	0.485	0.093-2.542	0.392
	Moderate	0.001	7.773E <sup>-8</sup> -6.096	0.116	0.139	0.003-6.581	0.316	3.874E <sup>3</sup>	1.164-1.289E <sup>7</sup>	0.046	0.426	0.024-7.587	0.561
	Severe	0.035	1.430E <sup>-5</sup> -84.089	0.398	0.118	0.002-6.145	0.290	8.466	0.008-8.474E <sup>3</sup>	0.545	0.162	0.005-5.514	0.311
Intermediate		1.392	0.820-2.365	0.221	1.209	0.915-1.597	0.182	1.384	0.954-2.009	0.087	1.073	0.669-1.722	0.769
	None	1	1	1	1	1		1	1	1	1	1	1
	Mild	1.382	0.774-2.468	0.275	1.229	0.906-1.668	0.186	<b>1.723</b>	<b>1.133-2.620</b>	<b>0.011</b>	1.206	0.717-2.030	0.480
	Moderate	1.145	0.470-2.787	0.766	1.084	0.682-1.724	0.733	0.966	0.529-1.764	0.911	0.754	0.346-1.643	0.478
	Severe	1.915	0.698-5.257	0.207	1.298	0.748-2.254	0.354	0.840	0.409-1.726	0.635	1.022	0.397-2.632	0.964
Superior		0.779	0.391-1.552	0.477	1.324	0.900-1.948	0.154	0.953	0.540-1.684	0.869	0.898	0.461-1.750	0.751

	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	0.672	0.297-1.521	0.340	1.289	0.841-1.976	0.245	1.175	0.618-2.238	0.623	0.960	0.458-2.012	0.914
	Moderate	1.421	0.486-4.155	0.521	1.583	0.736-3.405	0.240	0.682	0.241-1.926	0.470	0.917	0.244-3.440	0.898
	Severe	0.521	0.074-3.647	0.511	1.202	0.472-3.061	0.699	0.473	0.132-1.690	0.249	0.622	0.125-3.096	0.562
Multivariate adjusted													
Marital status													
	Live together	0.894	0.575-1.390	0.619	1.137	0.893-1.448	0.299	1.349	0.962-1.891	0.083	1.176	0.773-1.789	0.449
	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	0.963	0.598-1.548	0.875	1.181	0.909-1.534	0.213	<b>1.501</b>	<b>1.035-2.175</b>	<b>0.032</b>	1.245	0.790-1.961	0.345
	Moderate	0.913	0.420-1.985	0.818	1.136	0.751-1.719	0.547	0.971	0.554-1.701	0.918	0.933	0.455-1.915	0.851
	Severe	0.417	0.126-1.378	0.152	0.812	0.454-1.453	0.483	1.227	0.562-2.675	0.608	1.317	0.494-3.514	0.582
	Alone	1.602	0.546-4.698	0.390	1.399	0.779-2.512	0.261	1.288	0.558-2.975	0.553	0.678	0.253-1.820	0.441
	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	0.850	0.206-3.498	0.821	1.199	0.579-2.481	0.625	<b>3.449</b>	<b>1.113-10.692</b>	<b>0.032</b>	0.959	0.279-3.292	0.947
	Moderate	1.130	0.135-9.481	0.910	0.856	0.276-2.654	0.788	1.244	0.261-5.929	0.784	0.336	0.054-2.069	0.239
	Severe	4.181	0.951-19.374	0.058	2.356	0.989-5.616	0.053	0.302	0.084-1.083	0.066	0.598	0.139-2.570	0.490
educational status													
	Primary	0.045	0.000-51.900	0.388	0.098	0.002-5.651	0.262	6.248	0.006-6.418E3	0.605	2.823	0.032-247.907	0.649
	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	0.198	4.915E <sup>-5</sup> -794.766	0.702	0.224	0.004-13.29	0.473	0.001	3.247E-10-3.819E3	0.376	1.806	0.007-479.698	0.836
	Moderate	2.184E <sup>-12</sup>	2.988E <sup>-28</sup> -1.597E <sup>4</sup>	0.150	0.004	1.429E-6-8.838	0.157	<b>NA</b>	<b>NA</b>	<b>0.043</b>	3.396	0.006-1.820E <sup>3</sup>	0.703
	Severe	1.972E-9	1.318E <sup>-24</sup> -2.952E <sup>6</sup>	0.261	0.008	4.142E <sup>-6</sup> -15.343	0.210	<b>8.065E<sup>-217</sup></b>	<b>0.000-0.203</b>	<b>0.049</b>	0.516	0.001-457.324	0.849
	Intermediate	1.431	0.842-2.432	0.186	1.223	0.925-1.618	0.158	1.428	0.981-2.081	0.063	1.092	0.677-1.764	0.717
	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	1.401	0.782-2.510	0.257	1.238	0.910-1.682	0.174	<b>1.858</b>	<b>1.214-2.845</b>	<b>0.004</b>	1.268	0.748-2.149	0.378
	Moderate	1.225	0.502-2.990	0.656	1.105	0.694-1.761	0.673	0.954	0.519-1.755	0.880	0.707	0.319-1.568	0.394
	Severe	2.044	0.744-5.615	0.165	1.350	0.776-2.351	0.288	0.754	0.364-1.562	0.448	0.969	0.367-2.562	0.950

Superior		0.812	0.405-1.627	0.557	1.360	0.920-2.011	0.123	0.977	0.550-1.738	0.938	0.889	0.449-1.762	0.737
	None	1	1	1	1	1	1	1	1	1	1	1	1
	Mild	0.702	0.308-1.598	0.399	1.325	0.859-2.044	0.204	1.202	0.632-2.287	0.575	0.898	0.419-1.926	0.783
	Moderate	1.437	0.483-4.270	0.514	1.556	0.718-3.370	0.262	0.647	0.217-1.930	0.435	1.056	0.274-4.063	0.937
	Severe	0.598	0.092-3.890	0.591	1.333	0.513-3.459	0.555	0.496	0.123-2.002	0.325	0.715	0.145-3.529	0.681

Table S3. The logistic regression analyses (binary and multinomial) for the association between ED and HCY, B12 and FA in the subgroups of marital status and educational status

\* In the educational status, the Primary group only contains 24 participants. So, some results of regression analyses were exaggerated with these limited data

\* Multivariate adjusted: age, BMI, WHR, smoke and drink

\* HCY= homocysteine; B12= vitamin B12; FA= folic acid

\* Binary\_HCY: Normal HCY (5-15 $\mu$ mol/L); hyperhomocysteinemia (>15 $\mu$ mol/L)

\* ED status: none (IIEF-5 score 22–25); mild (17–21); moderate (12–16); and severe (5–11).