

**ESM Table 1 Characteristics of the study population from the CHNS in different survey year, 1997-2011.**

Variables	1997 year	2000 year	2004 year	2006 year	2009 year	2011 year	P
Case/N	513/6,596	609/7,457	600/6,820	694/7,143	686/7,147	589/6,561	<0.001
Age(years)	41.9(15.9)	44.7(15.7)	48.3(15.0)	50.1(14.6)	51.5(14.5)	53.5(14.2)	<0.001
Current smoking[n(%)]	1,941(30.7)	1,952(29.2)	1,954(28.9)	1,949(27.5)	2,002(28.1)	1,678(27.0)	0.001
Drinking(drinks/week)	3.9(10.9)	4.8(13.0)	5.0(13.7)	4.7(13.6)	4.1(11.5)	4.1(11.0)	0.201
PAL(MET-h/week)	63.1(100.3)	61.2(99.3)	108.4(109.9)	113.2(112.8)	131.8(115.7)	129.0(108.1)	<0.001
High school education[(n,%)]	1,167(17.8)	1,610(21.9)	1,676(24.7)	1,889(26.6)	1,781(25.0)	1,657(25.3)	<0.001
Total energy (kcal/d)	2,311.8(621.4)	2,347.0(939.8)	2,272.6(752.4)	2,237.0(972.6)	2,232.3(1197.3)	2,095.0(1267.0)	<0.001
Total protein (g/d)	68.9(21.8)	73.3(57.9)	69.1(29.8)	68.0(25.6)	68.0(29.9)	63.8(24.8)	<0.001
Tot al fat (g/d)	66.0(34.5)	74.4(56.2)	74.4(42.5)	76.4(80.2)	83.0(113.9)	81.5(122.4)	<0.001
Total Carbohydrate (g/d)	361.6(124.3)	347.7(148.8)	342.9(131.5)	330.4(132.9)	314.4(113.5)	289.5(120.4)	<0.001
Energy at breakfast (kcal/d)	605.2(234.8)	631.7(386.4)	593.8(355.0)	584.7(337.5)	585.8(335.5)	568.2(402.7)	<0.001
Energy at dinner (kcal/d)	859.1(264.1)	859.7(380.3)	840.0(330.9)	824.9(410.3)	812.6(471)	741.4(507.3)	<0.001
Urban index	52.9(18.1)	59.7(18.4)	63.3(20.4)	65.2(20.4)	68.3(19.4)	68.4(18.9)	<0.001
BMI(kg/m <sup>2</sup> )	22.1(3.2)	22.8(3.3)	23.1(3.4)	23.3(3.6)	23.4(3.4)	23.9(4.3)	<0.001
Hypertension[n,(%)]	1,115(16.9)	1,468(21.4)	1,701(25.1)	1,716(24.1)	2,206(30.1)	1,975(30.1)	<0.001

Continuous variables are presented as the means (standard derivation).

PAL included four aspects: transportation activity, occupational activity, domestic activity and leisure activity.

MET-h, metabolic equivalent hours; BMI, body mass index.

Hypertension was defined as self-reports of a history of hypertension diagnosis, and/or systolic pressure  $\geq 140$  mm/Hg, and/or diastolic pressure  $\geq 90$  mm/Hg.

**ESM Table 2 Relationship between the ratio of single-time-point Z energy consumption at dinner versus breakfast and T2D risk by logistic regression models.**

Survey year	Q1	Q2	Q3	Q4	Q5	P for trend
1997	1	0.84(0.52-1.17)	0.98(0.67-1.29)	0.99(0.68-1.30)	1.36(1.06-1.66)	0.013
	1	0.86(0.54-1.18)	0.97(0.65-1.29)	0.99(0.67-1.31)	1.35(1.04-1.65)	0.022
	1	0.94(0.61-1.27)	1.07(0.74-1.40)	1.12(0.78-1.46)	1.52(1.19-1.85)	0.004
	1	1.06(0.70-1.41)	1.13(0.77-1.48)	1.08(0.71-1.44)	1.55(1.19-1.91)	0.020
2000	1	1.02(0.74-1.29)	1.10(0.83-1.37)	1.28(1.01-1.56)	1.35(1.06-1.63)	0.012
	1	0.98(0.69-1.27)	1.16(0.88-1.45)	1.28(0.99-1.58)	1.33(1.03-1.63)	0.017
	1	1.00(0.70-1.29)	1.17(0.88-1.46)	1.32(1.02-1.61)	1.35(1.05-1.66)	0.012
	1	1.04(0.73-1.34)	1.18(0.88-1.48)	1.31(1.01-1.62)	1.26(0.95-1.57)	0.053
2004	1	0.80(0.55-1.06)	0.91(0.65-1.17)	0.88(0.60-1.15)	0.91(0.61-1.20)	0.618
	1	0.84(0.54-1.14)	0.86(0.56-1.17)	0.88(0.55-1.20)	0.94(0.60-1.28)	0.724
	1	0.84(0.54-1.14)	0.86(0.56-1.17)	0.88(0.55-1.20)	0.95(0.61-1.28)	0.743
	1	0.89(0.57-1.21)	0.88(0.55-1.21)	0.89(0.55-1.23)	0.90(0.54-1.26)	0.566
2006	1	0.86(0.61-1.11)	0.97(0.72-1.22)	1.13(0.87-1.39)	1.04(0.77-1.32)	0.323
	1	0.86(0.57-1.15)	0.99(0.70-1.27)	1.14(0.85-1.44)	1.14(0.82-1.45)	0.182
	1	0.86(0.57-1.15)	0.99(0.70-1.27)	1.14(0.84-1.44)	1.14(0.82-1.46)	0.185
	1	0.92(0.61-1.22)	0.96(0.66-1.27)	1.14(0.83-1.45)	1.12(0.78-1.46)	0.293
2009	1	0.98(0.73-1.24)	1.15(0.91-1.40)	1.02(0.75-1.29)	1.23(0.95-1.50)	0.167
	1	0.98(0.73-1.23)	1.15(0.90-1.40)	1.01(0.74-1.27)	1.23(0.95-1.50)	0.178
	1	0.98(0.73-1.23)	1.15(0.90-1.40)	1.00(0.73-1.27)	1.23(0.95-1.50)	0.188
	1	0.92(0.66-1.18)	1.06(0.80-1.32)	0.89(0.61-1.17)	1.13(0.84-1.42)	0.559
2011	1	0.87(0.61-1.14)	0.77(0.49-1.05)	1.12(0.86-1.39)	1.12(0.84-1.41)	0.206

1	0.86(0.60-1.13)	0.76(0.48-1.04)	1.11(0.84-1.38)	1.12(0.84-1.41)	0.214
1	0.86(0.59-1.13)	0.75(0.47-1.04)	1.10(0.83-1.37)	1.11(0.82-1.40)	0.248
1	0.91(0.63-1.18)	1.35(1.06-1.64)	1.07(0.79-1.34)	1.11(0.81-1.40)	0.378

Model 1 was adjusted by age, sex and urban index.

Model 2 was further adjusted by smoking, drinking, education levels and physical activity.

Model 3 was further adjusted by total energy intake, protein intake, fat intake and carbohydrate intake.

Model 4 was adjusted by all variables in model3, with further adjustment for the history of hypertension and BMI.