

Supplementary tables

Table S1. Prevalence (%) of impaired Basic Activities of Daily Living (BADLs) among rural and urban respondents, CHARLS 2011 and CHARLS 2015.

	CHARLS 2011 (<i>n</i> = 5955)			CHARLS 2015 (<i>n</i> = 7338)		
	Rural (<i>n</i> = 4337)	Urban (<i>n</i> = 1618)	<i>p</i>	Rural (<i>n</i> = 5366)	Urban (<i>n</i> = 1972)	<i>p</i>
Total	28.2	17.1	<0.001	30.5	20.6	<0.001
Age group (years)						
60-64	21.5	10.2	<0.001	22.6	13.6	<0.001
65-69	25.6	16.0	<0.001	29.1	16.3	<0.001
70-74	31.9	16.7	<0.001	34.7	21.5	<0.001
75-79	36.7	19.2	<0.001	39.5	29.3	0.004
80-84	45.5	41.2	0.457	45.1	33.3	0.025
85-89	49.4	57.6	0.425	48.9	56.3	0.381
90+	51.9	42.9	1.000	51.2	66.7	0.303
Sex						
Male	24.0	16.1	<0.001	25.5	19.1	<0.001
Female	32.3	18.3	<0.001	35.2	22.2	<0.001
Marital status						
Married	26.5	15.5	<0.001	28.0	19.1	<0.001
Unmarried	33.9	24.0	0.001	39.1	27.4	0.001
Living arrangement						
Not living alone	27.8	16.9	<0.001	30.0	20.3	<0.001
Living alone	31.4	18.5	0.001	35.2	24.5	0.016
Living near children						
Living near children	27.9	17.6	<0.001	30.9	21.4	<0.001
Not living near children	31.8	6.5	<0.001	26.3	14.6	0.001
No child	26.4	18.0	0.261	34.3	13.8	0.033
Educational level						
Below primary school	31.6	25.1	0.006	33.6	29.9	0.119
Primary school	22.7	16.8	0.016	27.3	22.5	0.033
Middle school	19.0	13.7	0.050	21.9	15.6	0.009
High school	10.8	10.7	0.995	13.3	17.8	0.242
College and above	0.0	15.8	1.000	0.0	9.9	1.000
Income group						
First group (low)	33.7	28.8	0.411	31.4	19.8	0.017
Second group	33.8	36.1	0.770	28.3	38.5	0.262
Third group	25.1	27.0	0.686	28.6	28.9	0.965
Fourth group	20.2	20.0	0.944	25.7	21.3	0.284
Fifth group (high)	14.9	12.0	0.209	19.9	16.5	0.273
Missing	28.8	20.4	0.007	33.0	21.6	<0.001

Table S2. Prevalence (%) of impaired Instrumental Activities of Daily Living (IADLs) among rural and urban respondents, CHARLS 2011 and CHARLS 2015.

	CHARLS 2011 (<i>n</i> = 5963)			CHARLS 2015 (<i>n</i> = 7192)		
	Rural (<i>n</i> = 4336)	Urban (<i>n</i> = 1627)	<i>p</i>	Rural (<i>n</i> = 5237)	Urban (<i>n</i> = 1955)	<i>p</i>
Total	33.9	21.3	<0.001	33.6	20.8	<0.001
Age group (years)						
60-64	24.5	13.3	<0.001	25.4	12.4	<0.001
65-69	30.5	18.5	<0.001	31.4	17.3	<0.001
70-74	38.7	20.0	<0.001	36.2	22.6	<0.001
75-79	45.5	26.4	<0.001	44.4	29.0	<0.001
80-84	57.6	52.0	0.341	54.8	34.7	<0.001
85-89	69.8	69.7	0.994	59.5	60.9	0.873
90+	80.8	57.1	1.000	56.1	80.0	0.102
Sex						
Male	27.2	19.0	<0.001	26.5	17.8	<0.001
Female	40.6	23.9	<0.001	40.3	24.1	<0.001
Marital status						
Married	30.6	19.8	<0.001	30.7	19.4	<0.001
Unmarried	45.0	28.1	<0.001	43.9	27.4	<0.001
Living arrangement						
Not living alone	34.0	21.4	<0.001	33.4	20.6	<0.001
Living alone	33.3	20.9	0.001	35.7	23.2	0.006
Living near children						
Living near children	34.1	21.4	<0.001	34.4	21.8	<0.001
Not living near children	31.2	14.1	0.003	27.2	11.6	<0.001
No child	35.2	31.4	0.647	35.3	27.6	0.438
Educational level						
Below primary school	39.1	33.3	0.021	38.4	32.4	0.015
Primary school	24.9	21.9	0.228	27.1	22.5	0.042
Middle school	20.3	16.3	0.163	21.3	15.8	0.023
High school	13.8	14.0	0.971	18.9	15.3	0.355
College and above	0.0	11.2	1.000	16.7	10.7	0.648
Income group						
First group (low)	38.3	36.4	0.752	31.2	18.1	0.007
Second group	39.5	44.4	0.549	29.4	36.0	0.481
Third group	30.5	31.7	0.807	30.2	44.7	0.060
Fourth group	28.0	25.3	0.389	28.9	15.7	0.002
Fifth group (high)	23.4	17.1	0.021	18.2	13.5	0.106
Missing	33.8	19.1	<0.001	38.1	23.7	<0.001

Table S3. Prevalence (%) of self-reported depression among rural and urban respondents, CHARLS 2011 and CHARLS 2015

	CHARLS 2011 (<i>n</i> = 5567)			CHARLS 2015 (<i>n</i> = 6811)		
	Rural (<i>n</i> = 4004)	Urban (<i>n</i> = 1523)	<i>p</i>	Rural (<i>n</i> = 4999)	Urban (<i>n</i> = 1812)	<i>p</i>
Total	47.4	27.8	<0.001	40.5	22.7	<0.001
Age group (years)						
60-64	45.6	27.4	<0.001	38.4	21.4	<0.001
65-69	47.4	29.2	<0.001	43.9	22.6	<0.001
70-74	48.9	25.9	<0.001	42.0	25.6	<0.001
75-79	48.0	23.0	<0.001	39.7	24.2	<0.001
80-84	51.2	37.8	0.039	36.6	20.0	0.003
85-89	55.1	43.5	0.335	36.1	15.6	0.032
90+	47.1	42.9	1.000	33.3	40.0	1.000
Sex						
Male	39.5	20.5	<0.001	32.4	19.1	<0.001
Female	55.0	35.6	<0.001	48.4	26.6	<0.001
Marital status						
Married	45.1	25.3	<0.001	38.3	21.4	<0.001
Unmarried	55.3	38.5	<0.001	49.1	28.7	<0.001
Living arrangement						
Not living alone	46.8	26.6	<0.001	40.0	22.4	<0.001
Living alone	52.9	35.5	<0.001	46.3	26.3	<0.001
Living near children						
Living near children	46.6	27.7	<0.001	40.0	22.6	<0.001
Not living near children	57.4	25.0	<0.001	43.3	22.5	<0.001
No child	46.5	34.0	0.164	48.4	34.8	0.241
Educational level						
Below primary school	51.2	37.5	<0.001	44.8	31.8	<0.001
Primary school	41.5	31.9	0.002	35.3	24.1	<0.001
Middle school	35.7	24.5	0.001	29.6	19.5	<0.001
High school	31.7	18.4	0.022	26.7	17.9	0.041
College and above	25.0	14.7	0.483	0.0	14.8	0.308
Income group						
First group (low)	50.8	49.2	0.806	44.8	23.6	<0.001
Second group	53.5	41.2	0.157	41.9	23.1	0.056
Third group	45.7	44.7	0.845	43.2	39.5	0.651
Fourth group	42.4	29.3	<0.001	36.2	32.6	0.430
Fifth group (high)	32.7	22.9	0.002	30.9	16.7	<0.001
Missing	46.1	27.7	<0.001	40.4	23.6	<0.001

Table S4. Multiple logistic regression analyses on rural and urban respondents' impaired Basic Activities of Daily Living (BADLs), adjusted for age and sex, CHARLS 2011 ($n = 5995$)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Rural respondents ^a	1.99	1.72-2.31	1.96	1.69-2.28	1.59	1.34-1.89	1.24	1.03-1.48	1.09	0.90-1.32
Marital status ^b										
Unmarried	—	—	1.08	0.91-1.29	1.07	0.90-1.27	1.10	0.93-1.32	1.09	0.91-1.30
Living arrangement ^c										
Living alone	—	—	0.82	0.65-1.04	0.82	0.65-1.04	0.72	0.57-0.92	0.73	0.57-0.92
Living near children ^d										
Not living near children	—	—	1.25	0.98-1.59	1.25	0.98-1.60	1.19	0.93-1.52	1.19	0.93-1.52
No child	—	—	1.07	0.71-1.62	1.05	0.69-1.58	1.07	0.71-1.62	1.05	0.69-1.60
Educational level ^e										
Primary school	—	—	—	—	0.77	0.65-0.90	—	—	0.79	0.67-0.93
Middle school	—	—	—	—	0.66	0.53-0.84	—	—	0.73	0.58-0.91
High school	—	—	—	—	0.44	0.30-0.64	—	—	0.52	0.35-0.76
College and above	—	—	—	—	0.66	0.40-1.09	—	—	0.81	0.49-1.35
Income group ^f										
Second group	—	—	—	—	—	—	1.09	0.90-1.32	1.08	0.90-1.31
Third group	—	—	—	—	—	—	0.76	0.62-0.93	0.76	0.62-0.93
Fourth group	—	—	—	—	—	—	0.59	0.47-0.73	0.59	0.48-0.74
Fifth group (high)	—	—	—	—	—	—	0.35	0.27-0.46	0.38	0.29-0.49

Missing	—	—	—	—	—	—	0.80	0.65- 0.99	0.81	0.66- 0.99
---------	---	---	---	---	---	---	------	---------------	------	---------------

OR: odds ratio; CI: confidence interval 95%; ^a Reference group: urban respondents; ^b Reference group= unmarried; ^c Reference group= not living alone; ^d Reference group= living near children; ^e Reference group= below primary school; ^f Reference group= first group (low)

Table S5. Multiple logistic regression analyses on rural and urban respondents' impaired Basic Activities of Daily Living (BADLs), adjusted for age and sex, CHARLS 2015 (*n* = 7338)

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Rural respondents ^a	1.76	1.55-2.00	1.74	1.54-1.98	1.43	1.24-1.65
Marital status ^b						
Unmarried	—	—	1.22	1.05-1.42	1.20	1.03-1.40
Living arrangement ^c						
Living alone	—	—	0.80	0.64-0.99	0.80	0.64-0.99
Living near children ^d						
Not living near children	—	—	0.96	0.80-1.15	0.97	0.81-1.17
No child	—	—	1.24	0.83-1.83	1.19	0.80-1.76
Educational level ^e						
Primary school	—	—	—	—	0.86	0.75-0.98
Middle school	—	—	—	—	0.68	0.57-0.82
High school	—	—	—	—	0.61	0.47-0.81
College and above	—	—	—	—	0.31	0.18-0.55

OR: odds ratio; CI: confidence interval 95%;

^a Reference group: urban respondents; ^b Reference group= unmarried; ^c Reference group= not living alone; ^d Reference group= living near children; ^e Reference group= below primary school

Table S6. Multiple logistic regression analyses on rural and urban respondents' impaired Instrumental Activities of Daily Living (IADLs), adjusted for age and sex, CHARLS 2011 (*n* = 5963)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Rural respondents ^a	2.05	1.78- 2.35	1.97	1.71- 2.27	1.46	1.25- 1.72	1.40	1.19- 1.66	1.13	0.95- 1.36
Marital status ^b										
Unmarried	—	—	1.44	1.22- 1.70	1.41	1.19- 1.67	1.45	1.23- 1.73	1.43	1.21- 1.70
Living arrangement ^c										
Living alone	—	—	0.48	0.38- 0.60	0.47	0.37- 0.59	0.43	0.34- 0.55	0.43	0.34- 0.55
Living near children ^d										
Not living near children	—	—	1.07	0.84- 1.36	1.08	0.85- 1.38	1.02	0.80- 1.30	1.03	0.80- 1.31
No child	—	—	1.59	1.09- 2.33	1.57	1.07- 2.30	1.59	1.08- 2.33	1.57	1.07- 2.31
Educational level ^e										
Primary school	—	—	—	—	0.68	0.59- 0.80	—	—	0.70	0.60- 0.81
Middle school	—	—	—	—	0.57	0.46- 0.71	—	—	0.60	0.48- 0.75
High school	—	—	—	—	0.42	0.30- 0.59	—	—	0.47	0.33- 0.67
College and above	—	—	—	—	0.31	0.17- 0.54	—	—	0.35	0.20- 0.62
Income group ^f										
Second group	—	—	—	—	—	—	1.18	0.98- 1.43	1.17	0.97- 1.41
Third group	—	—	—	—	—	—	0.81	0.66- 0.99	0.81	0.66- 0.98
Fourth group	—	—	—	—	—	—	0.73	0.59- 0.90	0.73	0.59- 0.90
Fifth group (high)	—	—	—	—	—	—	0.50	0.39- 0.63	0.55	0.43- 0.70

Missing	—	—	—	—	—	—	0.79	0.64- 0.96	0.80	0.65- 0.98
---------	---	---	---	---	---	---	------	---------------	------	---------------

OR: odds ratio; CI: confidence interval 95%;

^a Reference group: urban respondents; ^b Reference group= unmarried; ^c Reference group= not living alone; ^d Reference group= living near children; ^e Reference group= below primary school; ^f Reference group= first group (low)

Table S7. Multiple logistic regression analyses on rural and urban respondents' impaired Instrumental Activities of Daily Living (IADLs), adjusted for age and sex, CHARLS 2015 (*n* = 7192)

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Rural respondents ^a	2.03	1.79-2.31	2.02	1.78-2.30	1.59	1.38-1.84
Marital status ^b						
Unmarried	—	—	1.27	1.09-1.49	1.25	1.07-1.45
Living arrangement ^c						
Living alone	—	—	0.62	0.50-0.78	0.62	0.50-0.78
Living near children ^d						
Not living near children	—	—	0.86	0.72-1.04	0.87	0.72-1.05
No child	—	—	1.46	0.99-2.15	1.38	0.93-2.04
Educational level ^e						
Primary school	—	—	—	—	0.75	0.65-0.86
Middle school	—	—	—	—	0.61	0.51-0.74
High school	—	—	—	—	0.56	0.42-0.74
College and above	—	—	—	—	0.34	0.20-0.59

OR: odds ratio; CI: confidence interval 95%;

^a Reference group: urban respondents; ^b Reference group= unmarried; ^c Reference group= not living alone; ^d Reference group= living near children; ^e Reference group= below primary school

Table S8. Multiple logistic regression analyses on rural and urban respondents' self-reported depression, adjusted for age and sex, CHARLS 2011 ($n = 5567$)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Rural respondents ^a	2.36	2.07- 2.69	2.32	2.03- 2.64	1.81	1.56- 2.10	1.63	1.40- 1.91	1.38	1.17- 1.63
Marital status ^b										
Unmarried	—	—	1.39	1.18- 1.65	1.37	1.16- 1.62	1.40	1.19- 1.66	1.39	1.17- 1.64
Living arrangement ^c										
Living alone	—	—	0.97	0.78- 1.21	0.97	0.78- 1.20	0.90	0.72- 1.13	0.91	0.73- 1.13
Living near children ^d										
Not living near children	—	—	1.55	1.24- 1.93	1.55	1.24- 1.94	1.48	1.18- 1.85	1.49	1.18- 1.86
No child	—	—	1.12	0.78- 1.62	1.10	0.76- 1.59	1.11	0.76- 1.61	1.09	0.75- 1.58
Educational level ^e										
Primary school	—	—	—	—	0.84	0.73- 0.96	—	—	0.86	0.74- 0.99
Middle school	—	—	—	—	0.65	0.53- 0.79	—	—	0.69	0.56- 0.84
High school	—	—	—	—	0.49	0.36- 0.66	—	—	0.55	0.40- 0.75
College and above	—	—	—	—	0.37	0.22- 0.61	—	—	0.43	0.26- 0.72
Income group ^f										
Second group	—	—	—	—	—	—	1.12	0.93- 1.35	1.12	0.93- 1.34
Third group	—	—	—	—	—	—	0.86	0.71- 1.04	0.86	0.71- 1.04
Fourth group	—	—	—	—	—	—	0.70	0.58- 0.86	0.71	0.58- 0.87
Fifth group (high)	—	—	—	—	—	—	0.47	0.38- 0.59	0.52	0.41- 0.65

Missing	—	—	—	—	—	—	0.77	0.63- 0.94	0.79	0.65- 0.96
---------	---	---	---	---	---	---	------	---------------	------	---------------

OR: odds ratio; CI: confidence interval 95%;

^a Reference group: urban respondents; ^b Reference group= unmarried; ^c Reference group= not living alone; ^d Reference group= living near children; ^e Reference group= below primary school; ^f Reference group= first group (low)

Table S9. Multiple logistic regression analyses on rural and urban respondents' self-reported depression, adjusted for age and sex, CHARLS 2015 (*n* = 6811)

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
Rural respondents ^a	2.32	2.05-2.63	2.29	2.02-2.60	1.84	1.60-2.12
Marital status ^b						
Unmarried	—	—	1.51	1.29-1.76	1.48	1.26-1.73
Living arrangement ^c						
Living alone	—	—	0.85	0.68-1.05	0.85	0.68-1.05
Living near children ^d						
Not living near children	—	—	1.22	1.04-1.45	1.24	1.05-1.47
No child	—	—	1.62	1.10-2.38	1.54	1.05-2.27
Educational level ^e						
Primary school	—	—	—	—	0.77	0.68-0.88
Middle school	—	—	—	—	0.62	0.52-0.74
High school	—	—	—	—	0.57	0.43-0.74
College and above	—	—	—	—	0.44	0.26-0.73

OR: odds ratio; CI: confidence interval 95%;

^a Reference group: urban respondents; ^b Reference group= unmarried; ^c Reference group= not living alone; ^d Reference group= living near children; ^e Reference group= below primary school