

# **Correlates of depressive symptoms among older Filipinos : evidence from panel data**

**Josefina N. Natividad**

**University of the Philippines**

# Why study depression?

- because it is one of the most common forms of mental illness but is seldom diagnosed
- because it is a treatable illness and treatment improves quality of life
- because it is a risk factor for adverse outcomes

# Correlates of depression (from the literature)

- Sex
- Age
- Rural-urban residence
- Economic burden
- Health : actual illness and functional limitation
- Health : self-assessed

# Data

- Panel data on Filipino older people age 50 and higher
- Subset of 1996 PES, Visayas and the National Capital Region (Metromanila)
- N= 933 89 % of original sample

# Measure of depression : 6 items from the 20-item CES-D scale

My sleep was restless

I had poor appetite

I felt happy

I enjoyed doing something

I felt sad

I could not shake off the blues even with the  
help of family and friends

# Items reflect 3 of the 4 factors in the factor structure of the CES-D from western samples :

- somatic symptoms ( poor sleep, poor appetite)
- positive affect (felt happy, enjoyed doing something)
- negative mood (felt sad, could not shake off the blues)
- **Missing factor: interpersonal relations**

# Correlates

## ■ Sociodemographic:

- Age, sex, residence, education, marital status

## ■ Economic burden

- Perceived income sufficiency, worry over financial status

## ■ Health measures

- Self-assessed health, Nagi, ADLs, IADLs

# Limitation of the study

We can not do analysis of health transition in the absence of an appropriate cut-off score to distinguish the depressed from the non-depressed for the 6-item CES-D



# Objectives

- To describe characteristics of the sample in terms of depressive symptoms and its hypothesized correlates
  - cross sectional data
- To examine changes in characteristics over time
  - panel data

# Objectives

- To determine the correlates of depressive symptoms at each wave and compare changes over time
  - cross-sectional
  - panel

# RESULTS

# Descriptives, 1996 and 2000

<b>Sociodemographic Characteristics</b>	<b>1996</b>		<b>2000</b>	
	<b>Mean</b>	<b><i>s.d.</i></b>	<b>Mean</b>	<b><i>s.d.</i></b>
<b>Age</b>	62.93	9.32	66.54	8.55
<b>Sex (<i>female</i>)</b>	0.58	0.49	0.60	0.49
<b>Education ( 0-3)</b>	1.26	0.77	1.29	0.77
<b>Residence (<i>urban</i>)</b>	0.46	0.50	0.44	0.50
<b>Marital status (<i>married</i>)</b>	0.64	0.48	0.61	0.49

# Descriptives 1996 and 2000

	1996		2000	
<u><i>Economic burden</i></u>	Mean	s.d.	Mean	s.d.
Perceived inc sufficiency (1-4)	2.71	0.92	2.99	0.88
Worry over financial status (0-3)	1.59	1.24	1.89	1.16
 <u><i>Health measures</i></u>				
Self assessed health (1-5)	3.60	0.91	3.73	0.85
Number of Nagi difficulties (0-5)	0.88	1.41	1.52	1.74
Number of ADL limitations (0-4)	0.16	0.64	0.32	0.94
Number of IADL limitations (0-5)	0.39	1.15	0.64	1.44
Depressive symptoms (0-18)	5.95	3.69	6.18	3.50

# Descriptives for panel respondents at baseline by follow up status

	<b>Interviewed</b>	<b>Died</b>	<b>LFU</b>	<b>All</b>	<b>p</b>
Age	61.63	69.45	60.73	62.93	***
Sex ( <i>Female</i> )	0.6	0.48	0.62	0.58	*
Residence ( <i>Urban</i> )	0.44	0.44	0.62	0.58	***
Marital status ( <i>Married</i> )	0.67	0.56	0.62	0.64	*
Education ( <i>0-3</i> )	1.29	1.1	1.31	1.26	*
<b>N</b>	<b>637</b>	<b>167</b>	<b>129</b>	<b>933</b>	

**\*p ≤ .05**

**\*\*p ≤ .01**

**\*\*\*p ≤ .001**

# Descriptives for panel respondents at baseline by follow up status

	Interviewed	Died	LFU	All	p
<b><u>Economic burden</u></b>					
Worry over finances	1.6	1.41	1.73	1.59	ns
Perceived income insufficiency	2.71	2.78	2.63	2.71	ns
<b><u>Health measures</u></b>					
Self-assessed health	3.56	3.95	3.35	3.6	***
Number of Nagi diff	0.7	1.68	0.72	0.88	***
Number of ADL diff	0.11	0.42	0.11	0.164	***
Number of IADL diff	0.26	1.11	0.23	0.39	***
Depressive symptoms	5.73	6.85	6.01	5.95	***
<b>N</b>	637	167	129	933	

# Characteristics of sample at wave 1 and 2, for respondents interviewed in both waves

	Wave 1	Wave 2	N	p <sup>§</sup>
Age	61.63	66.33	633	***
Marital status	0.67	0.61	611	***
Perceived income sufficiency	2.71	2.99	615	***
Worry over finances	1.61	1.88	615	***
Self-assessed health	3.56	3.74	629	***
Number of Nagi diff	0.7	1.52	632	***
Number of ADL diff	0.11	0.32	623	***
Number of IADL diff	0.24	0.68	547	***
Depressive symptoms	5.73	6.18	568	*



# Correlates of depressive symptoms, 1996 & 2000 (cross-sectional)

Characteristics	1996			2000		
	b	s.e.	p	b	s.e.	p
Age	0.009	0.016	ns	-0.0022	0.02	ns
Sex	<b>0.722</b>	<b>0.264</b>	**	-0.14	0.297	ns
Marital status	-0.004	0.299	ns	-0.515	0.337	ns
Education	-0.181	0.18	ns	-0.165	0.21	ns
Residence	-0.343	0.261	ns	-0.095	0.305	ns

\*  $p \leq .05$     \* $p \leq .01$     \*\*\* $p \leq .001$

Characteristics	1996			2000		
<b><u>Economic burden</u></b>						
Income sufficiency	0.367	0.145	*	-0.071	0.173	ns
Worry over finances	0.849	0.103	***	0.739	0.13	***
<b><u>Health measures</u></b>						
Self-assessed health	1.012	0.142	***	0.58	0.191	**
Number of Nagis	0.007	0.133	ns	0.381	0.11	***
Number of ADLs	0.2	0.287	ns	0.2	0.246	ns
Number of IADLs	0.365	0.159	*	0.233	0.167	ns
Depressive symptoms in 1996	--	--	--	0.108	0.04	**
Constant	-0.905		ns	3.153	1.635	ns
N	741			474		
R square	0.261			0.286		

\*  $p \leq .05$     \*  $p \leq .01$     \*\*\*  $p \leq .001$

# Correlates of depressive symptoms ,1996 and 2000 panel data

Characteristics	1996			2000		
	b	s.e.	p	b	s.e.	p
Age	0.01	0.02	ns	-0.0022	0.02	ns
Sex	<b>0.73</b>	<b>0.32</b>	*	-0.14	0.297	ns
Marital status	-0.35	0.22	ns	-0.515	0.337	ns
Education	-0.01	0.32	ns	-0.165	0.21	ns
Residence	-0.02	0.36	ns	-0.095	0.305	ns

# Correlates of depressive scores, panel data

## Economic burden

Income sufficiency	<b>0.57</b>	<b>0.17</b>	<b>***</b>	-0.071	0.173	ns
Worry over finances	<b>0.34</b>	<b>0.13</b>	<b>**</b>	<b>0.739</b>	<b>0.13</b>	<b>***</b>

## Health measures

Self-assessed health	<b>0.90</b>	<b>0.18</b>	<b>***</b>	<b>0.58</b>	<b>0.191</b>	<b>**</b>
Number of Nagis	0.04	0.17	ns	<b>0.381</b>	<b>0.11</b>	<b>***</b>
Number of ADLs	0.24	0.38	ns	0.2	0.246	ns
Number of IADLs	<b>0.58</b>	<b>0.22</b>	<b>**</b>	0.233	0.167	ns
Depressive symptom				0.108	0.04	<b>**</b>

Constant	-1.45	1.61	0.370	3.153	1.635	ns
N	<b>544</b>			<b>474</b>		
R square	<b>0.199</b>			<b>0.286</b>		

# CONCLUSIONS

- Depressive symptoms among older Filipinos is not related with age
- The relationship between depressive symptoms and gender is not consistent across the two waves
- Feelings of economic insufficiency and worries over finances strongly correlate with depressive symptoms
- Self-assessed health is strongly related to depressive symptoms
- The relationship between functional health and depressive symptoms is not consistent and must be studied further

- Both cross-sectional and panel data show increases in the various indicators of disability over time
- The lack of a clear and consistent relationship between measures of functional health and depressive symptoms and the strong relationship between self-assessed health and economic burden suggest that depressive symptoms behave differently from the usual indicators of health status
- Since depressive symptoms indicate mood and not permanent physical disability intervention to lessen this negative state may be feasible. The first step is to recognize that such a negative state exists in the older person.