
Patterns and Predictors of Depression in Residents of New York City



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Study Design

- Prospective community based cohort study
- Characterized trajectories of symptoms of depression over a 30 month study period
- Generalized Estimating Equations (GEE) used to assess bivariate and multivariable relations
- Multinomial logistic regression to take account of varying symptom trajectories

Sample

- 2752 participants recruited by Random Digit Dialling between March and July, 2002
- Overall cooperation rate was 56% and the overall response rate was 34%
- 4 waves of telephone interviews over 30 months – baseline, 6, 18 and 30 months
- Conducted in English, Spanish, Mandarin and Cantonese
- Limited the sample to the 2282 (82.9%) respondents who were interviewed at least twice



Measures

- Demographic questions
- Major life events
- Major traumatic episodes
- Social support
 - emotional (e.g. “having someone to love you and make you feel wanted”),
 - instrumental (e.g. “someone to help you if you were confined to bed”)
 - appraisal (e.g. “someone to give you good advice in a crisis”)
- 2 week (and lifetime) history of 10 symptoms of depression derived from modified version of the Structured Clinical Interview for DSM



		Baseline	6 Months		18 Months		30 Months		
						Dep	42 (51.3%)	Dep	31 (77.3%)
						No Dep	28 (48.7%)	No Dep	6 (22.7%)
			Dep	88 (38.6%)				Dep	8 (15.0%)
								No Dep	13 (85.0%)
		Dep	246 (10.0%)					Dep	15 (46.5%)
								No Dep	13 (53.5%)
			No Dep	125 (61.4%)				Dep	11 (27.9%)
								No Dep	38 (72.1%)
								Dep	10 (83.2%)
								No Dep	3 (16.8%)
			Dep	46 (20.4%)				Dep	6 (57.6%)
								No Dep	4 (42.4%)
		No Dep at 6 mo. but lifetime Dep	259 (8.6%)					Dep	10 (31.2%)
								No Dep	11 (68.8%)
			No Dep	173 (79.6%)				Dep	13 (12.9%)
								No Dep	92 (87.1%)
								Dep	21 (72.9%)
								No Dep	9 (27.1%)
			Dep	103 (6.8%)				Dep	9 (32.1%)
								No Dep	19 (67.9%)
		No Dep at 6 mo. and No Lifetime Dep	1739 (81.4%)					Dep	18 (31.0%)
								No Dep	35 (69.0%)
			No Dep	1356 (93.2%)				Dep	41 (5.6%)
								No Dep	795 (94.4%)
Total	2282								

Adjusted multivariable GEE logistic regression models predicting depression

	<i>Odds Ratio</i>	<i>95% Confidence Interval</i>
Social support		
High		
Medium	1.45	0.98 - 2.14
Low	1.70	1.15 - 2.51
Marital status		
Married		
Divorced	1.14	0.73 - 1.79
Separated	2.44	1.13 - 5.23
Widowed	1.21	0.56 - 2.60
Never been married	1.25	0.83 - 1.88
Member of an unmarried couple	1.55	0.80 - 3.02
Household income		
\$100,000+		
\$75,000 - \$99,999	1.05	0.56 - 1.97
\$50,000 - \$74,999	0.97	0.53 - 1.78
\$40,000 - \$49,999	2.01	1.05 - 3.85
\$30,000 - \$39,999	1.93	1.03 - 3.62
\$20,000 - \$29,999	1.72	0.90 - 3.28
< \$20,000	2.05	1.12 - 3.77



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Multinomial logistic regression models predicting incident depression

	<i>Depression at one wave</i>		<i>Depression at two or more waves</i>	
	OR	95% CI	OR	95% CI
Household income				
\$100,000+	1.00	-	1.00	-
\$75,000 - \$99,999	1.10	0.53-2.31	1.46	0.50-4.25
\$50,000 - \$74,999	1.49	0.73-3.04	1.72	0.59-5.02
\$40,000 - \$49,999	2.95	1.25-6.98	2.07	0.62-6.85
\$30,000 - \$39,999	3.58	1.60-7.99	2.77	0.87-8.82
\$20,000 - \$29,999	2.62	1.14-6.03	4.46	1.56-12.69
< \$20,000	2.37	1.05-5.31	2.49	0.86-7.21
Social support				
High	1.00	-	1.00	-
Medium	0.94	0.56-1.57	1.83	0.90-3.72
Low	1.10	0.66-1.82	2.71	1.35-5.42

Multilevel models of the relation between neighborhood SES and incident depression

	OR	95% CI
Neighborhood SES		
High ^b	1.00	
Low	1.94	1.06, 3.58
Age		
18-24 ^b	1.00	
25-34	2.41	0.67, 8.68
35-44	4.96	1.29, 19.03
45-54	4.22	1.04, 17.20
55-64	5.67	1.31, 24.44
65+	1.90	0.33, 11.07
Gender		
Male ^b	1.00	
Female	1.71	1.01, 2.90
Marital status		
Married ^b	1.00	
Divorced	0.84	0.31, 2.27
Separated	1.31	0.41, 4.14
Widowed	3.37	1.04, 10.90
Never married	2.21	1.01, 4.85
Unmarried couple	2.61	0.57, 11.94
Social support		
High ^b	1.00	
Medium	1.29	0.68, 2.43
Low	2.70	1.59, 4.58
Race/ethnicity		
Income		
Education		
Traumatic events		
Stressors		

Conclusions

- Depression is a common disorder with a good short term prognosis, but high relapse rate
- Depression is a heterogeneous entity with a range of possible trajectories
- Factors such as income and social support are important
- Associations with social factors vary between different subtypes – is this due to varying vulnerabilities or reverse causality?