

Early Predictors of Suicidal Ideation in Young Adults

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Context

- Suicide is a leading cause of death among youth in both developed and developing countries.
- In Canada, suicide is the 2nd leading cause of death among 15-34 years old and the 3rd leading cause of death among 10-14 year olds.
- Suicide ideation refers to thoughts about self-destruction, including the idea that life is not worth living, wishing to be dead, and specific plans to end one's own life.
- Suicide ideation is the strongest predictor of subsequent suicide attempts and completed suicide.
- Few longitudinal population-based studies with frequent follow-up investigate a wide range of potential predictor variables.
- Increased understanding of early modifiable determinants of suicide ideation may lead to effective prevention.

Objective

- To identify early predictors of suicidal ideation in young adults and to determine when specific time-varying determinants become important in predicting later suicidal ideation.

Methods

Participants

- Data were drawn from the NDIT Study, a prospective longitudinal cohort investigation of 1293 grade 7 students recruited in 10 secondary schools in Montreal (Canada) in 1999.
- Self-report questionnaires were administered at school every 3 months during secondary school from grade 7-11, for a total of 20 survey cycles.
- In 2007-08 when participants were aged 18-24, data were collected in mailed self-report questionnaires in survey cycle 21.

Variables

- Time-invariant covariates included sex, mother's education, language, and self-esteem (Rosenberg Self Esteem scale).
- Time-varying potential predictor variables included depression symptoms, family stress, other stress, alcohol use, cigarette use, and team sports.

Analysis

- Independent predictors of past-year suicidal ideation in early adulthood were identified in five multivariable logistic regression analyses, one for each of grade 7, 8, 9, 10, and 11.
- To minimize the possibility of selection bias across the five analyses, we retained a subset of participants (n=577) which had nearly complete data for all five time periods.
- Potential predictor variables with *p*-values ≤0.25 in univariate analyses were retained for multivariate analyses.

Results

- With the exception of mother's education, there were few important differences between participants retained for analyses and those not retained. 48% had mothers who were university educated in the retained group vs 22% in the non retained group.
- 8% of participants (n= 67; mean (sd) age = 20.4(0.7); 46% male) reported suicidal ideation in the past year.

Table 1. Past-year suicidal ideation according to mental health status indicators (n = 577). NDIT 2007-08.

	n*	Felt suicidal, %	p-value
Mood disorder			
Yes	26	23	0.0003
No	549	6	
Anxiety disorder			
Yes	30	27	<0.0001
No	545	5	
Mood and anxiety disorder			
Yes	12	25	0.01
No	565	6	
Sought psychiatric help in past year			
Yes	54	17	0.001
No	522	5	

* Totals differ because of missing data

Table 2. Adjusted odds ratios for suicidal ideation according to potential predictor variables. NDIT 1999-2008

	Grade 7 Model (n=577)	Grade 8 Model (n=560)	Grade 9 Model (n=561)	Grade 10 Model (n=561)	Grade 11 Model (n=510)
	OR _{adj} (95%CI)				
Sex					
Male	Ref	Ref	Ref	Ref	Ref
Female	1.5 (0.7, 3.3)	1.4 (0.6, 3.1)	1.2 (0.5, 2.7)	1.1 (0.5, 2.5)	1.1 (0.4, 2.6)
Depression symptoms*	1.0 (0.5, 1.9)	1.5 (0.8, 2.8)	2.2 (1.3, 3.9)	2.0 (1.1, 3.6)	2.3 (1.2, 4.3)
Family stress*	2.0 (0.9, 4.4)	1.6 (0.7, 4.0)	-	1.4 (0.6, 3.1)	1.2 (0.5, 3.1)
Other stress*	-	0.7 (0.3, 1.8)	0.8 (0.4, 1.7)	0.9 (0.4, 2.1)	1.0 (0.4, 2.3)
Self-esteem*	0.4 (0.2, 0.96)	0.5 (0.2, 1.1)	0.6 (0.2, 1.3)	0.6 (0.3, 1.4)	0.5 (0.2, 1.2)
Sports team(s)					
No	Ref	-	-	-	Ref
Yes	0.5 (0.2, 1.02)				0.8 (0.3, 1.7)

* Potential predictor was included in the model as a continuous variable

- In grade 7, higher self-esteem protected against suicidal ideation at age 20 (OR (95% CI) = 0.4 (0.2, 0.96)).
- In grade 8, none of the potential predictor variables were statistically significantly associated with suicidal ideation.
- Depression symptoms in grades 9, 10 and 11 were strong independent predictors of suicidal ideation (OR (95% CI) = 2.2 (1.3, 3.9), 2.0 (1.1, 3.6) and 2.3 (1.2, 4.3), respectively).
- No other variables were statistically significant in the multivariate models.

Reflections

- Adolescents with depression symptoms may need monitoring, social support and/or clinical intervention to prevent later suicide ideation. Promoting positive self-esteem as young as Grade 7 may be helpful.