

Early Interpersonal Violence Mediates The Effect Of Family History Of Mental Disorder On Suicide Attempts In A Non-Clinical Sample.

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BACKGROUND

More than one million people die by suicide every year. Several personal and interpersonal risk factors for suicide have been investigated in scientific research, however their mutual relationships need further investigation.

A family history of a mental disorder (FHMD) is a strong predictor of suicidal behaviour (1), acting through different potential pathways. FHMD may interfere with the relational environment in which an individual develops as a child by several mechanisms, including exposure to violence. Childhood interpersonal risk factors for suicide, including interpersonal violence (2), maltreatment and neglect (3), may have suicide as a final common outcome of different psychopathological pathways. Exposure to violence during childhood seems to have the most relevant impact on suicide, with an OR of 2.5 (4); neglect and maltreatment have important pathoplastic effects on dissociative-spectrum disorders, which are strictly linked with self-harm and suicidal risk.

Objectives

With the present paper, we explore the impact on suicide attempts of different interpersonal risk factors, including interpersonal violence and maltreatment, and their interaction with FHMD in a community sample.

METHODS

An on-line survey with a snowball sampling technique using Social Networks sharing and emailing was performed, starting from University of L'Aquila students. The following instruments were included:

The *Psychological Maltreatment Review* (PMR): a self-report 30 items questionnaire that retrospectively investigates psychological abuse, neglect and psychological support during childhood and adolescence.

The *Karolinska Interpersonal Violence Scale* (KIVS) (5): a self-report measure of exposition to violence or the enactment of violent behavior in childhood (from 6 to 14 years of age) and adulthood (from 15 years of age on).

Previous *suicide attempts* (SA) were investigated using a single question phrased as follows: "have you ever deliberately acted in order to end your life?".

FHMD was assessed with a single question phrased as follows: "is anyone of your first degree relatives (parents, siblings, grandparents, cousins) affected by any psychiatric disorder?" with dichotomous response *yes/no*.

A consent form to the study was presented at the beginning of the questionnaire. The study protocol was approved by the local ethical committee.

Data Analysis

Firstly, a logistic regression was performed in order to test the association of PMR and KIVS scores with SA. Secondly, we performed a mediation analysis in order to assess the proportion of the effect of FHMD (independent variable) on Suicide Attempts (dependent variable) being mediated only by those interpersonal variables (interpersonal violence, maltreatment, neglect; candidate mediating variables) that showed a substantial effect on Suicide attempts. All analysis were performed using STATA® 13.

Table 1: descriptive statistics and logistic regression

	AS+ (Mean / %)	AS – (Mean / %)	OR for Suicide Attempt
<i>FHMD</i>	76.47%	31.43%	7.09** [2.20,22.81]
<i>PMR Abuse</i>	33.70 (20.14)	18.86 (15.81)	1.04*** [1.02,1.06]
<i>PMR Neglect</i>	33.76 (30.00)	12.96 (18.37)	1.03*** [1.02,1.05]
<i>PMR Support</i>	60.64 (26.87)	78.73 (27.42)	0.98** [0.96,0.99]
<i>KIVSV expressed violence childhood</i>	0.76 (0.97)	0.18 (0.51)	2.55** [1.26,5.18]
<i>KIVSV expressed violence adulthood</i>	0.35 (0.60)	0.12 (0.51)	1.63 [0.84,3.16]
<i>KIVSV Exposed to violence childhood</i>	1.47 (1.46)	0.35 (0.68)	2.80*** [1.80,4.34]
<i>KIVSV Exposed to violence adulthood</i>	0.70 (1.04)	0.36 (0.66)	1.67 [0.94,2.97]

* p<0.05, ** p<0.01, *** p<0.001. FHMD: "Family history of psychiatric disorder"; PMR "Psychological maltreatment review"; KIVS "Karolinska Interpersonal Violence Scale".

RESULTS

192 questionnaires were collected. In our sample, 105 (54.7%) participants were female. Mean age was 37.38 years, 95%CI [35.87 – 38.88]. 17 (8.85%) participants reported previous SA. Summary statistics for PMR and KIVS and FHMD scores are reported in tab 1. Logistic regression analysis showed that the most relevant risk factors for attempted suicide were FHMD (OR=7.09, 95%CI [2.20,22.81]), expressed violence in childhood (OR=2.55, 95%CI [1.26,5.18]) and exposure to violence in childhood (OR=2.80, 95%CI [1.80,4.34]) (Tab. 1). The latter two variables were selected for the mediation analysis. Total effect of FHMD mediated by exposure to violence in childhood and expression of violence in childhood were 15.23% and 9.63% respectively (Tab 2).

Table 2: mediation analysis

Dependent Variable: Attempted Suicide Independent Variable: FHMD	Coef.	Bootstrap Std. Err.	[95% bc CI]
<i>KIVSV Exposed to violence in childhood</i>			
total indirect	0.07	0.03	[0.02, 0.14]
direct effect	0.38	0.12	[0.07, 0.60]
total effect	0.45	0.12	[0.18, 0.66]
proportion of total effect mediated	15.23%		
<i>KIVSV Expressed violence in childhood</i>			
total indirect	0.04	0.02	[0.00, 0.11]
direct effect	0.40	0.12	[0.15, 0.63]
total effect	0.45	0.12	[0.20, 0.67]
proportion of total effect mediated	9.63%		

KIVS "Karolinska Interpersonal Violence Scale", FHMD Family History of Mental Disorder.

DISCUSSION

Our main finding is that the familial load on adult SA is partially mediated by exposure to violence in childhood. In our community sample, the predictive value of FHMD for suicide was large, compared to previous reports in the literature. However, a significant part of the risk effect was carried by exposure to violence. This result suggests that the presence of a first degree relative affected by any psychiatric condition contributes to a more violent environment, that ultimately enhances the risk of suicide in adulthood.

Limitations

- Small sample size
- Poor characterization of psychopathological features in FHMD and in participants.
- Biased estimates of attempted suicide prevalence due to self-selection bias.

Strengths

- Exploring variables relevant to an "hot-topic" such as suicide in a non-clinical sample
- Potential reduction of stigma-related participation bias.

CONCLUSION

This is the first paper to address the mediating role of different aspects of interpersonal violence in the relation between FHMD and suicide attempts. These pathway towards suicide require further investigation, given their potentially preventable impact on adult psychopathology.

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