Karolinska Institutet

Department of Public Health Sciences

Epidemiological studies of suicide – classification bias, drug use, and social circumstances

AKADEMISK AVHANDLING
som för avläggande av medicine doktorsexamen vid Karolinska Institutet offentligen försvaras i Skandiasalen, Astrid Lindgrens Barnsjukhus, 1tr

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ABSTRACT

Despite the decline in suicide rates in Sweden during the past decades, suicide still constitutes a severe public health problem and is a cause of death that to a large extent could be prevented. In 2008 the Swedish Parliament ratified the Swedish government's suggestion of a 'Vision Zero' policy for suicide.

The overall aim with this dissertation was to increase the knowledge on risk factors for suicide and whether the suicide risk is modified by socioeconomic position.

We examined if different background variables can be helpful in distinguishing deaths classified as suicide from deaths classified as undetermined intent. We selected all suicides and undetermined intents 1987 - 2011. Our results showed differences in most studied background variables where hospitalization for self-inflicted harm was more common among female suicides as was prior psychiatric in-patient care, whereas in-patient for substance abuse was more common in undetermined intents of both sexes. Roughly 50% had a prescription of psychotropics during their last 6 months prior to death. This information does not seem to be enough to distinguish between these two deaths modes.

In Study II we examined if initiation with selective serotonin reuptake inhibitors (SSRI) increase the risk of suicide. By using a case cross-over design, we selected all suicides in Sweden between 2007 and 2010 (5 913) and obtained information on prescriptions of SSRI for these individuals. We found a risk increase for suicide during initiation with SSRI with an odds ratio (OR) of 3.7 [95% CI: 2.8-4.9]. Induction time analyses showed the overall highest risk during days 8-11 after SSRI initiation with an overall OR of 9.7 [2.9-31.7]. Regardless of causation issues our findings deserve further attention, especially in the clinical setting and in the monitoring of patients during initiation with SSRI therapy where extra attention to signs of suicidality is called for.

In Study III and in Study IV we used a cohort constituting of Swedish residents born between 1972 and 1981. In Study III we followed this cohort of 898 342 students, graduating from the nine years of compulsory school until December 31st 2006. Students with incomplete grades had highest suicide risk. The risk increased in a gradient fashion, i.e. the lower the grades the higher the suicide risk. Parental educational level did not mediate this relationship.

In Study IV we examined if juvenile delinquency, measured as number of convictions between ages 15 and 19, increased the risk of suicide in young adulthood. Juvenile delinquents had an increased suicide risk where repeated juvenile offenders had highest risk. Parental educational level did not mediate this relationship.

In conclusion poor school performance and juvenile delinquency seem to be a risk factor for suicide in young adulthood. These risk factors were not modified by parental educational level. Our results suggest an increased suicide risk at initiation with SSRI therapy. Regardless of whether the increased risk is due to activation syndrome or more severe depression at initiation with SSRI, this result means that clinicians must closely monitor patients when an antidepressant is initiated. Despite several differences in background variables, this information does not seem to be enough to distinguish deaths classified as suicide from deaths classified as undetermined intent. The proportion might vary due to validity variations in suicide certification over time and between regions and even between different forensic pathologists.

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