

A NATIONWIDE GENERAL PRACTITIONER TRAINING PROGRAM TO REDUCE SUICIDE IN BULGARIA: A NON-RANDOMIZED CONTROLLED TRIAL

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Background and Aims:

The WHO recommends improving GP's skills in suicide risk management in order to reduce suicide rates. However, the evidence for effectiveness of this approach is at best limited. The aim of this study is to test if suicide rates can be reduced by providing such training to GPs, supported by information to the public.



Methods:

Four regions of Bulgaria (population n=5.5 million) were defined as intervention group, whereas the remaining two regions (population n=1.5 million) as control group. GP's, psychologists and social workers (n=1 473) in the intervention region were engaged in an online training with exams, a 16-hour seminar during the period January to June 2016. The participation rate was 63.4%. The intervention region was also exposed to public campaigns with video clips in local and regional media. The population and the GP's were blinded for this controlled trial. The effectiveness of this approach was measured with official data for completed suicides and suicide attempts and analysed with a difference-in-difference approach, testing the interaction between time (before/after intervention) and group.

Results:

We found that the intervention reduced completed quarterly suicide rate per 100 000 by -1.03 (CI 95 -1.70 to -0.35, p = 0.003), but simultaneously also increased quarterly suicide attempts rate per 100 000 by 1.47 (CI 95 0.16 to 2.78, p = 0.028); and the intervention reduced completed suicides (p<.001), but simultaneously also increased registrations of attempted suicides (p<.001).

Main findings:

In this first nationwide GP training program to reduce suicide rate we find that this GP training program significantly reduced suicides. Simultaneously, the intervention increased suicide attempts, however, this effect can be ascribed to increased attention as several other studies find the same (Hegerl, Althaus, Schmidtke, & Niklewski, 2006; Malakouti et al., 2015). The increase in suicide attempt rate can be due to improved quality of reporting as a result of increased attention on suicide, particularly due to the PR campaign. This shows that suicide prevention by general practitioner training in suicide risk and common mental disorder management and treatment is scalable to a national level.

Conclusions:

This is the first large-scale study that provides evidence for suicide prevention by training GP's, which supports WHO recommendations for suicide prevention. The intervention is scalable and relatively low cost. The intervention also produced an increase in registered suicide attempts, which may be due to increased recognition and awareness.

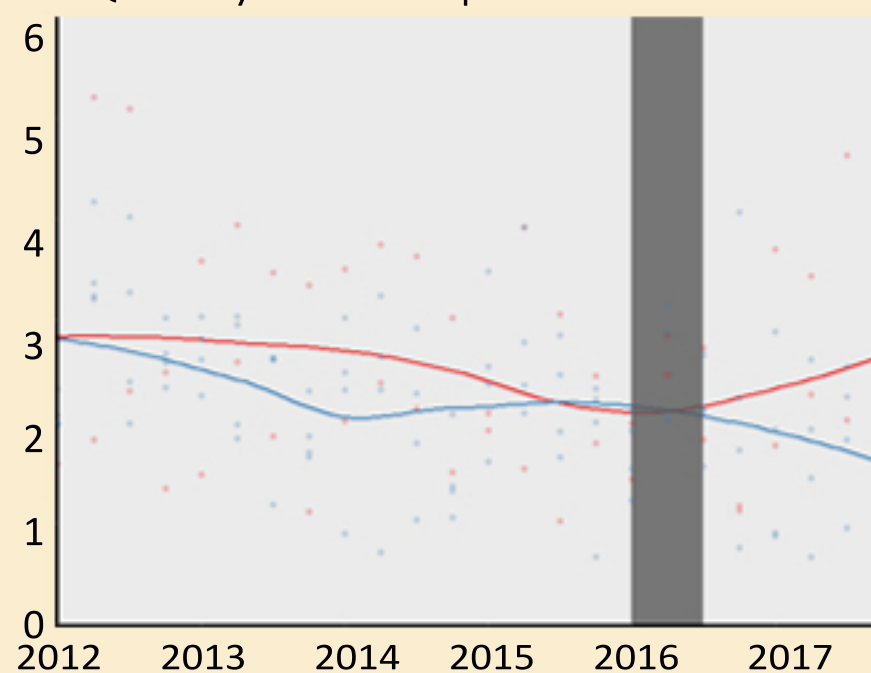
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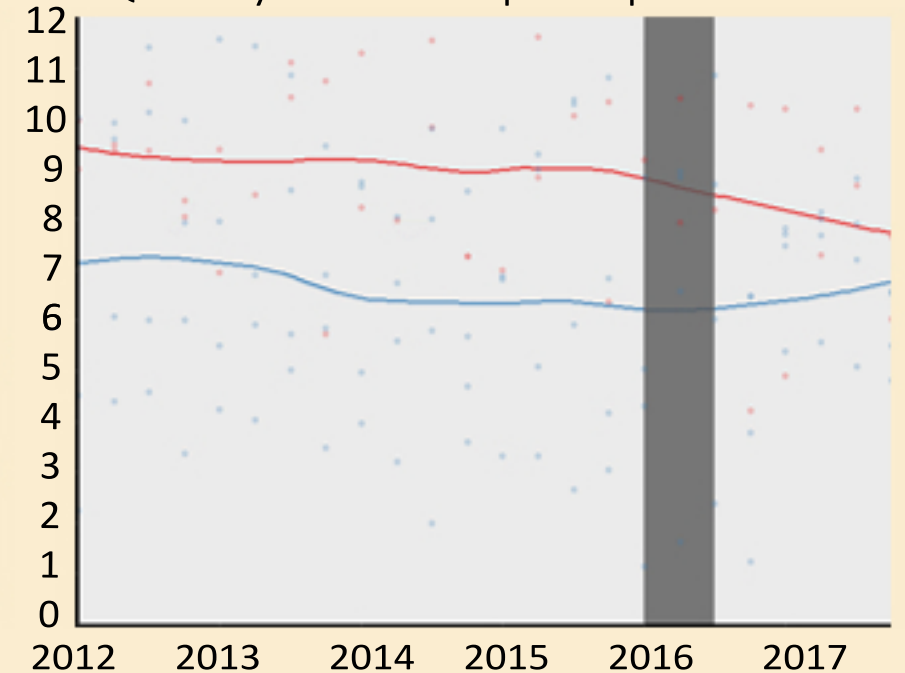
Quarterly suicide rate and suicide attempt rate per 100 000 in treatment and control group.

Bulgaria 2012-2017

A. Quarterly suicide rate per 100 000



B. Quarterly suicide attempt rate per 100 000



Assessment of common trends in covariates at regional level.

