

Training initiatives for GPs on depression in which suicide rate reduction is the main outcome measure

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Abstract

Suicide is a complex human behaviour with multiple causes, which occurs most frequently in undiagnosed and untreated depressed patients. The majority of suicidal patients contact some level of health-care, most frequently their primary care provider, in the last month preceding their suicidal act. Several education programmes targeting general practitioners on the diagnosis and treatment of depression have been carried out in various countries and were followed by a marked decline in suicide rates in the intervention regions, lasting for a specific timeframe following the intervention. Reviews of these programs indicated that education of physicians is among the most effective means of reducing suicide risk and behaviour. We summarise the training programs for primary care physicians aimed at reducing suicide.

Keywords: depression, education, general practitioners, suicide, suicide prevention, training

Introduction

One of the major tools for suicide prevention interventions is implementing education and awareness programs aimed at general practitioners, the general public or community and organisational gatekeepers. A great proportion of those attempting and committing suicide visit their general practitioner during a relatively short period before their suicidal act. This provides an opportunity for the primary care physician to screen for increased depression and other cross-sectional indicators predicting increased suicide risk. It also implies that training general practitioners in screening, recognising and diagnosing depression and suicide risk, as well as treating depression is a crucial and central element in suicide prevention.

A systematic review of studies related to suicide prevention interventions and strategies (1) concluded that physician education concerning the recognition and treatment of depression, as well as restricting the access to possible lethal methods of suicide, show adequate evidence to reduce suicide rates effectively. A review of systematic reviews aimed at identifying the best practice elements of multilevel suicide prevention strategies concluded that, in addition to restricting lethal means access and improving the accessibility of care for those at risk, training of general practitioners in the recognition and treatment of depression and suicidality were the best practices identified as effective (2). However, the exact component of such programs which contributes to suicide rate reduction still needs to be investigated.

Under-recognition, under-diagnosis and under-treatment of depression in primary care settings are well-known and widespread phenomena. However, the primary care setting is ideal for interventions since the majority of suicidal patients contact their primary care providers within the month preceding their suicide (3), making education of primary care physicians in the recognition, evaluation and management of risk factors of suicide and possibly suicidal patients an important target of suicide prevention.

Several studies aimed at primary care physicians, providing depression or suicide-related education, have been carried out in various countries (1). Several, but not all, of them indicated increased detection and treatment of depression. Furthermore, as depression in different age groups, such as in the case of adolescents or the elderly, may present with different symptoms, and as these groups are also at an increased risk of suicide, specialised education programs are also necessary, targeting detection of depression and suicide risk by the primary care physician in these special populations. Some studies specifically looked at changes in suicidal behaviour following primary care physician education programmes on depression and, in several cases, indicated a very marked decline in suicide rates. Indeed, those in Hungary (4), Sweden (5) and Slovenia (6) are among the most successful examples of suicide prevention therapeutic interventions (1).

The Swedish Gotland study

The first such initiative, the pioneering Gotland study, was a clinically-based, public-health-oriented suicide-prevention intervention initiated in 1982. All general practitioners providing care in the area of the Swedish island of Gotland participated in a two-day intensive postgraduate training program organised by the Swedish Committee for the Prevention and Treatment of Depression (PTD) on the diagnosis and treatment of depression. Results of assessments two years after the Gotland study indicated that, in the following years, frequency of suicide as well as hospital admissions for depression, and frequency of sick leave due to depression, decreased significantly, providing the first evidence that early recognition and adequate treatment of depression is an effective and essential target in the prevention of suicide. The rate of depressive suicides among all suicides decreased significantly after the training, indicating that the decline in suicide mortality after the education resulted directly from a robust decrease in depressive suicides, and suggesting that this result might not be caused by random fluctuation (7). Notably, suicides in women decreased by two thirds, whereas the rate of male suicides remained relatively unchanged. During the observation period, antidepressant prescriptions markedly increased, and anxiolytic and antipsychotic prescriptions, as well as the rate of hospital admissions for depression, decreased significantly, indicating better recognition and more effective treatment of depression (8). Some years after the PTD programme, after several of the GPs had left the island, the suicide mortality in Gotland increased again, but it declined again markedly after the second training in 1992 (9).

Educational program in Jämtland County, Sweden

In Jämtland County, Sweden, a continuing education program on depression was delivered to general practitioners between 1995 and 2002, consisting of 8 seminars over 7 years. The suicide rate in this region decreased by 36% by the end of the program, compared to the pre-intervention period. During the same time period the suicide rate in Sweden decreased by 30%, and antidepressant utilisation during the same period increased by 161% in Jämtland County, and by 108% in the whole of Sweden (10).

The Hungarian depression recognition and suicide prevention study in Kiskunhalas study

Following the experience of the Gotland study, a five-year educational program on the management of depression was organised in 2000, in cooperation with the American Foundation for Suicide Prevention, for 28 primary care physicians and their nurses serving the area of Kiskunhalas, a high-suicide-risk region in Hungary. The training consisted of four workshops during October - November in 2000, followed by booster sessions and a one-hour lecture three times a year over the five years of the program. As an integral part of this program, Depression Treatment Clinics in the intervention region were established and telephone consultation services for primary care physicians with psychiatrists were provided. As a result, a significant reduction in annual suicide rates were observable in the intervention region, from the five-year pre-intervention rate of 59.7/100,000 to 49.9/100,000. The suicide rate in rural women in the intervention region decreased by 34% during the observation period, while in the control region it showed a 90% increase. Most importantly, suicide mortality of those seen only by their general practitioners in the last year of their life showed a significant 26% decrease compared to those contacting other healthcare services and those with no medical contact. Also, the number of antidepressant treatments showed a much higher increase in the intervention region compared to the control region, the county and Hungary (11).

The Hungarian Depression Recognition and Suicide Prevention Program in Szolnok

In 2005 the Hungarian Depression Recognition and Suicide Prevention Program was initiated in Szolnok, aimed at educating all local professionals (including also healthcare providers) concerning recognition of depression and suicide risk, as well as basic intervention methods. The number of suicides decreased by 57% in the first year, and by 47% in the second year of the program compared to the average of the previous nine years in the same area. However, in 2008 the rate returned to that observed during the years preceding the intervention (12, 13).

The German Nuremberg Alliance Against Depression

The Nuremberg Alliance Against Depression was a two-year intervention program in Germany including training of general practitioners as well as public relations campaigns, cooperation with gatekeepers and community facilitators and support for self-help activities. While there was a significant reduction in the rate of all suicidal acts, completed suicides showed no significant reduction (14). Later this project was replicated in Regensburg, starting in early 2003, with similar results (15). Suicide rates showed a significant decrease only in Regensburg city but not in the Regensburg region, and the decrease was confined to suicide rates in males with no change in women (15).

The “Take Care” educational program in England

In England an educational package was provided to general practitioners for the detection and management of depression (16). The aim was to investigate whether the package affected the recognition rate of depression. After the Take Care package there was a significant improvement in the recognition of depressed patients. Before the project general practitioners missed a depressive illness in 24.1% of patients, while after the project the corresponding rate was 17.1%, indicating a significant decrease.

Educational programmes with ambiguous results

Following the success of the initial primary care education programmes on the diagnosis and treatment of depression and suicide rates, several similar education programs were carried out in various countries including the UK, the US, Australia, Northern Ireland and Brazil, with some of them indicating successful outcomes (16-19) concerning detection and treatment of depression and others indicating no such effects (20, 21).

In Northern Ireland, 2.5-hour seminars were provided for 88 general practitioners to increase their knowledge about depression. Immediately following the training, increased knowledge was identified, but it did not appear to be sustained after one year. This result suggests that the long-term effect of such training is questionable (19). In England the effectiveness of an educational programme was tested in improving the recognition and outcome of primary care depression. Education was delivered in a representative sample of 60 primary care practices. The primary endpoints were recognition of depression, defined by the Hospital Anxiety and Depression Scale (HADS), and clinical improvement. The sensitivity of physicians to depressive symptoms was 39% in the intervention group after education and 36% in the control group (odds ratio 1.2). The outcome of depressed patients as a whole at six weeks and six months after the assessment did not improve significantly (21). This paper concluded that, in spite of the well-known fact that education is one of the most effective methods to increase knowledge, it is unlikely that primary care education with the current methods would significantly reduce suicide rates (21). However, the education programme implemented in this study was unsuccessful, as sensitivity of physicians to recognise depression did not significantly improve, implying that the study indicated a failure of the given education programme to decrease suicide rates, but not necessarily the failure of such education programmes generally.

Conclusion

Although some interventions did not result in a significant increase in depression recognition and suicide prevention, several did. As might have been expected, in many cases these improvements were temporary and confined to the years immediately after the education program. Further studies are needed to

identify which factors related to the education of primary care physicians carry this beneficial effect. Studies should also focus on identifying the differences between the successful and unsuccessful programs. Previous studies provided evidence that primary care education on depression recognition and treatment is one of the few evidence-supported, effective means of preventing suicide (1, 2). Further research is required to maintain and improve such beneficial outcomes.

References

1. Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A, Hegerl U, Lonnqvist J, Malone K, Marusic A, Mehlum L. Suicide prevention strategies: a systematic review. *JAMA*. 2005 Oct 26;294(16):2064-74.
2. Van der Feltz-Cornelis CM, Sarchiapone M, Postuvan V, Volker D, Roskar S, Grum AT, Carli V, McDaid D, O'Connor R, Maxwell M, Ibelshäuser A. Best practice elements of multilevel suicide prevention strategies. *Crisis*. 2011 Sep 26.
3. Luoma JB, Martin CE, Pearson JL. Contact with mental health and primary care providers before suicide: a review of the evidence. *American Journal of Psychiatry*. 2002 Jun 1;159(6):909-16.
4. Rihmer Z, Belső N, Kalmár S. Antidepressants and suicide prevention in Hungary. *Acta Psychiatrica Scandinavica*. 2001 Mar;103(3):238.
5. Rutz W, Von Knorring L, Wålinder J. Frequency of suicide on Gotland after systematic postgraduate education of general practitioners. *Acta Psychiatrica Scandinavica*. 1989 Aug;80(2):151-4.
6. Roškar S, Podlesek A, Zorko M, Tavčar R, Dernovšek MZ, Groleger U, Mirjanič M, Konec N, Janet E, Marušič A. Effects of training program on recognition and management of depression and suicide risk evaluation for Slovenian primary-care physicians: follow-up study. *Croatian Medical Journal*. 2010 Jun 15;51(3):237-42.
7. Rihmer Z, Rutz W, Pihlgren H. Depression and suicide on Gotland an intensive study of all suicides before and after a depression-training programme for general practitioners. *Journal of Affective Disorders*. 1995 Dec 18;35(4):147-52.
8. Rutz W, Carlsson P, Von Knorring L, Wålinder J. Cost-benefit analysis of an educational program for general practitioners by the Swedish Committee for the Prevention and Treatment of Depression. *Acta Psychiatrica Scandinavica*. 1992 Jun;85(6):457-64.
9. Rutz W, Wålinder J, Von Knorring L, Rihmer Z, Pihlgren H. Prevention of depression and suicide by education and medication: impact on male suicidality. An update from the Gotland study. *International Journal of Psychiatry in Clinical Practice*. 1997 Jan 1;1(1):39-46.
10. Henriksson S, Isacson G. Increased antidepressant use and fewer suicides in Jämtland County, Sweden, after a primary care educational programme on the treatment of depression. *Acta Psychiatrica Scandinavica*. 2006 Sep;114(3):159-67.
11. Szanto K, Kalmár S, Hendin H, Rihmer Z, Mann JJ. A suicide prevention program in a region with a very high suicide rate. *Archives of General Psychiatry*. 2007 Aug 1;64(8):914-20.
12. Székely A, Thege BK, Mergl R, Birkás E, Rózsa S, Purebl G, Hegerl U. How to decrease suicide rates in both genders? An effectiveness study of a community-based intervention (EAAD). *PLOS One*. 2013 Sep 23;8(9):e75081.
13. Torzsa P, Székely A, Bagi M, Purebl G, Kopp M. Az "Európai Szövetség a Depresszió Ellen" magyarországi programjának bemutatása. *Magyar Családorvosok Lapja*. 2009;1:12-7.
14. Hegerl U, Althaus D, Schmidtke A, Niklewski G. The alliance against depression: 2-year evaluation of a community-based intervention to reduce suicidality. *Psychological Medicine*. 2006 Sep;36(9):1225-33.
15. Hübner-Liebermann B, Neuner T, Hegerl U, Hajak G, Spießl H. Reducing suicides through an alliance against depression? *General Hospital Psychiatry*. 2010 Sep 1;32(5):514-8.
16. Hannaford PC, Thompson C, Simpson M. Evaluation of an educational programme to improve the recognition of psychological illness by general practitioners. *British Journal of General Practice*. 1996 Jun 1;46(407):333-7.

17. Naismith SL, Hickie IB, Scott EM, Davenport TA. Effects of mental health training and clinical audit on general practitioners' management of common mental disorders. *The Medical Journal of Australia*. 2001 Jul;175:S42-7.
18. Pignone MP, Gaynes BN, Rushton JL, Burchell CM, Orleans CT, Mulrow CD, Lohr KN. Screening for depression in adults: a summary of the evidence for the US Preventive Services Task Force. *Annals of Internal Medicine*. 2002 May 21;136(10):765-76.
19. Kelly C. The effects of depression awareness seminars on general practitioners knowledge of depressive illness. *The Ulster Medical Journal*. 1998 May;67(1):33.
20. Lin EH, Simon GE, Katzelnick DJ, Pearson SD. Does physician education on depression management improve treatment in primary care? *Journal of General Internal Medicine*. 2001 Sep;16(9):614-9.
21. Thompson C, Kinmonth AL, Stevens L, Pevele RC, Stevens A, Ostler KJ, Pickering RM, Baker NG, Henson A, Preece J, Cooper D. Effects of a clinical-practice guideline and practice-based education on detection and outcome of depression in primary care: Hampshire Depression Project randomised controlled trial. *The Lancet*. 2000 Jan 15;355(9199):185-91.