



Short Version

Case Study of Suicide Prevention in East Azerbaijan in 2009

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Keywords:

*Suicide
East Azerbaijan
Prevention
Case study
Iran*

Received: 2015-05-02

Accepted: 2015-05-25

DOI: [10.13183/jcrg.v4i1.122](https://doi.org/10.13183/jcrg.v4i1.122)

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Abstract

Introduction: Suicide is a serious health issue causing indescribable pain and disability in individuals, families and the society. The present study describes a Suicide Prevention Program in East Azerbaijan Province which was implemented following a reported increase in completed suicides in some of its cities.

Case Study: A community-based multi-intervention preventive program was formulated and implemented in Azarshahr and Jolfa cities in 2009. The major solutions were the conduction of a Suicide Surveillance System and screening and treatment of depression. Results indicated that suicide cases increased from 20 to 24 in Azarshahr and decreased from 4 to 1 in Jolfa.

Conclusion: These results support the idea that in order to prevent suicide, its process and risk factors should be well identified and that the region and even city's combination of population and culture should be considered before selecting solutions.

Introduction

Suicide is a serious health issue causing indescribable pain and disability in individuals, families and the society. Suicide is a great humanitarian tragedy whose incidence varies from 3-31 per 100,000 individuals [1]. Rihmer considers suicide as a complex multifactorial human behavior resulting from different biological, psychological and cultural causes [2].

The prevailing psychiatric view is that suicide is the result of psychiatric disorders and thus predictable and preventable. In their study, Mann et al. divided the Suicide preventive program into the stages of suicidal behaviors, suicidal thoughts and suicide attempts. Psychiatric disorders and life stresses develop suicidal behavior. At this stage, education of the society and physicians, screening, pharmacotherapy, psychotherapy and follow-up of patients can be used for prevention. Suicidal thoughts can be prevented by screening programs [3]. The cause of 60% of suicides is major depressive disorders and bipolar disorder [4]. The lifetime suicide risk of depressive disorder is 3.4% [5].

Different studies have shown that psychiatric disorders must be considered in suicide prevention programs implementation. Comprehensive suicide prevention programs were implemented in countries such as Finland, the UK, Canada, America and Australia [6]. Suicide prevention efforts are followed by decreased risk factors of suicidal thoughts and behavior and reinforcement of protective factors. Risk factors increase long-term risk and stressors such as interactional problems precipitate suicide attempts [7]. East Azerbaijan is placed in North West of Iran. It has 19 districts. Jolfa is a border city that lies in neighbourhood of Azerbaijan country. Immigrants from other cities composed most of its population that have gone for work to it. Azarshahr is a religious city with closed cultural traditions. With disciplined social structures that resist against modern pressures. In 2-3 previous years the suicide incidence was high in this cities. Based on national death registry system data, the committed suicide incidence in East Azerbaijan was 4.1 in 100000 populations in 2010. The present study describes

a Suicide Prevention Program in East Azerbaijan Province implemented following reported increase in completed suicides in some of its cities.

Case Study

The incidence of suicide in East Azerbaijan Province was 3.5 in 100,000 individuals in 2009. According to official suicide reports, this figure was 7.8 and 8 in Azarshahr and Jolfa cities, respectively. Moreover, this figure was 20 and 8 for the same cities according to the Suicide Surveillance Program that authors were conducted in this study. In official information system suicide data was obtained only from national death registry system. In surveillance system, suicide data were taken from Department of Forensics records, national Death registry system, case reports by health service providers, clinical records in hospitals and private clinics and active follow up of high risk population, police and legal issues referred to department of forensics. Suicide data included gender, age, socio economic status and suicide method. in this study all data were anonymous and no personal related data were used.

Azarshahr was selected due to its high suicide incidence and accessible population (102,000) and Jolfa was selected due to its specific social condition. Suicide prevention was one of routine programs in public health centres in Iran. the authors revised and changed this program and a community-based multi-intervention preventive program designed. The authors first conducted two focus group discussions (FGD) with general physicians and two districts mental health staff (director of health system in district, district clinical psychologist and mental health experts in province health centre). In these sessions necessary data were gathered about suicide trend, main suicide control processes and appropriate preventive approaches. In an expert panel (psychiatrists, epidemiologists, clinical psychologists, GPs and mental health staff) with use of literature review results and FGDs data, community based multi modal program of suicide prevention was written. This program had been three main objectives that described in below:

1. Early detection of attempted suicides
2. Screening and early detection of psychiatric disorders
3. Increasing awareness and sensitization of district health directors.

This program executed for one year in 2010 in two cities of Azarshahr and Jolfa. The summary of the program is presented in Table 1.

The Suicide Surveillance System: as the first step, a system was formulated to accurately record suicide attempts and completed suicide cases. A form was prepared for the investigation of suicide attempts and completed suicide cases, completed by physicians, health staff and medical emergency personnel and sent to the city's mental health expert. For each suicide attempt, the expert called the individual a week, a month and two months after the incident and encouraged him/her to refer to a physician. They were referred to a psychiatrist if necessary. Suicide attempts were 19.6 and 19 per 100,000 in Azarshahr and Jolfa, respectively. In Azarshahr city all suicide cases were young men and 23 persons used hanging for suicide

and one person used drug poisoning.in Jolfa all cases were middle aged women that used drug poisoning.

Screening and treatment of depression: the GPs of Jolfa and Azarshahr were trained by the psychiatrists of the Department of Psychiatry for active screening of depression and also the diagnosis and treatment of depression during several sessions. Screening was conducted with two methods:

1. If patients referring to healthcare centers for any reason and expressed a symptom among each of the nine symptoms of depression, other symptoms were checked according to the diagnostic criteria of DSM IV.
2. PHQ-9 depression screening questionnaire was translated to Persian and used.

Results indicated that suicide cases increased from 20 to 24 in Azarshahr and decreased from 4 to 1 in Jolfa (Table 2). The investigation of suicide cases in Jolfa indicated that all of the suicide cases were married women with a history of multiple suicide attempts. In Azarshahr, 23 cases were mostly married young men with serious socio-economic problems and no history of suicide and a married woman with a history of suicide attempt. Investigation of the data obtained from the post-intervention Official Statistics System indicated that the number of suicide deaths in Azarshahr was 6.8 in 100,000 while the data of the Suicide Surveillance System indicated 24 in 100000. The data of the Official Statistics System and the Suicide Surveillance System in Jolfa was similar and reduced to 2 in 100,000.

Discussion

Generally, two approaches are followed for the prevention of suicide, the first one is the implementation of programs for the general population and the other one targets the people at risk. Different approaches have been used in different countries but their effectiveness has not been properly documented [8,9].

Table 1. Community-based multi-intervention preventive program of suicide in East Azerbaijan in 2009.

Active screening for depression in all clients to public health centers
Design and implementation of suicide surveillance system
Determination and registration of all suicides
Determination and registration of all suicide attempts
Continuous follow up of suicidal attempts
Consultation and treatment of all suicidal attempts
Training of emergency technicians
Continuous education of general physicians(GP) about depression
Increasing awareness and sensitization of district health directors

Table 2. Frequency distribution of suicide in Azarshahr and Jolfa, before and after intervention, in 2009 – 2010.

District	Azarshahr	Jolfa
Population	102000	53000
Before Intervention		
Official information system	8	4
Suicide surveillance System	20	4
After Intervention		
Official information system	7	1
Suicide surveillance System	24	1

Goldsmith et al. consider suicide prevention as the combination of universal, selective and indicated person. Universal solutions target the whole population, selective solutions are formulated for specific groups, and indicated person solutions are implemented on highly-endangered individuals with a history of suicide [10]. Reduction of access to suicide methods is among actions taken at the level of the society. Suicide prevention centers and education in schools are solutions at the level of endangered groups and training physicians can be named at the individual level [11-13]. In order to reduce risk factors and increase protective factors, programs must be implemented. One of these programs includes the Comprehensive Plan for Suicide Prevention in the American Air Force with 11 solutions which reduced suicide rates [14]. The Suicide Prevention Program in this study implemented the major solutions of the Suicide Surveillance System and training physicians for the diagnosis and treatment of depression. The same intervention was made in both cities but different results were obtained. The reason for its success in Jolfa was the accordance of the system for the surveillance of suicidal attempts with the cases of completed suicides. These cases were majorly married women with a history of multiple suicide attempts who were discovered and treated by our intervention-based surveillance system. Investigations in Azarshahr indicated that the Suicide Surveillance and Prevention System did not compatible with the endangered group. The endangered group in this city was young men with socio-economic problems. The intervention was in the official screening and treatment of psychiatric disorders while suicides were committed in another system. A systematic review of suicide prevention programs indicated that reducing access to suicide methods and training physicians for the diagnosis and treatment of depression were remarkably effective in the reduction of suicide attempts [15]. Reducing access can reduce suicides by 1.5-23% [16,17]. Training physicians has shown a 22-73% decrease in that number [18,19]. Recent researches created new suicide prevention opportunities and showed that Cognitive Behavior Therapy (CBT) [20,21], crisis telephone lines [22], continued care of those who are at the risk of suicide [23] and administration of antidepressants to endangered groups [24] were useful.

The results of the present study indicate that in order to prevent suicide, its process and risk factors should be well identified and consider that region and even city's combination of population and also culture. The multifactorial nature of suicide requires a specific Suicide Prevention Program for each region. In spite of effective suicide prevention solutions, some individuals cannot benefit from them. This fact is a reminder of the dissipation of necessary information and calls for more efforts [25-28].

Acknowledgements

Article authors would like to express their gratitude to physicians, mental health experts and rural health workers (Behvarz) of Azarshahr and Jolfa.

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