REVIEW

Suicide prevention program for the elderly: the experience in Japan

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Abstract. In this article, the author describes a suicide prevention program for the elderly in Japan carried out in a small town, Nagawamachi, Aomori. Because of the recent sharp increase in this town in the rate of suicides, we started to develop a suicide prevention program with the goal of trying to detect depression in its early stages. At first we adopted various questionnaires and used structured interviews, and then developed a screener for depression. Screening is an important part of our suicide prevention program, because elderly who are suicidal often do not recognize their distress is a treatable medical condition, partly due to a negative image of mental illness, and most of them do not seek medical help. The author underscores the importance of educational programs to address how to recognize the symptoms of depression and to develop a community network for the elderly to communicate with locals and support each other. It is also important to focus on a social schema to produce a society that respects "being" and not just "doing". (Keio J Med 53 (1): 1–6, March 2004)

Key words: depression, suicide prevention, screener, psychoeducation

Introduction

The annual number of suicides in Japan, which was 23,000 in 1997, increased markedly to 32,000 in 1998, and leveled off at about 30,000 per year thereafter. This precipitous increase was thought to have been a result of an increase in the number of suicides by males in their fifties. While the suicide rate among teenagers and 20 year-olds has been declining in Japan, a high suicide rate among the elderly has become evident. The suicide rate is known to increase with age, with a high rate observed among those 75 years and older.

The suicide rate among the elderly in Japan is also high compared with that for other countries, and the rate in rural Japan has increased more than in urban areas. With regard to gender ratios, although there is a higher rate among males than among females – a trend similar to other countries – the gender difference is relatively small in Japan because the female suicide rate is so high. Moreover, there are few apparent predictive indications for suicide among the elderly, and the rate of consummated suicides is extremely high. The ratio of attempted to consummated suicides among all age groups is approximately 10 to 1. However, that ratio increases to 4 to 1 among the elderly, compared to 100～200 to 1 among juveniles.[1,2]

The most consistently prevalent motive for suicide among the elderly is illness – accounting for more than 60%, according to statistics from the National Police Agency – followed by problems at home, alcoholism and mental disorders. There are often family problems. It has been reported that elderly individuals often commit suicide in the homes where they live with their families, and not alone.

Within this context, we have been active since 1999 in creating a practical intervention program to identify depression for the prevention of subsequent suicides, with the cooperation of Nagawamachi, Aomori Prefecture, which has a higher than average rate of suicide among the elderly, as part of a national project.[3,4] The significance of and procedures for suicide prevention activities for the elderly are discussed in this paper.

Psychoeducation Activities

It has been claimed that more than most elderly individuals who commit suicide have had a prior mental disorder, and that depression is often a significant factor

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in suicide, particularly among the elderly.[5,6] It has been suggested that early diagnosis and treatment of depression may be effective in preventing suicide.

Thus, although recognition and treatment of depression at an early stage are important in preventing suicide, the majority of people are unaware they are depressed, and do not discuss it with others. For example, in our study[4] of depression among individuals 65 years and older, 44 (12.3%) of 358 participants responded that they had either ''thoughts of death'' or ''thoughts of suicide'', and these thoughts had continued for more than two weeks in 12 participants (3.4%). Only 15 of the 44 suicidal elderly responded that they had consulted someone about their problems.

One reason that such a low percentage of elderly with thoughts of death or suicide consulted others may be their lack of awareness that depression can be treated. The other reason might be that depressive elderly tend to somatize and overlook depressive symptoms, or that a stigma against psychiatric disorders may make it difficult for them to seek help from others.

These results indicate the importance of community networking through educational activities to increase the possibility that people with depressive symptoms will seek help, so that suicide may be prevented.

The importance of local public health activities has been also advocated as a result of previous community projects in Japan. In both Matsunoyamamachi, Niigata Prefecture, and J-town, Iwate Prefecture, suicide among the elderly dramatically decreased through a local intervention program.

For example, suicide prevention activities were conducted in Matsunoyamamachi from November 1986 to December 1996.[7] For the elderly who were found to be at a high risk of suicide, a primary care physician provided psychiatric treatment and public health nurses provided public health care and welfare. The high risk group was identified using the Niigata University self-rating depression scale (NSDS), a revised Zung's SDS,[8] or through an interview by primary care physicians and public health nurses. The following groups were also identified as high-risk: 1) elderly with a history of depression; 2) elderly hinting at suicide; 3) elderly who had just experienced the death of a spouse; 4) elderly who had just been released from a medical facility; and 5) elderly whose relative or neighbor had recently committed suicide.

As a result of identification of these high-risk groups and subsequent intervention, there was a dramatic decline in the suicide rate in the elderly: from 434.6 suicides/100,000 residents in the 17 years before the suicide prevention activities, to 123.1 suicides/100,000 residents after the activities were introduced. A significant decrease in mortality from suicide was found, especially among people 65 years old and older. This result is thought to have been influenced by the primary and secondary prevention activities undertaken. This project demonstrated the importance of networking between local governmental institutions, public health nurses and physicians, and of creating an atmosphere in which problems related to mental disorders can be openly addressed.

After several years, welfare improvement and prevention activities were introduced, assistance for depressed elderly and confined elderly was provided, and companion home visits were started for non-participants in these activities. These programs were implemented because rebuilding relationships is thought to be a significant aspect of suicide prevention, based on the fact that psychological isolation, referred to as a ''reduced relation system condition'', is a risk factor for suicide among the elderly.

Oyama and associates[9] recently reported the results of comparative studies of suicide intervention activities for the elderly established in or around Matsunoyamamachi, Niigata Prefecture. They found that welfare activities for the elderly, i.e. maintaining welfare services through visitations and facilities, play an important role in suicide prevention. The region where suicide rates had decreased had enhanced services, such as welfare visits and group assistance for confined elderly, and site visits to assisted living facilities, in addition to close collaboration of professionals in the provision of care.

These results suggest the possibility that care introducing ''relations'' can be made available through existing home welfare services and improved welfare and prevention activities, in addition to positive treatment for depression in suicide prevention.

Suicide Prevention Activities in Nagawamachi

Thus, to improve the results of regional suicide prevention, it is extremely important to identify depression at an early stage and to provide treatment intervention through the cooperation of regional administration, healthcare professionals and local physicians. It is also important to create an atmosphere in which frank discussions of community problems can take place, including issues related to mental healthcare, such as depression and suicide.

Based on this awareness, and in conjunction with public welfare studies, we gained the cooperation of Nagawamachi, Aomori Prefecture to conduct research and a survey to create a manual of crisis intervention and suicide prevention for use when early stage depression is discovered among the elderly. The following five items were used in screening for depression and potential suicides, including two types of self-

administered questionnaires for evaluating depression: the Japanese version of the Self-Rating Depression Scale[8,10] and the Hospital Anxiety and Depression Scale.[11,12] We then conducted a survey using a modified version of the Composite International Diagnostic Interview (CIDI)[13] section for Major Depression.

Using a Receiver Operating Characteristics analysis, we identified five self-report items that differentiated between the group who reported depressive symptoms and the group who did not, as well as between the group who reported suicidal ideation in the CIDI and the group who did not. We also modified the original five sentences to make them interrogative expressions, as listed below, and revised the rating method (4-point scale) to a dichotomous scale (yes/no; score range 0–5), to enable the elderly participants to respond to the screening items more easily.

The questions were as follows.

(1) Is your life pretty full?
(2) Do you still enjoy the things you used to do?
(3) Do you think it too much trouble to do the things you used to?
(4) Do you feel that you are useful and needed?
(5) Do you get tired for no reason?

By comparing with the Geriatric Depression Scale[14,15] and the Japanese short version (GDS-S), we found that, when the cut-off score of this 5-item screening test was set at 2, the test had a moderately reliable sensitivity and specificity.

In the actual screening, we added two other questions inquiring about the existence of thoughts of suicide: ''How many times have you thought of suicide?'' and ''Do you think of suicide when you feel depressed?'' We also asked if the respondent had experienced any difficult life events recently: ''Please write anything down if you have had a recent problem or difficulty''. A total of eight items were used in this screening questionnaire.

This screening was intended for use in various situations. Residents identified through these questionnaires as possibly depressive were interviewed for a definitive diagnosis by a psychiatrist and healthcare professional.

Cooperation of regional residents

Although administration of the activities is important for the prevention of suicide, the active participation of residents in such activities is also vital for their effectiveness. In preventing suicide among the elderly, it is first of all important to create an environment to prevent depression. This can also be understood in relation to the theories of the origins of depression.

According to the vulnerability model of mental disorders, psychiatric symptoms such as depression and anxiety manifest as the result of interactions of personality and environmental factors. For example, we have conducted a genetic analysis of dimensions of temperament and symptoms of depression in about 201 pairs of monozygotic and dizygotic twins in order to evaluate the hypothesis that one set of genetic risk factors may be common to disorders and dimensions of temperament, whereas environmental risk factors are disorder-specific.[16]

Dimensions of temperament associated with novelty seeking, harm avoidance, reward dependence and persistence were measured using the Temperament and Character Instruments developed by Cloninger,[17,18] and depressive symptoms were measured using the Hospital Anxiety and Depression Scale. Differences among individuals on these measures can be explained by differences in their genes and in their environmental experiences.

As a result, we found that each dimension of temperament is genetically dependent, and genetic variations in symptoms of depression are largely dependent on the same factors that affect the temperament. There are no differences between the sexes in gene action affecting the temperament. Furthermore, depression was found to more likely occur in those predisposed to it if they obtained a high score on harm avoidance or reward dependence. These findings suggest that what is inherited in depression is a temperament profile that predisposes an individual to the disorder. Thus, it might be more heuristic to look for genetic markers for dimensions of temperament rather than for depression itself.

Whether or not the effect of stress on the personality increases vulnerability or encourages resilience is unclear. It is clear, however, that anyone may feel strongly stressed when placed in an environment unsuitable to his or her own personality.

Accordingly, to effectively identify depression at an early stage and prevent suicide, the environment must be changed to make it easier for the elderly to live in, and this requires the cooperation of many people. Therefore, it is helpful to actively promote psychoeducational activities such as town meetings, where psychiatrists and/or public health nurses give talks on depression and related disorders and on the various effective psychiatric treatments currently available. Another way to get this information to the public is through the use of town newspapers. For this study, we also made a leaflet based on the 5-item questionnaire to let people know about the symptoms of depression (Fig. 1).

Along with these activities, we distributed a leaflet to all households of the town, illustrating depressive

Fig. 1 Psychoeducational leaflet of depression.

symptoms and where to obtain a consultation in case of depression. These brochures were intended to enable the residents to identify their own depressive symptoms and those of their family and friends, which might assist them in seeking advice from public health nurses or other mental health professionals.

Modifying the attitudes of community populations

It has become clear that community activities aimed at early detection and early treatment are important but insufficient. It is more important to apply a multimodal approach[19] to create a mentally healthy regional population and an environment in which depression does not occur. Creating a space in which a community population can participate in local activities and feel human contact is essential to ease hopelessness, which plays an important role in geriatric suicidal ideation.[20,21] Such human contact is important not just on a regional basis, but also at work.

Based on this knowledge, a meeting for the elderly called ''the gathering'' is regularly held in Nagawa-machi. At this meeting, the elderly gather and participate in group hobby activities, and listen to talks by various experts aimed to prevent them from losing their sense of the value of living, which results from being isolated from the community. At ''the gathering'', local children also participate, and an opportunity is created to have an exchange with the elderly. This meeting provides the elderly with an opportunity to adopt an important role in handing down their rich experiences to children. It also provides support for the elderly, who can lose sight of their role in society.

This activity is not only an opportunity for the elderly to participate in regional activities, but also changes their perspective on local values. The authors have indicated the importance of changing the outlook of communities regarding local values in a region – i.e. the social schema – to create a mentally healthy region and prevent suicide attempts. In general, Japanese are methodical perfectionists, who tend to persevere to accomplish a set goal. This trait has been linked to post-war reconstruction and economic prosperity. However, this sense of values is also connected to the concept of discarding people who are ''unfit for use''. Associated with this value system is the view that the elderly, who cannot work due to physical failure, and middle aged individuals who have lost employment, are simply worthless. The recent increase in suicides is possibly linked to this attitude.

Accordingly, to prevent suicide, it is important to revise this social schema, which places too much value on ''doing''. To achieve this, it is necessary to recognize that there is value in simple existence, and to respect a value system that values the existence of the individual. This will produce a society that respects ''being'' and not just ''doing'' – a society that values competition, but at the same time values symbiosis. Attaining this perspective is desirable in suicide prevention activities.

Cooperation of related organizations and improvement in the quality of healthcare activities

The activities of disseminating information to residents and regional intervention, as typified by the screening described up to now are, of course, indispensable. Also vital is the continuation of the effort to improve the capabilities of healthcare professionals and administrators, to provide higher quality service to assist local residents in identifying the condition of depression. Therefore, study and training are required for healthcare professionals to learn interview techniques and the appropriate manner to adopt when discussing these topics.

One of the most useful strategies for such a purpose is a modified cognitive technique.[22,23] This approach

focuses on changing the cognition of the elderly that their depression and distress is caused by their own personal weaknesses. Because depressed individuals and their relatives tend to feel ashamed of being depressed and try to hide it from other people, it is important to restructure this cognition. The goal is to assist the elderly to understand that depression is a treatable medical condition and that pharmacological therapy and psychotherapy are helpful to relieve such distress. These kind of interventions are useful not only to prevent suicide, but also to improve quality of life in the elderly, because depression in the later years of life affects disability,[24] the level of use of health services,[25] and death rate.[26]

Moreover, there is a need for training in methods of assistance and intervention, while managing the mental condition of residents as necessary. Since such activities cannot be accomplished without the cooperation of the public health commission and health promotion commission, activities providing these people with information must occur simultaneously.

It is also important to establish close cooperation with public health professionals, primary care physicians, psychiatrists and other medical staff to effectively perform initial interventions in a region. Cooperation with the police and other public officials, and suitable assistance for the person or family, are also necessary when a suicide plan is discovered, or when there is a high probability that an individual may harm himself or herself due to depression. There is a strong tendency for the elderly to visit a general practitioner just before committing suicide. It is also reported that over 70% of elderly who attempt suicide see a general practitioner within one month prior to the event. However, the depressed person often hesitates to disclose suicidal ideation to a physician, indicating that it is important that physicians use caution in their consultations. Considering the fact that many elderly are examined by a physician soon before they commit suicide, the importance of early intervention and treatment cannot be understated.

Considering that few older people disclose their suicidal ideation,[4,27] there is a need for positive intervention by primary care physicians.

The importance of training general practitioners to identify depression and risk of suicide has been demonstrated in previous research. A series of studies in Gotland (Sweden) found that the introduction of suicide prevention training for general practitioners resulted in a lower number of suicides.[28–30]

General practitioners should be aware that many depressed patients may complain of various undefined physical ailments, masking a hidden depression. Caution should be taken in examining such individuals for these undefined physical complaints. In some cases it is desirable to involve the family in the consultation.

However, there is still some doubt as to whether or not appropriate intervention can be provided at the primary care level. In a large study conducted in Europe, it was reported that depressed patients were not being treated with appropriate antidepressants. As yet, no such study has been conducted in Japan, however, there are indications from surveys of prescriptions for psychotropic drugs that appropriate pharmacotherapy is not being provided for individuals who may require it.

Our data on the relationship of suicide rates and annual sales of anti-anxiety drugs by prefecture in the year 2000 revealed a high correlation coefficient of 0.566 (Ono, unpublished manuscript). Such a tendency was not found with antidepressants. Although generalizations cannot be made from these findings alone, it may be inferred that prescribing anti-anxiety drugs does not prevent suicide attempts – it may even induce suicidal behavior, partly due to disinhibition. It may be necessary to conduct detailed surveys regarding prescription practices in clinics and to develop a treatment manual of depression for primary care physicians.

Conclusions

In this paper we have discussed practical suicide prevention for the elderly in terms of the activities conducted by us based on past practical precedents, centered on screening and self-governing municipalities, and the networking of residents and health professionals in a community. In conducting such activities, it is necessary to exercise adequate care regarding the reactions of local people and their personal privacy. Psychiatric problems such as depression and suicide are very private information, and care must be taken in handling this confidential information, obtaining consent and preserving privacy, so as to not unnecessarily burden the individual.

Finally, considering that suicide cannot be prevented completely, providing mental healthcare for a family confronted by the suicide of a close relative is just as important as undertaking prevention activities. We are now planning to develop a manual to help individuals deal with the extreme mental anguish of losing a close one.

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