Mental health of gatekeepers may influence their own attitudes toward suicide: a questionnaire survey from a suicide-prevention gatekeeper training program

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Abstract

Aims: We aimed to investigate the association between general mental health and attitudes toward suicide of participants in suicide-prevention gatekeeper training programs.

Methods: We conducted a number of half day training seminars within a suicide prevention program addressing gatekeepers. Participants filled in two questionnaires, one measuring general health (General Health Questionnaire, GHQ-12), and one measuring attitudes towards suicide (ATTS).

Results: The total sample size of participants was 230, of whom 115 completed questionnaires. There were no significant differences in demographic backgrounds between the good mental health (GHQ-12≤4) and the poor mental health (GHQ-12≥5) groups. The poor mental health group was more likely to think that people have the right to commit suicide.

Conclusion: There was a difference in attitudes toward suicide between the good mental health and the poor mental health groups, indicating that attention should be paid to participants' mental health when conducting suicide-prevention gatekeeper training.

Keywords: Mental Health; Suicide; Suicide prevention; Gatekeeper training.

Highlights:

- Gatekeeper training participants include those with poor mental health status.
- Mental health of gatekeepers influence their own attitudes toward suicide.
- Poor mental health is related to a permissive view of the right to suicide.
- Conducting gatekeeper training, attention should be paid to their mental health.

1. Introduction

According to the World Health Organization (2014), Over 800,000 people die due to suicide every year and many more attempt suicide. Suicide has been a serious social concern in Japan since the number of suicides began exceeding 30,000 per year in 1998 (Shiho et al., 2005). Committing or attempting suicide has a huge impact on many people connected to the victim. The Japanese government implemented nationwide countermeasures against suicide, including the Basic Act for Suicide Prevention of 2006. Suicide rates in Japan have decreased since 2009 (Ministry of Health, Labour and Welfare, Government of Japan, 2016). However, it is estimated that as many as 24,000 Japanese commit suicide every year, which is the 8th leading cause of death in Japan and 3rd-highest suicide rate among OECD countries (Organization for Economic Co-operation and Development, 2015).

To prevent suicide, a variety of social initiatives are needed. Previous studies showed that people who may need psychiatric care are not adequately found and treated in hospitals in Asian region (Leung M et al., 2019; Faris N et al., 2019). It is important not only that those who attempt suicide be treated in hospital, but also that they be noticed in their day-to-day lives. A suicidal person often does not ask for help, but this does not mean that help is not required (Garlow et al., 2008). If someone recognizes the warning signs and serves as a mediator between those who experience suicidal ideation and mental health professionals, suicides might be prevented.

Suicide-prevention gatekeeper training is suitable for fostering such mediators and a promising suicide prevention strategy. The purpose of such programs is to improve non-mental health professionals' ability to identify individuals who have suicidal thoughts and refer them to

suitable mental health resources (Tompkins et al., 2010; Isaac et al., 2009). Harrod et al. (2014) showed that gatekeeper training has a positive effect on knowledge of and confidence about suicide prevention.

On the other hand, it is known that people's attitudes towards suicide affect their own response to suicidal individuals (Bagley and Ramsay, 1989). Negative attitudes towards suicide, such as anger, could affect nontherapeutic reactions to suicidal individuals (Demirkiran and Eskin, 2006). The belief that suicide is a personal right was negatively related to suicide intervention skills (Neimeyer et al. 2001). People with a history of suicide attempts or suicidal ideation tend to take a positive stand for the act of suicide compared to those without such a history or thoughts (Limbacher and Domino, 1985; McAuliffe et al. 2003). Considering this, if gatekeepers are depressed and suffering from mental ill-health, their attitudes towards suicide might become inappropriate, adversely affecting their suicide prevention activities. To our knowledge, no research has evaluated the relationship between attitudes towards suicide and mental health state in gatekeepers. Therefore, the aim of this study was to investigate the relationship between general mental health and attitudes towards suicide in suicide-prevention gatekeepers.

2. Materials and methods

2.1 Participants

We conducted suicide-prevention gatekeeper training programs from July 2013 to February 2015. They were held as part of suicide countermeasures planned by Ibaraki prefectural local government. We held a total of 6 times during the period. Two hundred and thirty subjects participated in these programs. The average number of participants per program was 38 (11-85). Participants were recruited by official advertisements in each organization or community. They were 1) medical workers including physicians, public health nurses, and social workers, 2) non-medical workers including members of volunteer organizations and public officers, and 3) ordinary citizens. The total length of the program was half day and it consisted of lectures about basic knowledge for suicide prevention (60 min), role-play and group work applying the TALK steps (Tell, Ask, Listen and KeepSafe) with original teaching videos we created (90 min), and a Q&A session (30 min).

2.2 Measures

When attending the program participants were asked to fill in a self-administered, anonymous questionnaire. The questionnaire was collected after the program. Of the 230 participants, all returned the questionnaire. However, the data have many missing values, and after excluding participants with missing values, 115 complete questionnaires were analyzed in this study. The questionnaire included questions about the following: gender, age group, occupation (medical workers or not), experience with contact with those at high risk for suicide

or self-harm, past participation in suicide-prevention training, mental health state, and attitude toward suicide.

To evaluate the mental health state of participants, we employed the 12-item General Health Questionnaire (GHQ-12). The GHQ is a self-screening questionnaire, designed to identify psychological distress in primary care settings (Goldberg and Hillier, 1979). Though its original version is composed of 60 items (GHQ-60), various shortened versions are currently available for several situations (e.g., GHQ-30, 28, and 12). The GHQ-12 is widely used by researchers in various fields to screen for mental ill-health (Goldberg et al., 1997). Common scoring methods used are bimodal (0–0–1–1) and Likert-like (0–1–2–3). We used the bimodal style, setting 4/5 as the cut-off score. We set the cut-off score based on a previous study for Japanese (Honda et al., 2001). We assigned participants with total GHQ-12 scores of four or less to the 'good mental health group' and those whose scores were five or more to the 'poor mental health group'.

In addition to the GHQ-12, we adopted the Japanese version of the Attitudes Towards Suicide questionnaire (ATTS) to clarify participants' views on suicide (Kodaka et al. 2013). The ATTS was developed in 1986 and was revised in 2003 (Renberg and Jacobsson 2003). The later version consists of 37 items on a 5-point Likert scale (1 = totally disagree, 5 = totally agree). This scale reflects various aspects of attitudes towards suicide. Kodaka et al. (2013) proposed that the ATTS questions be grouped into six sub-scales: (1) 'Right to suicide' (people have a right to commit suicide), (2) 'Common occurrence' (suicide is common and normal), (3) 'Suicidal expression as mere threat' (people who talk about suicide do not actually take their own lives), (4) 'Unjustified behavior' (suicide is a bad and unjustified action), (5) 'Preventability/readiness to help' (positive attitudes towards suicide prevention and readiness to help aid individuals at risk of suicide), and (6) 'Impulsiveness' (tendency to regard suicide as an

impulsive act). The scores for each of these sub-scales were the averages of their respective questions. Attitudes towards suicide are influenced by the cultural background (Domino G. 2005). Although there are several other factor solutions reported in the literature for the ATTS, we adopted this model in consideration of cultural and regional suitability.

2.3 Statistical analyses

In order to investigate how a gatekeeper's general mental health affects their attitudes toward suicide, we performed several statistical tests. First, we compared the demographics between the good mental health and poor mental health groups. Chi-squared tests and Mann-Whitney U tests were used to examine differences of categorical variables (gender, age group, medical worker or not, experience with contact with those at high-risk for suicide or self-harm, and past participation in suicide-prevention training). Then, we compared how ATTS scores, including sub-scale scores, were different between groups using t-tests. Finally, multiple regression analysis was performed to test how ATTS sub-scale scores that were statistically significant in the previous t-tests were affected by gender, age, experience with suicidal behaviour of clients or significant others, and past participation in suicide-prevention training.

All statistical analyses were performed with the statistical package SPSS 20J for Windows. P-values of less than 0.05 were considered statistically significant. The statistics reported in this research include means and standard deviations (SD).

This study was approved by the medical ethics committee of the University of Tsukuba (Registration No.693-2).

3. Results

3.1 Demographics of the participants

Table 1 shows participant demographics and characteristics. A majority of the participants were women and participants in their 60s constituted the largest single age group. One third of the participants were medical workers. Two out of three participants had experience with contact with people at high risk for suicide or self-harm. Nearly half of the participants had earlier experience of taking part in suicide prevention training.

3.2 Comparison of characteristics between good and poor mental health groups

Table 1 also shows comparisons of characteristics between good and poor mental health groups. There was no difference between the groups with regard to gender, age group, occupation, experience with contact with those at high risk for suicide or self-harm, and past participation in suicide-prevention training ($p > 0.05$). [insert Table 1]

Table 1
Characteristics of Study Participants

Characteristics		All n (%) n=115	good mental health group (GHQ-12 ≦ 4) n (%) n=88 (76.5%)	poor mental health group (GHQ-12 ≧ 5) n (%) n=27 (23.5%)	p
Gender	male	28 (24.3%)	21 (23.9%)	7 (25.9%)	0.80
	female	87 (75.7%)	67 (76.1%)	20 (74.1%)	
Age group	20-29	11 (9.6%)	8 (9.1%)	3 (11.1%)	0.98
	30-39	24 (20.9%)	18 (20.5%)	6 (22.2%)	
	40-49	23 (20.0%)	16 (18.2%)	7 (25.9%)	
	50-59	18 (15.7%)	16 (18.2%)	2 (7.4%)	0.91
	60-69	27 (23.5%)	24 (27.3%)	3 (11.1%)	
	70-	12 (10.4%)	6 (6.8%)	6 (22.2%)	
Occupation	medical worker	71 (61.7%)	54 (61.4%)	17 (63.0%)	1.00

	non medical worker	44 (38.3%)	34 (38.6%)	10 (37.0%)	
Experience with contact with persons at high risk for suicide or self-harm	once or more	43 (37.4%)	34 (38.6%)	9 (33.3%)	0.66
	none	72 (62.6%)	54 (61.4%)	18 (66.7%)	
Past participation in suicide-prevention training	once or more	64 (55.7%)	50 (56.8%)	14 (51.9%)	0.66
	none	51 (44.3%)	38 (43.2%)	13 (48.1%)	

Comparing the average score for each item of the ATTS between the two groups, statistically significant differences were found in question Q. 18, Q. 20, Q. 27, Q. 34, and Q. 36 (Table 2). Compared to participants with good mental health, those with poor mental health more often thought that suicide can sometimes be a relief for the ones involved (Q. 18) and that people should have the right to take their own lives (Q. 34). They held a more permissive attitude to consider taking their own lives (Q. 20) or getting help to commit suicide (Q. 36) if they (hypothetically or otherwise) suffered from a severe and incurable disease. At the same time, they more deeply understood how people are able take their own lives (Q. 27).

For the six sub-scales of the ATTS (Table 2), the poor mental health group held permissive attitudes toward the right to commit suicide and to a higher extent regarded suicide as an impulsive act. For the other sub-scales, no differences were found between the two groups.

[insert Table 2]

Table 2

Differences in attitudes toward suicide between good and poor mental health groups

Sub-scales and Quesitions	**good mental health group (GHQ-12 ≦ 4) (n=88) mean±SD**	**poor mental health group (GHQ-12 ≧ 5) (n=27) mean±SD**	**p**
Sub-scales			
Right to Suicide	2.39±0.57	2.70±0.67	0.02

Common occurrence	2.96±0.64	3.11±0.74	0.31
Suicidal expression as mere threat	2.60±0.89	2.83±0.57	0.12
Unjustified behavior	3.74±0.87	3.76±0.93	0.92
Preventability / readiness to help	3.58±0.64	3.57±0.73	0.92
Impulsiveness	2.86±0.57	3.14±0.69	0.04
Questions (Grouped by sub-scales)			
Right to Suicide			
Q5. Suicide is an acceptable means to terminate an incurable disease.	2.34±1.02	2.26±1.10	0.72
Q16. There may be situations where the only reasonable resolution is suicide.	2.32±1.00	2.63±1.21	0.18
Q29. A person suffering from a severe, incurable, disease expressing wishes to die should get help to do so.	2.44±1.23	2.37±1.18	0.79
Q32. I can understand that people suffering from a severe, incurable, disease commit suicide.	3.24±0.91	3.63±0.93	0.05
Q34. People should have the right to take their own lives.	2.03±1.01	2.74±1.43	0.02
Q36. I would like to get help to commit suicide if I suffered from a severe, incurable disease.	1.99±1.01	2.59±1.39	0.04
Common occurrence			
Q14. Loneliness could for me be a reason to take my life.	2.83±1.26	2.78±1.37	0.86
Q15. Almost everyone has at one time or another thought about suicide.	2.99±1.02	3.11±1.12	0.60
Q17. I could say that I would take my life without actually meaning it.	2.21±1.10	2.74±1.40	0.08
Q28. Usually relatives have no idea about what is going on when a person is thinking of suicide.	3.09±0.93	3.15±1.20	0.80
Q31. Anybody can commit suicide.	3.69±1.19	3.78±1.19	0.75
Suicidal expression as mere threat			
Q12. People who make suicidal threats seldom complete suicide.	2.78±1.02	2.89±0.93	0.64
Q33. People who talk about suicide do not commit suicide.	2.42±1.04	2.78±0.89	0.11
Unjustified behavior			
Q2. Suicide can never be justified.	3.57±1.01	3.52±1.16	0.83
Q3. Committing suicide is among the worst thing to do to one's relatives.	3.91±0.10	4.00±1.00	0.68
Preventability / readiness to help	3.58±0.64	3.57±0.73	0.92
Q1. It is always possible to help a person with suicidal thoughts.	3.10±1.01	2.93±1.27	0.46
Q30. I am prepared to help a person in a suicidal crisis by making contact.	3.59±0.91	3.74±0.90	0.45
Q37. Suicide can be prevented.	4.06±0.88	4.04±1.13	0.92
Impulsiveness			

Q4. Most suicide attempts are impulsive actions.	3.16±1.05	3.22±1.19	0.79
Q10. When a person commits suicide it is something that he/she has considered for a long time.	2.73±0.83	3.15±1.13	0.08
Q22. Suicide happens without warning.	2.68±1.10	3.04±1.22	0.16
Others (Not included in sub-scales)			
Q6. Once a person has made up his/her mind about committing suicide no one can stop him/her.	2.05±0.99	2.07±1.14	0.90
Q7. Many suicide attempts are made because of revenge or to punish someone else.	2.00±0.80	2.04±0.98	0.79
Q8. People who commit suicide are usually mentally ill.	3.27±1.07	3.44±1.22	0.48
Q9. It is a human duty to try to stop someone from committing suicide.	3.93±0.92	4.00±0.88	0.73
Q11. There is a risk of evoking suicidal thoughts in a persons mind if you ask about it.	2.63±0.79	2.89±1.12	0.26
Q13. Suicide is a subject that one should rather not talk about.	2.58±1.08	2.74±1.26	0.52
Q18. Suicide can sometimes be a relief for the ones involved.	2.00±1.04	2.67±1.18	<0.01
Q19. Suicides among young people are particularly puzzling since they have everything to live for.	2.78±1.11	2.67±1.18	0.64
Q20. I would consider the possibility of taking my own life if I were to suffer from a severe, incurable disease.	2.70±1.04	3.56±1.12	<0.01
Q21. A person once they have suicidal thoughts will never let them go.	2.28±0.93	2.59±1.01	0.14
Q23. Most people avoid talking about suicide.	3.39±0.98	3.74±0.94	0.10
Q24. If someone wants to commit suicide it is their business and we should not interfere.	1.85±0.84	2.00±1.07	0.46
Q25. It is mainly loneliness that drives people to suicide.	3.19±1.10	3.37±1.28	0.48
Q26. A suicide attempt is essentially a cry for help.	3.75±0.83	3.79±1.09	0.89
Q27. On the whole, I do not understand how people can take their lives.	2.91±1.19	2.30±1.03	0.02
Q35. Most suicide attempts are caused by conflicts with a close person.	2.67±0.87	2.56±0.97	0.56

3.3 Effects of study variables on attitudes toward suicide

A multiple regression analysis was performed in order to assess factors influencing the "Right to suicide" sub-scale of the ATTS (Table 3), and the only statistically significant relation was found in total GHQ-12 score. Fitness of the model was statistically significant. [insert Table 3]

Table 3

Multiple regression analyses of "right to suicide"

	B	Standard error	β	t	p
GHQ-12	0.06	0.02	0.30	3.38	<0.01
Age	0.00	0.00	-0.04	-0.37	0.71
Sex	-0.19	0.13	-0.14	-1.45	0.15
Occupation	0.18	0.14	0.14	1.23	0.22
Experience with contact with persons at high risk for suicide or self-harm	0.09	0.13	0.08	0.71	0.48
Past participation in suicide-prevention training	-0.11	0.11	-0.09	-1.03	0.30

Adjusted R^2=0.11, F=3.23, p < 0.01

A multiple regression analysis was also performed in order to assess factors influencing the "impulsiveness" sub-scale of the ATTS (Table 4), and the only statistically significant relation was found in total GHQ-12 score. However, fitness of the model was not statistically significant.

[insert Table 4]

Table 4

Multiple regression analyses of "impulsiveness"

	B	Standard error	β	t	p
GHQ-12	0.04	0.02	0.20	2.13	0.04
Age	0.01	0.00	0.22	1.98	0.50
Sex	-0.17	0.14	-0.12	-1.27	0.21
Occupation	0.04	0.15	0.03	0.29	0.77
Experience with contact with persons at high risk for suicide or self-harm	0.09	0.14	0.07	0.65	0.52
Past participation in suicide-prevention training	-0.11	0.11	-0.09	-0.93	0.36

Adjusted R^2=0.05, F=2.01, p=0.07

4. Discussion

We researched the relationship between mental health and attitudes towards suicide for ‘gatekeepers’ who are already engaged in or might become engaged in suicide prevention.

While there were no significant demographic differences between the two groups, a significant difference was noted in the "right to suicide" sub-scale scores of the ATTS. In other words, it seems that individuals with poor mental health tend to have permissive attitudes towards suicide even if they are gatekeepers. When we focused attention on the individual questions of the ATTS, excluding extreme questions such as Q. 24 (suicide should not be hindered), participants with poor mental health tended to understand and empathize with their own or others' suicide ideation.

To our knowledge, only one prior study has explored the relationship between mental health and attitudes towards suicide in others. According to the research by Mofidi et al. (2008) investigating the general mental health and suicide-related attitudes of Kurdish residents in Iran, the "right to suicide" was more often accepted by those with high GHQ-12 scores (poor mental health) than by those with low scores (good mental health). Our results are consistent with their results. However, their research was conducted for Kurdish people living in Iran, the environment of which greatly differs from that of Japan. It is interesting that similar results were obtained even with these different backgrounds, and it is worth reiterating that we, too, observed these tendencies in gatekeepers learning about suicide prevention.

Our results reveal that people with poor mental health tend to regard suicide as one possible choice. It can be interpreted that they feel more empathy for people who consider committing suicide than do people with good mental health. Empathy for people thinking about committing suicide is an important and necessary aspect of suicide countermeasures. However, perceiving

suicide as an unavoidable and permissible act could be a problematic attitude for people who are engaged in preventing suicide. Neimeyer et al. (2001) revealed that a personal history of suicidality and a belief that suicide is a personal right were negatively related with suicide intervention competency. The fact that one's mental health affects one's attitude towards suicide, even among those who are engaged in suicide prevention, is important in human-resource development for suicide countermeasures. In gatekeeper training, it is necessary to inform participants that their mental state can affect their attitudes towards suicide. Measuring participants' mental state before training could be a promising means of tailoring lectures or training to suit individual needs.

In addition, gatekeepers' mental health might change across the time, and their trainings and activities might have both positive and negative effect for themselves. Sometimes, these could be their burden, sometimes strengthen and help their mental health. Considering this, it might be important to follow up the gatekeepers' mental health continuously.

There are some limitations to this study. First, the sample size is relatively small and more than half of the participants were medical workers. Second, only half of the participants answered all the items, and many of the remaining participants stopped answering in the middle or only partially answered. This was probably due to the large number of items in the questionnaire. Third, we need to pay attention to desirability bias as we used subjective rating scale. Fourth, we used GHQ-12 as a dichotomous indicator and divided the participants into two groups, however, various cut-off scores are used in GHQ-12 and the mental wellbeing may better be captured as continuous rather than dichotomous. The results of this study do not clarify how the severity of mental ill health affects the strongness of attitudes toward suicide. Fifth, although concepts similar to "right to suicide" also exist in other factor solutions, we need to pay attention

to the fact that there are several factor solutions reported in the researches for the ATTS. Sixth, R-squared values were not sufficiently large in regression analyses. Therefore, larger scale and more continuous research is needed to make the results of this research more certain and useful.

5. Conclusion

There was a difference in attitude toward suicide between gatekeepers with good and poor mental health. The poor mental health group was more likely to have a permissive view of the right to commit suicide. Those who are engaged in suicide prevention need to be aware that their own mental health status could affect their own suicide countermeasure behavior. It might be useful to incorporate this finding when conducting gatekeeper training.

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7. Conflict of interest

None.

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