

Suicide Intervention Skills and Related Factors in Community and Health Professionals

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Health and community professionals have considerable exposure to suicidal people and need to be well skilled to deal with them. We assessed suicide intervention skills with a Dutch version of the SIRI in 980 health and community professionals and psychology students. Suicide intervention skills clearly differed among professional groups and were strongly related to experience, especially suicide-specific experience. Some community professionals scored below acceptable levels on their ability to respond appropriately to suicidal people they encounter, and tended to overestimate their skills level. Training is therefore indicated for these groups, and may be useful to more highly experienced groups too.

Professionals working in health or mental health services, especially doctors, nurses, and psychologists in primary care, general and psychiatric hospitals, and in emergency departments, have considerable exposure to people with suicidal behavior (Andersen, Andersen, Rosholm, & Gram, 2000; Houston, Haw, Townsend, & Hawton, 2003; Luoma, Martin, & Pearson, 2002). While such contacts provide the opportunity to identify and manage those at risk of sui-

cide, these contacts are often rated as challenging and distressing (Botega et al., 2005; Ramberg & Wasserman, 2003), and indicate the need for well-skilled professionals. However, formal training in suicide prevention is not usual in graduate programs of (clinical) psychology and medicine (Bongar & Harmatz, 1989; Hawgood, Krysinska, Ide, & De Leo, 2008; Richards & Range, 2001), and is still more limited in other relevant disciplines such as social work and nursing (Morriss, Gask, Battersby, Francheschini, & Robson, 1999). For the large majority, this is not compensated by postgraduate training of any type (Palmieri et al., 2008). Not surprisingly, it has been found that the majority of nurses (Botega et al., 2005), medical students, and general practitioners (Hawgood et al., 2008; Palmieri et al., 2008; Ramberg & Wasserman, 2003) perceive themselves to be poorly competent to deal with suicidal patients.

While suicidal behavior is most visible in (mental) health settings, it also extends to the community. Therefore, various nonmedical community professionals such as teachers, police officers, pharmacists, clergy, social workers, and nonclinical outreach workers also come into contact with suicidal people

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(Chagnon, Houle, Marcoux, & Renaud, 2007; Joe & Niedermeier, 2008; Matheson et al., 2005). As frontline professionals, they are natural gatekeepers for mental health problems in the community (Mann et al., 2005) and in a key position to recognize suicide ideation, provide initial support, and facilitate access to appropriate helping services (Capp, Deane, & Lambert, 2001; Cross, Matthieu, Cerel, & Knox, 2007; Leane & Shute 1998). Response competency is therefore important for community professionals too; however, they are even less likely to have received training and report low levels of suicide intervention skills (Chagnon et al., 2007; Feldman & Freedenthal, 2006; Linsley, Johnson, & Martin, 2007).

Little is known about actual suicide intervention skills of different professional groups, especially of community professionals, and on factors related to effective suicide intervention skills. The need to evaluate the usefulness of such skills by care providers is widely acknowledged and could help focus training to improve skills (Neimeyer, Fortner, & Melby, 2001; Neimeyer & Pfeiffer, 1994). The few studies that have been conducted are small-scale and include limited professional groups of mainly health professionals, inhibiting direct comparison of skills across various professions. Therefore, studies with larger and more diverse samples are needed to enhance generalizability (Brown & Range, 2005; Cross et al., 2007; Neimeyer et al., 2001).

With regard to factors related to suicide intervention skills, no significant association has been found with demographic characteristics such as gender, age, marital status or religion (Neimeyer & Bonnelle, 1997; Neimeyer et al., 2001; Richards & Range, 2001), although in some studies female and older professionals tend to have higher skills (Brown & Range, 2005; Neimeyer & Diamond, 1983; Norton, Durlak, & Richards, 1989). The studies on knowledge and attitude concerning suicide are inconsistent, but with a tendency for knowledge not to be related, for death acceptance to be positively related, and for permissive or pathologizing

attitudes toward suicide to be negatively related to these skills (Brown & Range, 2005; Neimeyer et al., 2001; Norton et al., 1989).

Experience—either professional experience, such as level of suicide-specific training and experience with suicidal patients (but not mere years as a care provider), or experience with suicidal people in one's personal environment—has been found to be positively related to suicide intervention skills (Botega et al., 2005; Neimeyer et al., 2001; Neimeyer & MacInnes, 1981). With regard to one's own suicidality, negative as well as positive relations have been found. Suicidality may either interfere with appropriately responding through personal problems, strong feelings, or permissive attitudes, or, conversely, facilitate it since having a similar experience may enable understanding and empathy (Brown & Range, 2005; Neimeyer et al., 2001). However, these studies do not clearly distinguish between past and current suicidality, which may be key to this finding.

A higher level of personal or professional experience seems to be associated with increased suicide intervention skills, but this experience needs to be suicide-specific rather than general (Brown & Range, 2005; Neimeyer et al., 2001). Neimeyer et al. therefore recommended further exploration of the role of professional experience, as several aspects may be relevant. In terms of setting up training programs, it would also be interesting to know how perceived skills are related to actual skills in suicide intervention (Feldman & Freedenthal, 2006). For example, if those with low skills (who need training) do not perceive themselves as poorly skilled, they might not see the need for training participation.

The aim of our study was to investigate and directly compare the level of suicide intervention skills in a broad range of both health and community professionals, to compare perceived to actual skills, and to explore factors related to these skills, in particular the role of experience. We expected professional groups with more mental health and suicide-specific background and experience to have

better suicide intervention skills. Finally, we aimed to validate a Dutch version of the Suicide Intervention Response Inventory as a measure of suicide intervention skills.

METHODS

Instrument

To assess the level of suicide intervention skills we used the Suicide Intervention Response Inventory (SIRI-2; Neimeyer & Bonnelle, 1997). The SIRI has been shown to be highly reliable, valid, and free from social desirability bias (Neimeyer & Bonnelle, 1997; Neimeyer & MacInnes, 1981; Norton et al., 1989) and has been widely used to study suicide intervention skills. The SIRI questionnaire consists of 24 items, each with two possible helper responses to a remark of a suicidal person, one of which is considered facilitative to effective intervention, whereas the other is neutral or deleterious, according to crisis intervention theory (Neimeyer & MacInnes, 1981). In the revised SIRI-2, study participants are to rate the appropriateness of each response alternative on a 7-point Likert scale from -3 (*very inappropriate*) to 3 (*very appropriate*). The SIRI-2 score is calculated by summing the discrepancy between participants' ratings of appropriateness and a set of criterion ratings by a panel of suicidology experts. This total discrepancy score ranges from $12,90^{\blacktriangleleft}$ (least possible discrepancy, indicating the best possible score) to $247,28^{\blacktriangleleft}$ (highest possible discrepancy, indicating the worst possible score). For the present study, we developed a Dutch language version of the SIRI-2. A native speaker verified cross-translation, which stuck as close as possible to the original version, and it was piloted in a group of experts to examine face validity.

In addition, we collected several participants' gender, age, and personal and professional experience with suicidal people. To explore the role of professional experience, we measured several aspects (all scored as missing for the student group): years of experience as a care provider; the estimated frequency of professional contacts with suicidal patients (on a 5-point Likert scale ranging from *never* to *daily*); self-rated (feeling of being) experience(d) in dealing with suicidal patients (on a 5-point Likert scale ranging from *very inexperienced* to *very experienced*); and ever experienced a patient suicide. Personal experience referred to whether they had ever known a suicidal individual in their personal environment. Finally, participants self-rated their skills in dealing with suicidal patients (on a 5-point Likert scale ranging from *very poor* to *high*).

From February 2006 to June 2008, we applied the SIRI to a large and widely varied group of health and community professionals. We also included psychology students, who were of interest as they may be future mental health care providers. Measurements were single measurements for the student groups and, for all other groups, baseline measurements before training programs on suicide prevention. These trainings, organized by the Suicide Prevention Center (CPZ) and the Suicide Prevention Program of the Flemish Mental Health Centers (FDGG-VVI), were solicited for by professional organizations. [▲]Staff participation was required, implying that participation was not self-selected based on individual motivation or interest in the topic.

Subjects

To test our hypothesis that participants with more mental health and suicide-specific background and experience have better suicide intervention skills, all professional and student groups were a priori coded into a low, middle, or high experience group according to their general background and professional experience. The low group included participants from professions with no background or experience in mental health, including family support services (such as elderly caregivers), pharmacists, call-takers at a general emergency line, and new volunteers at a suicide crisis line. The middle group consisted of those in professions with some

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general background in mental health or experience in counseling, including social service providers at police and justice departments (e.g., victim support services), youth workers (e.g., youth advice centers, gay support federation), hospital nurses, and general practitioners. The high group included staff from community mental health centers (mainly psychologists) and experienced volunteers at a suicide crisis line, who have experience and received specific training in counseling suicidal patients. We also assessed three groups of psychology students. Introductory students (1st bachelor) had no background or experience and were classified into the low group. Undergraduate students (3rd bachelor), who attended several clinical and skills classes, and graduate students (2nd master), who attended clinical internship, were all placed in the middle group (none had specific background or experience in dealing with suicidal people).

Validation of the Questionnaire

The psychometric characteristics of the Dutch SIRI were investigated by assessing its internal consistency (reliability) using Cronbach's alpha, and its (construct) validity using the known groups comparison method. According to this method, which had also been used in the validation studies of the original version (Neimeyer & Bonnelle, 1997; Neimeyer & Diamond, 1983; Neimeyer & MacInnes, 1981), construct validity is indicated when groups that can reasonably be expected to differ in suicide intervention skills (due to clear differences in education or experience), actually obtain clearly discriminable SIRI scores. We therefore compared SIRI scores of the three groups of psychology students, who clearly have different degrees of background and experience with regard to mental health in general, and of new versus experienced volunteers at a suicide crisis line.

Data Analysis

Statistical analyses were carried out using SAS 9.1. Descriptive statistics and SIRI

scores for all groups were calculated. Differences in suicide intervention skills (SIRI scores) between low, middle, and high groups; between individual professions; and according to participants' characteristics and self-rated skills were determined by ANOVA, followed by Tukey's HSD post hoc comparisons for variables with several groups. For these analyses, age and years of experience were re-coded into interval categories, and frequency of contact, self-rated experience, and self-rated skills into a 3-point scale. The relation between the measures of experience was investigated by chi square analyses.

RESULTS

Participants' Characteristics

We assessed the SIRI in 980 individuals of a broad range of occupations. Participants' characteristics are reported in Table 1. About half (53%) had experience with suicidal people in the personal environment. With regard to professional experience, the mean experience as a care provider was 9.5 years; 42% reported a patient suicide. Frequency of contact with suicidal patients varied widely according to professional group, with the majority of experienced volunteers at a crisis line (71%) and nurses (69%) reporting weekly contact, and family support services reporting almost none. Frequency of contact was strongly related to self-rated experience in dealing with suicidal patients ($\chi^2 = 141.89$, $df = 6$, $p < .0001$), but two groups showed differing patterns: nurses reported a high frequency of contact but average self-rated experience, while general practitioners (GPs) reported a moderate frequency of contact but high self-rated experience. Most participants indicated poor (47%) to moderate (39%) self-rated suicide intervention skills, which were strongly related to frequency of contact ($\chi^2 = 93.12$, $df = 6$, $p = .0001$) and to self-rated experience ($\chi^2 = 385.68$, $df = 4$, $p = .0001$).

TABLE 1
Participants' Characteristics

	<i>n</i>	%
Professional group (<i>n</i> = 980)		
Community mental health centers staff	73	7.5
General practitioners	13	1.3
Hospital nurses	53	5.4
Pharmacists	54	5.5
Experienced volunteers at suicide crisis line	27	2.8
New volunteers at suicide crisis line	60	6.1
Youth workers	76	7.7
Police and justice department social service providers	45	4.6
Call-takers at general emergency line	66	6.7
Family support services staff	49	5.0
Psychology students (2nd master)	195	19.9
Psychology students (3rd bachelor)	214	21.8
Psychology students (1st bachelor)	55	5.6
Gender (<i>n</i> = 959)		
Male	223	23.3
Female	736	76.7
Age (mean ± SD) (<i>n</i> = 941)	29.75 ± 11.89	
<21	216	22.9
21–30	403	42.8
31–40	121	12.9
>40	201	21.4
Years of experience as a care provider (mean ± SD) (<i>n</i> = 289)	9.48 ± 8.52	
0–10	200	69.2
11–20	48	16.6
>20	41	14.2
Frequency of contact with suicidal patients (<i>n</i> = 415)		
Never or almost never	125	30.1
Seldom (a few times a year)	126	30.4
Monthly	73	17.6
Weekly to daily	91	21.9
Self-rated experience in dealing with suicidal patients (<i>n</i> = 472)		
Very to rather inexperienced	213	45.1
Somewhat experienced	181	38.4
Experienced to very experienced	78	16.5
Ever experienced a patient suicide (<i>n</i> = 348)		
Yes	147	42.2
No	201	57.8
Experience with suicidal people in the personal environment (<i>n</i> = 923)		
Yes	491	53.2
No	432	46.8
Self-rated skills in dealing with suicidal patients (<i>n</i> = 931)		
Very poor to poor	438	47.0
Moderate	365	39.2
Good to high	128	13.8

Psychometric Properties of the Dutch SIRI

The internal consistency of the SIRI was good, with a Cronbach's alpha score of .75. In the group of psychology students, skill scores significantly increased with the level of education ($F = 82.31$; $df = 2, 461$; $p < .0001$), and experienced volunteers at a suicide crisis line clearly outscored new ones ($F = 8.15$; $df = 1, 85$; $p = .005$).

Suicide Intervention Skills of Professional Groups

As predicted, significantly different SIRI scores were obtained by the high, middle, and low group ($F = 166.19$; $df = 2, 977$; $p < .0001$), with the more highly experienced groups having better scores (Table 2^a). The

difference between the low and middle group was much larger than the difference between the middle and high group. In general, SIRI scores were strongly related to self-rated suicide intervention skills ($F = 19.74$; $df = 2, 928$; $p < .0001$), but participants in the low group, who had significantly lower SIRI scores than the middle group, did not differ from this group in self-rated suicide intervention skills. Within the low group, family support services staff had significantly lower and new volunteers at a suicide crisis line significantly higher SIRI scores. Within the middle and high groups, no significant differences between professional groups were observed.

Factors Related to Suicide Intervention Skills

SIRI scores were strongly related to frequency of contact ($F = 28.66$; $df = 3, 411$;

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TABLE 2
SIRI Scores, Self-Rated Skills and Self-Rated Experience by Professional Group

Professional group	Self-rated experience in dealing with suicidal patients (n)			Self-rated skills in dealing with suicidal patients (n)			SIRI-2 score ^a
	1-2	3	4-5	1-2	3	4-5	
Highly experienced group (n = 100)	12	40	43	8	44	43	47,41
Community mental health centers staff	12	31	29	8	35	29	47,39
Experienced volunteers at suicide crisis line	0	9	14	0	9	14	47,47
Moderately experienced group (n = 596)	61	86	29	299	220	61	59,92
General practitioners	1	3	7	1	6	4	51,14
Youth workers	22	41	12	15	46	14	52,53
Hospital nurses	13	27	9	10	28	12	54,37
Psychology students (2nd master)	/ ^b	/	/	108	69	16	55,97
Police and justice department social service providers	25	15	1	22	17	2	60,96
Psychology students (3rd bachelor)	/	/	/	143	54	13	67,82
Low experienced group (n = 284)	140	55	6	131	101	24	82,18
New volunteers at suicide crisis line	30	19	5	12	29	13	57,10
Pharmacists	38	15	0	34	17	2	83,59
Call-takers at general emergency line	38	15	1	25	23	5	84,33
Psychology students (1st bachelor)	/	/	/	25	26	4	88,97
Family support services staff	34	6	0	35	6	0	100,81
Total	213	181	78	438	365	128	65,09

^alower scores indicate less discrepancy from a criterion score of experts in suicidology, and thus better skills

^bexperience was not measured in the student groups since it was missing for all

$p < .0001$) and self-rated experience with suicidal patients ($F = 33.61$; $df = 2, 469$; $p < .0001$), but not to years of experience as a care provider, having experienced a patient suicide, experience with suicide in the personal environment, age, or gender. One exception was nurses, who reported a high frequency of contact with suicidal patients, but had only average SIRI scores.

DISCUSSION

This study, to our knowledge, is the largest to date investigating suicide intervention skills. We directly compared the skills of a broad range of both community and health professional groups, several of which have not been studied before. The Dutch version of the SIRI showed good psychometric properties,⁴ and with clear indication of its construct validity. These findings add to the validity of the SIRI as a whole and justify the use of our Dutch version in further research.

Overall, suicide intervention skills clearly differed among professional groups. These differences were not only according to an a priori coding of low, moderate, and highly experienced groups, but almost rank ordered by individual measures of experience. A remarkable exception to the a priori coding was the relatively high score of new volunteers at a suicide crisis line, despite lacking any specific mental health or suicide related background. It is possible that people volunteering for such work do have relatively more experience, interest, or other facilitative personal characteristics than other members of the general population. The SIRI scores were generally comparable to the few previous studies of volunteer crisis counselors, general practitioners, nurses, practicing psychologists, and psychology students (Fenwick, Vasilas, Carter, & Haque, 2004; Neimeyer & Bonnelle, 1997; Richards & Range, 2001). Scores were, however, far lower in a recent study of Italian professionals; a result the authors ascribed to the generally limited graduate training in suicide prevention in Italy (Palmieri et al., 2008).

The middle group obtained average levels of actual and perceived skills. This group includes frontline health professionals such as general practitioners and nurses; therefore, it is important that their skills are further enhanced by training. Despite the high scores of the highly experienced professionals, there is still scope for improvement in these groups, indicating that specific training might be useful for them as well. The scores of some groups, especially community professionals with no background or experience in mental health such as family support services and pharmacists, were below levels considered to be acceptable (Neimeyer & Diamond, 1983; Norton et al., 1989). If community professionals are to respond appropriately to suicidal people, the necessity of basic training in suicide intervention is evident. The generally high association between actual and perceived suicide intervention skills indicates that most professionals have a realistic view of their competence in this field. While this was especially true for the most highly skilled groups, the low group tended to overestimate their skills level. This is worrisome, as those most in need of training might not perceive themselves as such.

The need for training programs to improve suicide intervention skills has been recognized for several professional groups, especially nonpsychiatrically trained frontline health professionals (Andriessen, Cosyns, Vertriest, & Veys, 1998; Ramberg & Wasserman, 2003). Most of them also indicate a perceived need for training (Hawgood et al., 2008; Leane & Shute 1998; Palmieri et al., 2008). Moreover, it has been recommended that all professionals who come into contact with suicidal people must undergo suicide intervention training, preferably periodic and skills-based (Fenwick et al., 2004). The results of this study underscore this recommendation. Such training has been shown to be effective for health professionals (Appleby et al., 2000; Fenwick et al., 2004; Morriss et al., 1999), volunteers at crisis and suicide help-lines (Neimeyer & MacInnes, 1981), teachers (Davidson & Range, 1999), youth workers (Chagnon et al., 2007), and psychology stu-

⁴Au: Details already reported.

dents (Neimeyer & Bonnelle, 1997), and has been recommended as a promising strategy for suicide prevention (Gould, Greenberg, Velting, & Shaffer, 2003; Health Evidence Network [HEN], 2004; Mann et al., 2005).

In this study, experience in dealing with suicidal people who strongly related to suicide intervention skills. However, mere experience as a care provider did not seem to be sufficient; the experience needs to be suicide-specific, which is in agreement with previous research that appropriately responding to suicidal patients is a unique skill (Brown & Range, 2005; Neimeyer et al., 2001). This may also explain why staff at community mental health centers, despite having far more background in general mental health, obtained the same high SIRI scores as experienced volunteers at a suicide crisis line, who do not have this background but do have the same suicide-specific experience. The similar scores of these groups are also remarkable since the former have face-to-face contact and the latter telephone contact only, with no visual clues such as body language to assist them. It appears that suicide specific training and intensive experience with suicidal people, regardless of way of contact, are essential to suicide intervention skills. This finding underscores the value of training for suicide crisis lines in particular, whose workers can attain high-quality levels of intervention skills comparable to those of mental health professionals.

An additional finding was that self-rated experience and skills, which did diverge from frequency of contact in some groups (e.g., nurses), were strongly related to actual suicide intervention skills. This might indicate that mere frequency of contact is not sufficient, but that one also needs to feel experienced. Having experienced a patient suicide was not related to suicide intervention skills, indicating that such an outcome at least does not seem to be detrimental to these skills. In contrast to previous research, we did not find a significant relation between suicide intervention skills and experience with suicidal people in the personal environment, although there was a tendency for it to be facil-

itative. This adds to our findings that these skills are mainly a matter of professional experience, to which personal experience does neither significantly help nor hinder.

Limitations and Further Research

There are some methodological limitations to this study. First, the SIRI remains an indirect (written) measure of suicide intervention skills, assessing the ability to recognize appropriate responses, which may be different from generating them in real contacts with suicidal patients. In vivo behavior assessment of these skills, such as role play ratings, may be more ecologically valid but face other methodological challenges and are more time and resource consuming (Neimeyer & Pfeiffer, 1994). Second, we did not investigate some other factors that might be related to suicide intervention skills, such as the respondents' own suicidality, attitudes, and personality characteristics (e.g., defensiveness or avoidance of strong feelings) (Neimeyer et al., 2001). Concerning personal experience with suicidal people, we did not investigate the nature (family member, friend or acquaintance, suicidal or died by suicide) and extent of this contact. Finally, representativeness cannot be guaranteed with a convenience sample. However, a systematic selection bias is unlikely since training participation was not voluntary, and since data were collected in multiple training sessions held in various places.

Future research should consider the effects of training—of different types and intensity—on suicide intervention skills; the relation of SIRI measured to in vivo assessed suicide intervention skills; and to patient outcomes.

CONCLUSIONS

Suicide intervention skills clearly differed among professional groups and appeared to be strongly related to measures of professional experience. However, this experience needs to be suicide-specific, and not

only frequency but also type of contact with suicidal patients matters. Some groups, in particular community professionals, scored below acceptable levels for their ability to respond appropriately to suicidal people and tended to overestimate their actual skills level. Training in suicide intervention skills is therefore needed for these professional groups, but also may be useful to more expe-

rienced and highly skilled groups. Moreover, since suicide intervention seems to be a unique skill, periodic and skills-based training should be mandatory for all professionals that come into contact with suicidal people. The Dutch SIRI proved to be reliable and valid, and may be a valuable tool for further research.

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