Suicide Prevention Training Outside the Mental Health Service System

Evaluation of a State-Wide Program in Australia for Rehabilitation and Disability Staff in the Field of Traumatic Brain Injury

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Abstract. The training needs of staff working in mainstream (i.e., noncrisis) health settings with client groups that have moderate levels of suicide risk have not been extensively addressed. An initiative to train rehabilitation and disability staff working in the field of traumatic brain injury (TBI) is described. A program was adapted from a generic state health department training program, and disseminated by means of established training networks within the brain injury field. Program efficacy was evaluated as the training was provided across the state of Victoria in a series of 1-day workshops. Participants (n = 86) completed two evaluation measures designed for this purpose (objective knowledge test, self-rating of knowledge and skills) on three occasions (pre- and postworkshop, 6-month follow-up). Compared to a control group of rehabilitation and disability workers who did not receive the training (n = 27), the workshop participants made significant gains in objective knowledge and reported skills, and maintained these gains at the 6-month follow-up. The Suicide Interview Response Inventory-2 (Neimeyer & Pfeiffer, 1994) was administered to a subgroup of participants as a validating measure, and correlated significantly with scores from the objective knowledge test. This process may provide a template for developing more fine-grained suicide prevention strategies among other health-related at-risk groups.

Keywords: traumatic brain injury, training, suicide prevention

Introduction

Three-quarters of suicides occur among people who are not in contact with mental health services (Booth & Owens, 2000; Appleby et al., 1999). Suicide prevention approaches, therefore, need to involve a broader range of staff working with at-risk populations (Beautrais, 2005; Connolly, 2002), among other strategies. The Australian national suicide prevention strategy emphasizes the importance of increasing capacity among existing health and community-based services for suicide prevention (Commonwealth Department of Health and Aged Care, 2000). Staff training programs constitute a central plank in this strategy. A number of programs have been developed (both in Australia and internationally), which are tailored to various practice settings such as general practice (Rutz, Von Knorring, & Walinder, 1989) or emergency departments (Crawford, Turnbull, & Wessely, 1998), or to particular high-risk populations such as youth (Turley & Tanney, 1998). However, the training needs of staff who work with groups with more moderate levels of risk in mainstream (i.e., noncrisis) settings have received less attention.

People sustaining traumatic brain injury (TBI) comprise one such group. The principal cause of severe TBI are road accidents, with injuries incurred from road accidents more generally (including TBI) projected to be the third largest contributor to the global burden of disease by the year 2020 (World Health Organization, 1996). An elevated risk of death by suicide has been reported for people with TBI compared to the general population (Teasdale & Engberg, 2001), as well as elevated levels of suicide attempts, and suicide ideation (Anstey et al., 2004; Silver, Kramer, Greenwald, & Weissman, 2001; Simpson & Tate, 2002; Simpson & Tate, 2005). The proportion of TBIs resulting from suicide attempts is small (0.60% in Nell & Brown,

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1991; 0.76% in Teasdale & Engberg, 2001), although some authors have raised the concern that a larger proportion of TBIs may be the result of undetected suicide attempts (Klonoff & Lage, 1995).

Many of the clinical features of people with TBI overlap with risk factors for suicide across the general community. Young males aged 18 to 30 years are disproportionately represented within the population (Tate, McDonald, & Lulham, 1998). TBI can result in temporary or permanent cognitive (e.g., reduced problem-solving ability) and behavioral (e.g., increased impulsivity, aggression) impairments. Common long-term psychosocial consequences can include difficulties in obtaining or maintaining employment, and social isolation, stemming from relationship breakdown or difficulty in making new friends (Tate, Lulham, Broe, Strettles, & Pfaff, 1989; Olver, Ponsford, & Curran, 1996). It is little surprise, therefore, that emotional distress, substance abuse, and psychiatric morbidity are widely prevalent (Deb, Lyons, Koutzoukis, Ali, & McCarthy, 1999; Fleminger, Oliver, Williams, & Evans, 2003; Taylor, Kreutzer, Demm, & Meade, 2003).

Staff working with people with TBI span health and community disability settings, and typically comprise professionals or paraprofessionals from medical, nursing, health/social sciences, and attendant care backgrounds, with the majority having limited experience or qualifications in the mental health field. There are several reasons for addressing the training needs of this workforce. First, rehabilitation and disability staff are confronted clinically with suicidal clients (Simpson, Winstanley, & Bertapelle, 2003). Second, people with TBI have expressed a preference for staff from brain injury services to play a role in the management of suicidality (Kuipers & Lancaster, 2000). Third, clinical experience in Australia has found that access to mental health services cannot always be guaranteed for clients with a TBI, or may, at best, be limited in time (Victorian Department of Human Services, 2004). Consequently, rehabilitation and disability staff, by necessity, can find themselves playing an expanded role over an extended timeframe in supporting people with TBI who experience suicidal distress. Next, staff generally report low levels of knowledge and skill in being able to assess and manage clients with TBI displaying such distress (Simpson et al., 2003). Finally, at a broader level, clinical audits have found that various staff-related and service-related shortcomings have led to many instances of suboptimal management of suicidal patients (Burgess, Pirkis, Morton, & Croke, 2000; Appleby et al., 1999), and it is likely that these same problems apply to staff and agencies in the field of TBI.

The current training program was devised in response to these issues and with several considerations in mind. First, the scope of the role staff were trained for was consistent with national and state public health policies, namely to enable frontline staff (from non-mental-health backgrounds) to identify suicidal signs in a client, respond appropriately to a suicidal crisis, and undertake longer-term support (Commonwealth Department of Health and Aged Care, 2000; New South Wales Health, 1999). It was critical that the training embody current best practice in suicide prevention, and to this end, the curriculum was adapted from the generic suicide prevention training program developed by the New South Wales state health department (New South Wales Health, 1999). Adaptations included (1) giving greater attention to basic concepts around definitions of suicide and key clinical concepts (e.g., intent, lethality, ambivalence, possibility of rescue) than required by a literate mental health audience; (2) introducing findings from the latest research into suicidality after TBI; (3) utilizing relevant case scenarios involving clients with TBI; and (4) highlighting TBI-specific considerations in applying routine suicide assessment and management practices (e.g., strategies for providing support to a suicidal client with cognitive impairments). More details about the 5.5 h program are provided in an earlier report by Simpson and colleagues (2003). Next, it was important to use established training networks within the field for program dissemination, and finally, the efficacy of the program required evaluation.

The training was provided in two phases. Evaluation of the pilot program, undertaken in 2001 in Melbourne at the Victorian Acquired Brain Injury (ABI) Workers Forum, showed initial promise. Participants reported significant increases in knowledge and self-reported skills compared to a matched, nontrained, control group (Simpson et al., 2003). In 2003, the second phase involved completing the state-wide training, with a further series of four workshops run across regional Victoria under the auspices of the Victorian ABI Information, Training, and Secondary Consultation Project. The first aim of the current study was to evaluate this second round of training in order to replicate findings from the initial pilot. Second, the evaluation approach relied on pencil and paper measures designed for this purpose. Therefore, a subset of the participants also completed the Suicide Intervention Response Inventory-2 (Neimeyer & Pfeiffer, 1994) as a step toward validating the evaluation measures.

Methods

Sample

Victoria is one of the six states of Australia, with a population of 4.35 million in 2004. The Secondary Consultation Project is funded by the state government Department of Human Services and employs a state-wide network of ABI Project Officers to organize training and facilitate networking among staff from the government, private, and nonprofit sectors to improve coordinated service delivery to people with brain injury and their families/carers. (Adrian, Glennen, Howlett, & Naunton, 1996). The Project Officers are based in each of the Department's regions. The current report focuses on the training organized by the ABI Project Officers for four of the five nonmetropolitan regions of Victoria. The fifth nonmetropolitan region had received a shortened version of the program as part of an ABI confer-

Table 1. Demographic, professional, and agency-related variables

Variable	Workshop (n = 86)		Control (n = 27)		χ^2/z stat
	N/Med	%/IQR	N/Med	%/IQR	
Sex					
Male	13	11.6	3	2.7	
Female	72	64.3	24	21.4	.29
Age					
20–39	42	37.5	19	17.0	
40+	43	38.4	8	7.1	3.63
Experience in brain injury (years)	4	9	7	8	–1.86
Staff category					
Allied health rehabilitation[1]	16	14.2	6	5.3	
Nursing, Residential care, Attendant care	21	18.6	4	3.5	
Allied health psychosocial[2]	17	15.0	5	4.4	
Case manager, Community access worker	32	28.3	12	10.6	1.29
Agency type					
Rehabilitation	26	23.2	14	12.5	
Community brain injury service	59	52.7	13	11.6	4.04*
Degree of contact with suicidal clients					
Monthly or more	49	43.8	10	8.9	
Yearly or less	37	33.0	16	14.3	2.75

Note. *p < .05; [1]Physiotherapy, occupational therapy, speech therapy; [2]Psychology, social work.

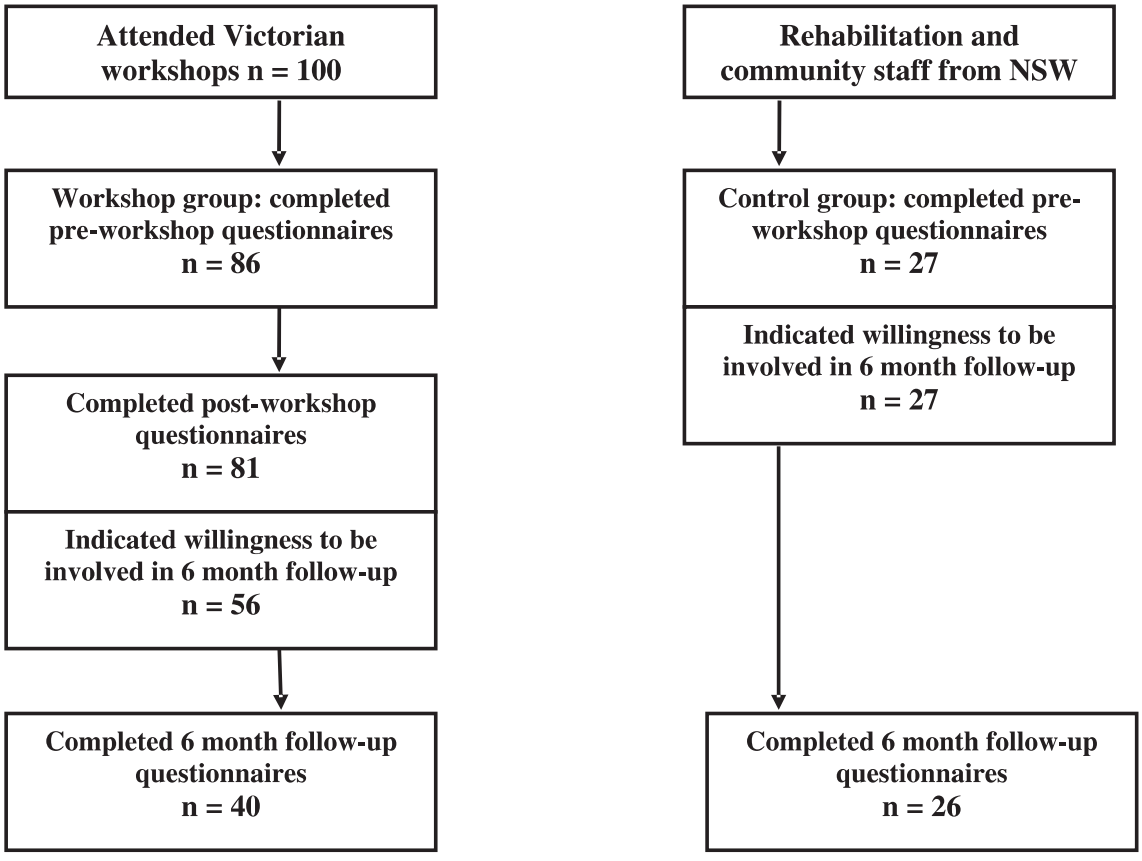

Figure 1. Flow diagram of the study. *Note.* Reasons for noncompletion of the 6-month follow-ups included on holiday or maternity leave (n = 5), change jobs (n = 5), could not contact (n = 3), did not return forms (n = 3), or refused (n = 1).

Table 2. Results of the confirmatory factor analysis

Items	Factor 1 53.7% Variance Cronbach's α .895	Factor 2 11.8% Variance Cronbach's α .894
1. My knowledge about suicide in general	.766	
2. My knowledge about suicide after TBI		.868
3. My knowledge about state mental health legislation as it applies to the management of suicidal people	.446	.498
4. My knowledge of risk factors for suicide	.709	
5. My knowledge of TBI risk factors for suicide		.865
6. My knowledge about managing suicidal people	.730	
7. My knowledge about ways to manage people who are suicidal after TBI		.851
8. My knowledge of what to tell family members about suicide	.780	
9. Having conducted a suicide risk assessment, my ability to gauge the severity of suicide risk	.794	
10. My ability to manage people suicidal after TBI		.671
11. My ability to recognize when to refer on/seek advice	.690	
12. My ability to handle postvention procedures	.692	

ence in the period between the two training phases, and was not included.

A total of 100 staff attended the four workshops, of whom 86 completed the preworkshop materials (see Figure 1). The control group was recruited from the adjoining state of New South Wales, in order to minimize the risk of contamination. Demographic, professional, and agency data for the sample are contained in Table 1. The groups differed in respect of one variable only, with a significantly greater proportion of the controls drawn from rehabilitation agencies. Thirty-three of the workshop participants (38%; 33/86) had accessed prior training in suicide prevention since commencing work in the brain injury field (mean 9.8 h, *SD* 7.8). Analysis of preworkshop scores on the two evaluation measures found no significant differences between the 33 participants who had received prior training and the remainder.

Given the 58% (n = 66) response rate at the 6-month follow-up (Figure 1), χ^2 and t-tests were conducted to ascertain whether there was any respondent bias. Results found no significant differences between people who participated in the follow-up and those not participating in terms of sex, age, years of experience working in the brain injury field, staff category, agency type, and degree of contact with suicidal clients. However, there was a discrepancy in the response rates at follow-up between the workshop participants and the controls (47% vs. 96%).

Measures

Objective Knowledge Test

The objective knowledge test comprised 21 dichotomous items (true/false) covering TBI-specific (e.g., "Wrist cutting is the most common method of suicide attempt after TBI"), clinical (e.g., "Most suicides occur without warning"), and demographic (e.g., "In Australia, almost 50,000 people died by suicide in 2001") domains (seven items per domain). Responses were split evenly between true/false responses and the order of items randomly determined. The development of the test has been described in the previous study (Simpson et al., 2003).

Knowledge/Skills Self-Rating Scale (Self-Rating Scale)

The self-rating scale comprised 12 items measured on a 5-point Likert-type scale (1 = *very low* – 5 = *very high*) covering knowledge and skills in working with suicidal clients. The knowledge and skill items addressed both suicide in general, and more specifically, suicide after TBI (see items in Table 2). Results of factor analysis found a 2-factor solution that accounted for 70% of the variance (Simpson et al., 2003). Nine items loaded onto Factor 1, which was interpreted as General knowledge and management. Three items loaded onto Factor 2, which was interpreted as TBI knowledge. Internal reliability for the two factors was strong with a Cronbach's α of .915 and .881, respectively.

Suicide Intervention Response Inventory – 2 (SIRI-2)

The SIRI-2 is a self-administered test of suicide counseling skills. The measure comprises a series of 25 brief clinical scenarios, constituting one or two sentence client remarks (e.g., "Client: How could you ever help me? Have you ever wanted to kill yourself?"). Respondents rate the extent to which two clinical response options to the client statement are facilitative of suicide prevention, neutral, or deleterious. The clinical response options are rated on a seven-point Likert-type scale anchored by *highly appropriate* and *highly inappropriate*.

The mean scores of an expert panel who rated the clinical response options comprise the criterion against which the adequacy of the respondent's scores is measured. Therefore, the SIRI-2 total represents the degree to which the respondent's score matches the ratings of the expert panel, with lower scores representing stronger ability to recognize facilitative responses to clients experiencing suicidal distress (i.e., closer agreement with the expert panel), and conversely, higher scores representing greater deviation away from the criterion score. The SIRI has acceptable levels of reliability including internal consistency (Cronbach's α coefficients ranging from .75 to .85) and test-retest reliability over 3 months (r = .86). Data on convergent and construct validity have also been reported (Neimeyer & Kathleen, 1997).

Procedures

The training workshops were advertised by the participating ABI Project Officers using their existing information networks, and workshops were delivered by the first author in a major urban centre (Taralgon, Geelong, Ballarat, and Wodonga respectively) within each of the four regions. The evaluation was conducted as a quality assurance project. To address ethical issues pertaining to informed consent, the evaluation process was explained to participants before the workshop commenced. Specifically, participants were informed about the purpose of the evaluation, that their participation was entirely voluntary, and that the results would remain anonymous. Participants were then invited to complete the measures, as well as a protocol collecting data on demographic, professional, and agency variables.

At the end of the workshop, participants completed the postworkshop surveys, and those who were willing to be involved in the 6-month follow-up provided their name and contact details in the space provided at the end of the postworkshop survey form. During this same period in NSW, volunteer controls were recruited from a range of rehabilitation and community-based brain injury services. The controls also completed the same preworkshop measures and data protocol as the workshop participants. At the 6-month follow-up, the participating respondents from the workshop and control groups were readministered the Objective Knowledge Test and self-rating scale. The surveys at follow-up were either mailed or e-mailed to participants, with the responses being collated by BF, GS, and the other project officers.

The SIRI-2 was included in the study design as a validating measure. Feedback from volunteers who piloted the SIRI-2 as part of the same suicide prevention workshop conducted in NSW prior to the Victorian training, indicated that it was a relatively complex and demanding measure to complete. Therefore, in the study, the SIRI-2 was administered at one centre only (Geelong) and on one occasion (postworkshop). The Geelong centre was chosen based on the expectation that it would have the largest attendance. However, less people than anticipated attended the Geelong workshop (n = 26), of whom only 19 correctly completed the SIRI-2 (four did not attempt, three did not complete correctly). Therefore the results of the SIRI-2 pilots from NSW were combined with the responses from the Geelong centre for the correlational analysis. The 11 participants from NSW shared the same demographic and professional characteristics (sex, age, experience with brain injury, degree of contact with suicidal clients) as the Victorian sample (χ^2 and t-tests). They also had similar preworkshop scores on the Objective Knowledge Test, self-rating scale, and postworkshop SIRI-2 scores (t-tests).

Analysis

Data were entered into SPSS Version 14.0. Descriptive statistics were generated for all study variables. Inspection of continuous variable scores found that they were normally distributed. Therefore, parametric statistical procedures (t-tests) were used for between-group tests and within-group paired analyses. Pearson product by moment correlations were used for the correlational analysis of the evaluation tools and the validating measure. A confirmatory factor analysis was conducted to test the stability of the structure of the self-rating measure, using a principal components analysis (PCA) followed by varimax rotation. Factors were included if the eigenvalue was greater than 1, confirmed via inspection of the scree plot (Tabachnick & Fidell, 1996). Consistent with the original PCA, items were retained on each factor if the loading coefficient was greater than 0.5 and the highest loading option was used for items loading on more than one factor (Gorsuch, 1974). Item correlation analysis found that the highest significant correlation was between Items 8 and 9 (r = .77) with all other coefficients being considerably lower.

Results

Confirmatory PCA on Self-Rating of Knowledge and Skills Scale

The PCA produced a two-factor solution accounting for 65.6% of the variance (see Table 2), with both factors displaying good internal reliability. There were no complex items in the solution. The loading coefficients for Item 3 (My knowledge about state mental health legislation . . .) did not reach the 0.5 criterion and so this item was dropped from the final solution. All items loaded onto the same factors as in the original analysis, with the exception of Item 10 (My ability to manage people suicidal after TBI), which moved from Factor 1 to Factor 2. Factor 1 and Factor 2 subscale scores were calculated using simple addition. The Pearson correlation coefficient for the two factors was .87.

Table 3. Between-groups and within-groups analyses for the objective knowledge test and self-rating measure scores

Measure (Score range)	Preworkshop			Postworkshop			6-month follow-up			Within-group analyses	
	N	M (*SD*)	*t*-stat	N	M (*SD*)	*t*-stat	N	M (*SD*)	*t*-stat	Pre-post *t*-test	Pre-F-up *t*-test
Knowledge Test (0–19)											
Workshop group	86	7 (2)		81	14 (2)		40	10 (2)		18.6*	5.2*
Control group	27	8 (2)		27	8 (2)		26	8 (2)		–	ns
Between-group analysis			ns			12.8*			3.1*		
Self-rating scale											
Factor 1 score (7–35)											
Workshop group	86	18.6 (4.3)		79	22.5 (4.4)		40	23.3 (3.4)		8.1*	9.2*
Control group	27	19.9 (5.1)		27	19.9 (5.1)		26	19.8 (5.1)		–	ns
Between-group analysis			ns			3.5*			3.2*		
Self-rating scale											
Factor 2 score (4–20)											
Workshop group	86	9.1 (2.5)		79	13.1 (2.8)		40	12.6 (1.9)		11.9*	8.7*
Control group	27	11.0 (3.3)		27	11.0 (3.3)		26	11.0 (3.1)		–	ns
Between-group analysis			3.1*			3.3*			ns		
Self-rating scale											
Total score (11–55)											
Workshop group	86	27.6 (5.9)		79	36.6 (6.9)		40	35.9 (5.0)		11.0*	10.7*
Control group	27	30.8 (8.1)		27	30.8 (8.1)		26	30.8 (8.0)		–	ns
Between-group analysis			ns			3.5*			3.5*		

Note. *Significant after Bonferroni correction (.05/24, $p = .002$); Factor 1 General knowledge and skills about suicide, Factor 2 TBI-specific knowledge and skills about suicide.

Objective Knowledge Test and Self-Rating Scale

Analysis of the preworkshop frequencies for the Objective Knowledge Test found that two clinical items were answered correctly in more than 90% of cases. These items were, therefore, deleted as recommended by Streiner (1993), so that the final range of scores was 0–19. There was no difference between the workshop and control group in preworkshop scores, but the workshop group had significantly higher scores at postworkshop and 6-month follow-up (Table 3). Furthermore, there was a significant increase in the workshop participant scores from pre- to postworkshop, with this improvement maintained at follow-up. In contrast, there was no improvement in the control group scores across the 6-month interval.

Analysis of the self-rating scale results at preworkshop found no differences between the workshop and control groups on Factor 2 or total scores, but the control group scored significantly higher on Factor 1 (see Table 3). However, at the postworkshop and 6-month follow-up occasions, the workshop group was significantly higher than the control group on all three scores, with one exception. The workshop group Factor 2 score at the 6-months follow-up was higher at $p < .05$, but nonsignificant after a Bonferroni correction. Finally, control group participants did not rate themselves significantly higher at follow-up in comparison to their preworkshop scores.

Correlations of the Two Evaluation Measures with SIRI-2

The mean SIRI-2 score for the 30 participants completing the measure was 55.3 (*SD* 21.5, median 45.9, range 30.8 – 103.5) with scores normally distributed. Pearson's product by moment correlation analysis found no association between the SIRI-2 scores and the self-rating scores (factors or total; Table 4). In contrast, a significant negative correlation of moderate strength was found between the SIRI-2 score and scores on the Objective Knowledge Test, suggesting that participants who performed more strongly in identifying facilitative approaches for clients experiencing suicidal distress (SIRI-2) also scored more highly on the Objective Knowledge Test. Participants who rated themselves more highly on the self-rating scale were also likely to score more highly on the Objective Knowledge Test.

Discussion

The results of the current evaluation replicated the findings from the initial pilot workshop, indicating that staff attend-

Table 4. Correlation matrix of objective knowledge, self-rating, and SIRI-2 scores.

	2	3	4	5
1. SIRI-2	.11	.14	.20	–.42*
2. Self-rating general (Factor 1)	1	.87**	.98**	.33**
3. Self-rating TBI (Factor 2)		1	.96**	.26**
4. Self-rating total score			1	.28**
5. Objective knowledge total score				1

Note. *significant at $p < .05$; **significant at $p < .01$.

ing the training made gains in objective knowledge and skills. Similar gains did not occur among participants in a matched control group through maturation or experience. The confirmatory PCA indicated that the factor structure of the self-rating scale was extremely stable. In fact, the interpretation was strengthened in contrast to the original solution, because all four TBI-specific items loaded onto the second factor, with the seven general knowledge and management items remaining on Factor 1. Finally, there was partial support for the concurrent validity of the measures, with a significant correlation found between the SIRI-2 and the Objective Knowledge Test.

Combining the two training phases, a total of 136 rehabilitation and disability staff working in the field of TBI across the state of Victoria were trained over a 2-year period. Importantly, the state-wide reach of the current training was possible because of the existence of established specialist training networks (the Victorian ABI Workers Forum, the Secondary Consultation Project). In fact, it would be much more difficult to achieve a similar statewide program reach in most other Australian states because of the lack of similar structures.

Although the study found initial positive evidence for aspects of the reliability and validity of the evaluation measures, and the staff reports of gains from the training have now been replicated, the broader question of the ecological validity of such results remains, namely what difference do these reported gains mean in terms of reducing actual rates of suicidality among people with TBI. Metha, Weber, & Webb (1998) highlighted the lack of evidence that the provision of training has had any impact on suicide rates. However, there are still many unanswered questions in seeking to establish the efficacy of training. There is little data about the ideal intensity of training. In the current context, the intensity of the program (i.e., 5.5 h training) had to be balanced against the frequency with which suicidality was encountered in clinical settings (i.e., 82% of staff reported contact with a client expressing suicidality monthly or less). It is also unclear whether the value of training is also limited by broader organizational issues, such as the presence or absence of agency policy and procedures. This provided a particular challenge for the current program, with staff attending the workshop from a diverse range of services with different organizational structures. Therefore, a Suicide Prevention Resource Manual (Simpson, 2001) was developed to complement the workshop, which incorporated the workshop content, as well as a section with a template to enable agencies to establish organization-based suicide prevention policy and procedures. However, the potential benefits of incorporating such initiatives and resources as part of training programs have not been investigated.

Another undetermined issue is the relative efficacy of generic training versus training tailored specifically to particular at-risk groups or service settings. The curriculum for the current program was less intensive than the highly specialist training provided to mental staff (Ramberg & Wasserman, 2004) but more specific in focus than broader generic training programs (e.g., Tierney, 1994; New South Wales Health, 1999). The results of the factor analysis suggest that participants made a distinction between their general knowledge and skills about suicide prevention, and rated this more highly than their specific knowledge and skills about suicide prevention as pertaining to people with TBI. This may reflect the contention of Clarke and Fawcett (1992) that particular clinical or diagnostic groups have their own unique pattern of suicide risk factors that is different from the patterns of risk factors in the general community. However, the relatively high correlation between the two factors ($r = .87$) suggested that the two domains were closely interrelated, giving rise to the possibility that the similarities between other at-risk groups and people with TBI in the presentation, assessment, and management of suicidality may still outweigh any idiosyncratic features. Further research can seek to establish the relative merits of generic versus more tailored programs in suicide prevention for staff working in the TBI field.

Results of the analysis with the validating measure found that the mean SIRI-2 scores recorded by workshop participants were similar to those attained by Masters-level counselors ($M = 47.8$) and substantially better than scores achieved by introductory psychology students ($M = 70.3$; Neimeyer & Kathleen, 1997). In seeking to understand the differential pattern of correlations between the two evaluation scales and the SIRI-2, the correlation between the Objective Knowledge Test and the SIRI-2 may be explained in part by the presence of clinical items in the former. Participants scoring well on such items were more likely to have the same underlying knowledge or expertise that the SIRI-2 evaluates. In contrast, the lack of association between the SIRI-2 and the self-rating scale may reflect a bias, with participants overrating their knowledge

and skills. Alternatively, the rating scale may be tapping into a different domain of competency, as the workshop aimed to increase knowledge and skills in assessment and basic clinical management, whereas the SIRI-2 targets counseling skills.

The limitations of the study findings need to be acknowledged. In conducting the statistical analyses, the workshop and control groups were not balanced, thereby reducing the power and increasing the degree of statistical error for the results. The follow-up rate in the workshop group was less than ideal, and introduces the possibility of a systematic bias, namely that the people who participated in the 6-month follow-up viewed the workshop more positively, with the result that the gains from the workshop have been overstated. The lack of controls from community agencies may limit the applicability of the findings to staff working in that sector. Finally, the SIRI-2 could have been administered more widely across the sample, ensuring that the results from the measure were representative of the abilities of participants from across the state.

In conclusion, the World Health Organization affirms that suicide is preventable (WHO, 1999). The current project represents an initial step generated by concerned health and disability service providers to improve suicide prevention among people with TBI. This process may provide a template for developing more fine-grained suicide prevention strategies among other health-related at-risk groups.

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