

# BMJ Open Effects of an Aboriginal and Torres Strait Islander Mental Health First Aid training programme for non-suicidal self-injury on stigmatising attitudes, confidence in ability to assist, and intended and actual assisting actions: an uncontrolled trial with precourse and postcourse measurement and 6-month follow-up

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## ABSTRACT

**Objectives** Non-suicidal self-injury (NSSI) is a complex issue affecting Aboriginal and/or Torres Strait Islander Peoples in Australia. We evaluated the effects of an Aboriginal and Torres Strait Islander Mental Health First Aid (AMHFA) training course on assisting an Aboriginal and/or Torres Strait Islander person engaging in NSSI, including the effects on stigmatising attitudes, confidence in ability to assist, and intended and actual assisting actions.

**Design** Uncontrolled trial with precourse and postcourse measurement (n=49) and 6-month follow-up (n=17).

**Setting** Participants attended courses that were run in Queensland and Victorian communities and through one national organisation.

**Participants** Participants were 49 adults who worked directly with Aboriginal and/or Torres Strait Islander Peoples.

**Intervention** The 5-hour 'Talking About Non-Suicidal Self-Injury' course was delivered by accredited AMHFA instructors and teaches people how to support an Aboriginal and/or Torres Strait Islander person who is engaging in NSSI.

**Primary and secondary outcome measures** The outcome measures were stigmatising attitudes, confidence in ability to assist, and intended and actual actions to assist a person engaging in NSSI.

**Results** Improvements were observed in stigmatising attitudes, with significant changes from precourse in both the 'weak-not-sick' (postcourse  $p<0.0623$ ; follow-up  $p=0.0058$ ) and 'dangerous/unpredictable' (postcourse  $p<0.0001$ ; follow-up  $p=0.0036$ ) subscales. Participants' confidence in ability to assist increased significantly both postcourse ( $p<0.0001$ ) and at follow-up ( $p<0.0001$ ).

Despite a high level of endorsement for the nine

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This study adopted a 6-month follow-up period to allow us to assess participants' actual assisting actions in the period after receiving the training.
- ⇒ This study did not have a control group and some of the improvements observed may have been due to the effect of repeated measurements.
- ⇒ While our study was strengthened by the collection of follow-up data, 6 months is a relatively short time period and there are no data on whether the positive effects of the training were maintained over longer time periods.
- ⇒ Changes in actual assisting actions were unable to be statistically assessed due to attrition at follow-up and the small subgroup (n=8) of participants who reported assisting a person engaging in non-suicidal self-injury in the 6 months since undertaking the course.

recommended assisting actions at precourse, significant improvements ( $p<0.05$ ) were observed in endorsement for six and four of the assisting actions postcourse and at follow-up, respectively. Course content was rated as being somewhat (3.4%), mostly (13.8%) or very (82.7%) culturally appropriate by participants who identified as Aboriginal and/or Torres Strait Islander.

**Conclusions** The results of this uncontrolled trial were encouraging, suggesting that the Talking About Non-Suicidal Self-Injury course was able to improve participants' attitudes, confidence and intended assisting actions.

## INTRODUCTION

Non-suicidal self-injury (NSSI) refers to injuries that are deliberately self-inflicted and not intended to result in death.<sup>1</sup> While the distinction in self-harm terminology can be a grey area, the term ‘deliberate self-harm’ is used in this manuscript to refer to self-harm behaviours that may or may not carry suicidal intent, while the term ‘NSSI’ refers to self-injurious behaviours that do not carry suicidal intent. The bulk of what is known today about NSSI is from studies that focus on Caucasian populations. NSSI most commonly begins in early adolescence, although it also occurs in adults, and the most frequently reported self-injury methods are skin cutting, hitting and burning.<sup>2</sup> Behavioural scientists are attempting to understand the nature of NSSI to inform prevention strategies, and at present there is a paucity of evidence-based treatments.<sup>3–5</sup> Survey findings indicate that internal motivations, such as managing difficult emotions and punishing oneself, are among the reasons most frequently reported for engaging in NSSI.<sup>6</sup> Contrary to popular belief, self-injury is rarely used as a means of seeking attention, and self-inflicted cuts and wounds are likely to be covered or hidden.

The high rates of Indigenous suicidal behaviour in several postcolonial countries, including Australia, Canada, USA and New Zealand, have deservedly brought increased attention to the area of deliberate self-harm.<sup>7–10</sup> However, the focus of research on deliberate self-harm among Indigenous people has been almost exclusively on behaviours with suicidal intent, with minimal attention given to behaviours with no such intent. This is somewhat surprising considering that rates of suicidal ideation and suicide attempts are far higher among those who have previously engaged or currently engage in NSSI.<sup>2, 11</sup> For example, Nock *et al*<sup>2</sup> reported that 70% of adolescents engaging in NSSI reported a lifetime suicide attempt and 55% reported multiple attempts. The same association between NSSI and suicide attempts was observed in a study of people from the White Mountain Apache Tribe in the USA, but there is otherwise a lack of research on NSSI among Indigenous populations.<sup>12</sup>

In Australia, national NSSI prevalence figures come from the Australian National Epidemiological Study of Self-Injury, which found that the 12-month and lifetime prevalence of NSSI in a small sample of Aboriginal and Torres Strait Islander Peoples (n=156, 1.7% of the total sample) was 4.8% and 17.2%, respectively, compared with 2.6% and 8.1% for non-Indigenous Australians.<sup>1</sup> The difference in rates of deliberate self-harm between Aboriginal and Torres Strait Islander Peoples and non-Indigenous Australians has been observed to be particularly pronounced in some regional areas; for example, the rates of hospitalisation for deliberate self-harm (including self-harm with and without suicidal intent) in the Kimberley region of Western Australia have been observed to be up to 10 times higher for Aboriginal and Torres Strait Islander Peoples compared with international figures of hospitalisation for deliberate self-harm.<sup>13</sup> Additionally, a systematic review

found six studies reporting NSSI prevalence among different types of samples of Aboriginal and Torres Strait Islander Peoples in Australia, with prevalence rates ranging from 0.9% to 22.5%.<sup>14</sup> Nonetheless, more data are needed on the rates of NSSI among Aboriginal and Torres Strait Islander Peoples and more guidance on how it should be responded to in diverse community and clinical contexts.<sup>15</sup>

Friends, family and front-line workers (eg, teachers and sports coaches) are often well positioned to provide initial assistance to individuals who engage in NSSI. Although available data indicate that NSSI is a relatively more common behaviour among Aboriginal and Torres Strait Islander Peoples than it is in the non-Indigenous population,<sup>1, 13</sup> there is limited information available regarding help-seeking behaviours or about how best to support an Aboriginal or Torres Strait Islander person who is engaging in NSSI. Studies conducted with predominantly Caucasian populations suggest that many individuals who engage in NSSI do not seek help,<sup>16</sup> with Australian figures highlighting that less than 40% of individuals who engage in NSSI report help-seeking behaviours.<sup>1</sup> Available literature indicates that when help is sought it is often from friends and family,<sup>17–19</sup> and a broad suite of front-line workers are also well positioned to be approached in the first instance. Friends, family and front-line workers have the potential to play a critical role in connecting individuals with appropriate professional help and community support.

Mental health first aid (MHFA) is defined as the assistance provided to a person developing a mental health problem, experiencing the worsening of an existing mental health problem or in a mental health crisis, until appropriate professional treatment is received or until the crisis resolves.<sup>20</sup> In 2000, an MHFA training programme was established in Australia in response to the need for public education about mental illness and its treatment.<sup>21</sup> Later, an Aboriginal and Torres Strait Islander Mental Health First Aid (AMHFA) programme was established.<sup>22</sup> Based on a series of expert consensus guideline documents,<sup>23</sup> the AMHFA programme guides participants on how to provide initial assistance to an Aboriginal or Torres Strait Islander person with a mental health problem or in a mental health crisis, including depression, anxiety, psychosis, substance use, or experiencing a traumatic event, a panic attack, suicidal thoughts, or engaging in NSSI. AMHFA guidelines were also developed around ‘Cultural Considerations and Communication Techniques’ and around ‘Communicating with an Aboriginal or Torres Strait Islander Adolescent’,<sup>23, 24</sup> which offer overarching guidance regardless of the mental health issue.

The AMHFA programme is run through the Mental Health First Aid Australia (MHFAA) using a train-the-instructor model, whereby the MHFAA trains a pool of accredited AMHFA instructors, who are all Aboriginal or Torres Strait Islander Peoples, on how to deliver the course material to Aboriginal and Torres Strait Islander community members and front-line workers

in their respective communities where they are already embedded and have local support. Over 600 people have trained as AMHFA instructors across Australia and they have delivered training courses to over 60 000 people in their communities. An initial 2009 evaluation of the AMHFA programme based on data on the roll-out of the programme and qualitative data obtained from focus group discussions found the programme to be both culturally appropriate and acceptable to Aboriginal and Torres Strait Islander Peoples.<sup>22</sup> A more recent uncontrolled trial of the AMHFA training course observed that training participants showed improved mental health literacy and confidence to assist.<sup>25</sup> Furthermore, a recent uncontrolled trial of the Talking About Suicide course, a 5-hour AMHFA suicide gatekeeper training course that was developed based on expert consensus guidelines,<sup>26</sup> demonstrated significant improvements in participants' knowledge, attitudes, confidence to assist, as well as intended assisting actions and actual assisting actions taken.<sup>27</sup>

As part of the outlined process, AMHFA guidelines for assisting an Aboriginal or Torres Strait Islander person experiencing NSSI were developed<sup>28</sup> and were subsequently used to develop the 'Talking About Non-Suicidal Self-Injury' course (outlined in the Training course section). This paper reports on an uncontrolled trial of the Talking About Non-Suicidal Self-Injury course, examining the effects of the training on stigmatising attitudes, confidence in ability to assist, and intended and actual assisting actions.

## METHODS

### Study design

The study was an uncontrolled trial of the effects of the Talking About Non-Suicidal Self-Injury course on both Aboriginal and Torres Strait Islander participants and non-Indigenous participants, given the training was designed to target both groups. Data were collected immediately before and after completing the course and at 6 months after the course (follow-up). The length of the follow-up period was a pragmatic decision based on funding. All data presented in this manuscript are from participants who provided written informed consent to participate in the study.

### Training course

The 5-hour Talking About Non-Suicidal Self-Injury course teaches people how to support an Aboriginal and/or Torres Strait Islander person who is engaging in NSSI. The course, delivered by accredited AMHFA instructors upskilled in the new course material, was designed to be culturally appropriate for Aboriginal and/or Torres Strait Islander communities while also being useful for non-Indigenous front-line workers in a position to assist an Aboriginal and/or Torres Strait Islander person who is engaging in NSSI. People attending the course learn about how to (1) identify the risk factors and warning

signs of NSSI; (2) confidently support an Aboriginal and/or Torres Strait Islander person in crisis; (3) connect an Aboriginal and/or Torres Strait Islander person to appropriate professional assistance and to other cultural or community support; and (4) manage their own self-care when assisting someone who is engaging in NSSI. The structured action plan participants learn is framed around the following: (1) ASK if you are concerned a person is injuring themselves; (2) provide assistance to KEEP SAFE FOR NOW; and (3) CONNECT with professional, cultural and other support.

An Aboriginal and Torres Strait Islander Project Reference Group played a central role in the development of the AMHFA guidelines around which the course was framed. The course acknowledges that the high rates of self-harm in Aboriginal and Torres Strait Islander Peoples today stem from the disrupting effects and systemic harms caused by colonisation and its aftermath, including loss of land and culture, transgenerational trauma, racism, discrimination, and social and emotional distress. The course also considered the difference between injury to the physical body as part of sanctioned cultural practices and self-injury in the context of mental ill health, a difference which is fundamental to appropriately recognising behaviours and supporting Aboriginal and Torres Strait Islander Peoples. Strategies for providing support are underpinned by a holistic social and emotional well-being framework with an emphasis on the strengths of Aboriginal and Torres Strait Islander Peoples' knowledge and support systems, and diversity in cultural practices, languages, beliefs, and ways of knowing and doing. As a nationally delivered course, the focus was on supporting first aiders and communities to identify local approaches and community strengths to support Aboriginal and Torres Strait Islander Peoples engaging in NSSI, recognising the diversity among people and communities. The guidance provided in the course was based on a recent Delphi expert consensus study in which a panel of 27 Aboriginal and Torres Strait Islander experts with both professional and personal expertise in suicidal and non-suicidal self-harm established best practice guidelines on how to provide MHFA to an Aboriginal or Torres Strait Islander person who is engaging in NSSI.<sup>28</sup>

The course includes face-to-face teaching including multimedia materials and interactive group activities (eg, small and large group discussions, case study activities, planning for safety activities). These materials include scripted drama/role-play films demonstrating recommended assisting behaviours, videos of Aboriginal and Torres Strait Islander Peoples with lived experience of NSSI talking about their experiences and what assisted them, and Aboriginal and Torres Strait Islander artwork to illustrate helping actions. Each course participant is given a handbook<sup>29</sup> that presents facts about self-harm in Australia, details how to implement the recommended actions when assisting someone engaging in NSSI and provides additional information on useful resources.

The AMHFA NSSI course differs in a number of ways from the standard MHFA courses for the general population, in response to the need for cultural competence and cultural safety. For example, the Aboriginal and Torres Strait Islander concept of ‘shame’ was important to understand and was central to the stories and case studies used through the programme as a central consideration to the mental health first aider response. Considerations were given to how the issue of NSSI, which is often stigmatised and shame-provoking in Aboriginal and Torres Strait Islander communities, could be described and discussed in culturally safe ways. Artworks, symbols and other visual mediums were used to explore themes, given that there can be a higher level of cultural safety through visual story-telling and interpretation/context-making that is not equally achieved in written or spoken language alone. These artworks and visual references also allow instructors to draw stories and context from participants in a more flexible way, in response to cultural differences and nuances. The course recognised the cultural obligations and limitations experienced by the mental health first aiders, with consideration to things like gender or age protocols, kinship and family protocols, or other cultural considerations or taboos. Assisting first aiders to develop both skills in recognising any personal or cultural limitations in their ability to support someone engaging in self-injury as well as skills in making other arrangements for supporting a person while maintaining confidentiality was also a culturally specific component of the course that had to be considered. An ongoing challenge for all AMHFA courses is the applicability across such diverse communities, for example, from an urban environment with a mix of Aboriginal Peoples from various countries, and access to health services, versus a remote, traditional community with no access to services. Drawing on the knowledge and expertise of local instructors, the course draws on both cultural support and professional support-seeking knowledge within communities.

### Participants and recruitment

Participants were adults (ie, 18 years of age or older) who were either Aboriginal and/or Torres Strait Islander or non-Indigenous people who were front-line health and community service workers who worked with Aboriginal and Torres Strait Islander Peoples. Some additional participants were Aboriginal and Torres Strait Islander community members wanting to learn how to better support their peers.

Tidda is 18 years old. She has often struggled with feelings of anxiety and stress, but it has become worse over the past year. A month ago Tidda had a falling out with her cousin who she used to be able to talk to about everything. She has also been feeling overwhelmed with obligations to care for her nephews and nieces and feels like she can't say no when her family asks for help. Tidda has been feeling increasingly distressed and has found it hard to manage or talk to anyone about how she is feeling. For the past few months she has been pinching and scratching the skin on her upper arms and she finds that it gives her some relief from her distress. She does this until she starts to bruise or bleed, and has been wearing loose clothing to try to hide the injuries.

**Figure 1** Vignette on the questionnaire. This is a fictional vignette.

Participants attended one of six courses that were run in six different metropolitan, rural and remote communities of Queensland and Victoria, and through one national organisation. Experienced AMHFA instructors were selected and upskilled in the new course materials. They were then asked to identify communities where they had existing relationships, which was considered to be the most culturally safe way to evaluate the new materials. Instructors were aware of formal and informal support in the communities they were delivering in. Funding afforded another local support person to attend each course. Courses were run in close partnership with Aboriginal community-controlled health organisations (ACCHOs) and other Aboriginal corporations or community organisations, who gave permission for the training course and associated data collection in their communities. In partnership with Aboriginal and Torres Strait Islander researchers, AMHFA instructors and community-controlled organisations, the recruitment process harnessed the relational nature of Aboriginal and Torres Strait Islander communities. Advertisements for participation in the course were distributed through the networks of local ACCHOs and other community organisations and those of the AMHFA instructor. As a result, attendees self-selected to attend the training and participate in the study and were a diverse group of people connected to their local ACCHO and others from the broader community. Everyone who attended was invited to participate in the research study, although participation was not mandatory and anyone who did not wish to participate was still able to undertake the course. Typically, courses were run at the office of the local ACCHO or at a hired venue that was known, culturally safe and accessible to participants, with the local ACCHO also acting as an additional source of support after the course.

### Outcome measures

Data were collected using a self-administered questionnaire comprising questions regarding participant socio-demographic characteristics and a range of outcome measures: stigmatising attitudes, confidence in ability to assist, and intended and actual assisting actions.

Responses to a vignette were used to measure stigmatising attitudes, confidence in ability to assist and intended assisting actions. The vignette (see [figure 1](#)) describes an 18-year-old woman called Tidda who, in the context of psychosocial and interpersonal stressors, is becoming increasingly distressed and engaging in NSSI. *Stigmatising attitudes* were assessed using the Personal Stigma Scale,<sup>30</sup> which asks participants whether they agree or disagree on a 5-point Likert scale (strongly agree to strongly disagree, with lower scores indicating lower stigma) with nine statements related to someone like Tidda that form two subscales: ‘weak-not-sick’ comprised three items (eg, ‘a problem like Tidda’s is a sign of personal weakness’) and ‘dangerous/unpredictable’ comprised six items (eg, ‘people with a problem like Tidda’s are unpredictable’). On recommendation from our Aboriginal and Torres

Strait Islander Project Reference Group, a tenth statement was added to the inventory, ‘people with a problem like Tidda’s just need a bit of tough love’. Factor analysis of previous evaluations including the ‘tough love’ item with the weak-not-sick items showed that all items had substantial loadings on a single factor (range 0.59–0.78). In the current sample, loadings were lower (range 0.50–0.77), but also fitted a single-factor model. The scale’s Cronbach’s alpha was also acceptable at 0.75. Items comprising the dangerous/unpredictable scale also had a comparable pattern of loadings on a single factor with those previously observed (range 0.44–0.74) and had a Cronbach’s alpha of 0.72.

*Confidence in ability to assist* was assessed by asking participants how confident they were in assisting Tidda, with response options on a 5-point Likert scale from not at all confident to extremely confident.<sup>31 32</sup> *Intended assisting actions* were assessed by asking participants how likely they were to do each of 13 actions on a 5-point Likert scale from very unlikely to very likely. The actions were a mix of nine actions that were explicitly recommended and four actions that were explicitly recommended to be avoided, based on the above-mentioned expert consensus guidelines.<sup>28</sup> Changes in each action from before the course to immediately afterwards and 4 months later were examined for each action individually and scales were constructed. Separate scales of ‘recommended’ and ‘not recommended/contrary’ actions were created due to the potential for different patterns of change. The Cronbach’s alpha for the recommended actions scale was 0.80, while the alpha for the ‘not recommended/contrary’ actions scale was 0.78.

*Actual assisting actions* were assessed precourse and at follow-up by asking participants whether they had spoken with one or more Aboriginal or Torres Strait Islander Peoples who they were concerned may be engaging in NSSI. The timeframes were the 12 months prior to the course and the 6 months prior to completing the follow-up assessment. Recalling the person they had supported the most (if there was more than one), participants were asked which of a list of 16 actions they had taken to support that person. The list comprised 10 actions that are explicitly recommended and 6 actions that are explicitly recommended to be avoided in the expert consensus guidelines.<sup>33</sup> For both the intended and actual assisting actions, the sequence of recommended and not recommended actions was deliberately mixed in the inventory. Responses were binary (yes/no), rather than the Likert scale used in response to the vignette.

Participants were also asked purpose-designed questions using 4-point Likert scales to capture perceptions of the relevance of the course (not at all relevant to very relevant), how new the information was (not at all new to very new), how well it was presented (not at all well to very well) and how culturally appropriate the advice provided during the course was (not at all appropriate to very appropriate). Finally, we had anticipated that the course content might be a source of distress for some

people so we asked two purpose-designed questions to assess whether people felt distressed (eg, sad, stressed, overwhelmed, etc) about any aspects of the course and whether they were glad to have attended the training course despite the fact that talking about self-harm can cause distress for some people.

### Sample size

The sample size was 49 participants, reflecting operational and resource constraints. This allowed 80% power to detect medium effects ( $d=0.4$ ) in the total sample, assuming a correlation of 0.50 between precourse and subsequent occasions (StataCorp, 2015).

### Patient and public involvement

An Aboriginal and Torres Strait Islander Project Reference Group played a central role in the development of the AMHFA guidelines around which the course was framed. The group comprised people with professional and personal experience in self-harm prevention among Aboriginal and Torres Strait Islander Peoples.

### Statistical analyses

All analyses were undertaken using Stata V.14.2.<sup>34</sup> Mean changes between time points were assessed using linear mixed model repeated measures (MMRMs) analysis of variance with an unstructured variance–covariance matrix. The df was estimated using the Kenward-Rogers method.<sup>35</sup> Where scales were formed from multiple items, missing responses were imputed as mean values when a respondent had answered at least 75% of the items on the scale. Many of the variables evaluated had skewed distributions that were likely to yield skewed residuals, formally violating the model assumptions. Transforming scores was judged unlikely to be successful in dealing with these problems. Accordingly, this problem was addressed when necessary using bootstrapping and calculation of bias-corrected parameter CIs to assess the robustness of the conclusions reached using conventional methods. This approach was used in preference to generalised (non-linear) modelling as it yields parameters that can be easily interpreted in terms of mean change rather than the likelihood of responding in higher categories, as would be the case for ordinal or count data models. Effect sizes were calculated using Glass’s delta.<sup>36</sup> This variation of Cohen’s  $d$  statistics used the precourse SD as the basis of standardisation. Values of delta reported can be interpreted as the extent of mean change induced by the course within the context of the original distribution of the variable concerned, with the size of the effect indicated by the following conventions: 0.2 for small, 0.5 for medium and 0.8 for large.<sup>37</sup>

## RESULTS

### Participant characteristics

We recruited and obtained precourse and postcourse data from 49 participants, and 17 (34.7%) were retained

Table 1 Participant characteristics (n=49)	
Variable	n (%)
Age (years), mean (SD)	37.5 (12.7)
Gender	
Male	11 (22.4)
Female	38 (77.5)
Aboriginal or Torres Strait Islander	
Aboriginal	16 (32.6)
Torres Strait Islander	8 (16.3)
Aboriginal and Torres Strait Islander	5 (10.2)
Neither	20 (40.8)
Place of residence	
Capital city	17 (37.0)
Regional city	14 (30.4)
Rural area	3 (6.5)
Remote area	12 (26.1)
Education	
Completed year 10	4 (8.2)
Completed year 12	8 (16.3)
Tertiary entrance course	1 (2.0)
Trade certificate/apprenticeship	1 (2.0)
Other certificate	15 (30.1)
Associate or undergraduate diploma	8 (16.3)
Bachelor's degree or higher	12 (24.5)
Employment*	
Mental health	9 (19.2)
Drug and alcohol	5 (10.6)
Aged care	3 (6.4)
Disability	6 (12.8)
Other health services	6 (12.8)
Community housing and homelessness	6 (12.8)
Education	17 (36.2)
Employment services	3 (6.4)
Centrelink	2 (4.3)
Law enforcement	0 (0.0)
Legal services	0 (0.0)
Financial counselling	0 (0.0)
Other employment	15 (31.9)
Not a 'front-line' worker	10 (20.4)
Clients are Aboriginal or Torres Strait Islander people	
Some of clients are Aboriginal or Torres Strait Islander	10 (21.7)
All clients are Aboriginal or Torres Strait Islander	30 (65.2)
No	6 (13.0)
Previous MHFA training	
Yes, less than 5 years	25 (51.0)

Continued

Table 1 Continued	
Variable	n (%)
Yes, 5 or more years ago	5 (10.2)
No or 'not sure'	19 (38.8)
Other mental health training	
Short course(s)	18 (36.7)
A mental health subject in a course	7 (14.3)
Whole certificate/diploma/degree	6 (12.2)
No or 'not sure'	18 (36.7)
Training in support for suicidal persons	
Yes	30 (61.2)
No or 'not sure'	19 (38.8)
Training in support for self-injuring persons	
Yes	21 (42.9)
No or 'not sure'	28 (57.1)
Personal experience of self-injury*	
Self	7 (14.3)
Family	17 (34.7)
Friends	19 (38.8)
Colleagues	9 (18.4)
Clients/patients	22 (44.9)
Broader community network	12 (24.5)
None of the above	9 (18.4)
I would rather not say	2 (4.1)
*Multiple responses permitted. MHFA, mental health first aid.	

at 6-month follow-up. Table 1 shows the participants' characteristics. The mean age was 37.5 years and over three-quarters were female. A little over half (59.1%) of the participants identified as Aboriginal and/or Torres Strait Islander and nearly two-thirds (63.0%) lived outside capital cities. Most had at least completed secondary school and 24.5% had an undergraduate degree or higher, while a minority (8.2%) had completed year 10 or less. Majority of the participants (79.6%) worked in 'front-line' roles, delivering a variety of health and/or community services directly to the public. For 86.9% of the participants, they had front-line work where some or all of their clients had an Aboriginal or Torres Strait Islander background. More than half (61.2%) had previously undertaken some form of MHFA training and 63.3% had undertaken other forms of mental health training. A slightly lower proportion (42.9%) reported prior training in supporting a person who is self-injuring. Prior personal experiences (ie, self, family, friends or community) or workplace experiences of self-injuring behaviour were common, most notably in clients/patients, friends and family.

#### Analysis of attrition at follow-up

Fewer than half of the participants responded at the 6-month follow-up. In part, attrition at follow-up was

**Table 2** Stigmatising attitudes

Scale	Precourse (n=49)		Postcourse (n=49)			Follow-up (n=17)		
	Mean	SD	Mean	SD	Δ†	Mean	SD	Δ†
'Weak-not-sick'	9.02	3.42	8.35	3.60	-0.20	6.65	2.18	-0.69**
'Dangerous/unpredictable'	13.12	3.70	11.16	4.20	-0.53***	9.59	3.45	-0.96**

\*P<0.05, \*\*P<0.01, \*\*\*P<0.001.  
 †Glass's delta compared with precourse mean using precourse SD.

impacted by 'sorry business'—the cultural protocols for death in Aboriginal communities. Where communities had been impacted by a death, particularly a suicide death, our ethical protocol was not to approach participants in these communities to participate in follow-up data collection. This was agreed to in the study design and with our Aboriginal partner organisations. An analysis was undertaken exploring factors differentiating those who participated at follow-up from those who did not. A number of precourse predictors of providing responses at follow-up were identified. These included not identifying as Aboriginal or Torres Strait Islander and living in a capital or regional city and having had previous MHFA training. The association with previous MHFA training was particularly notable: while just over half those with such training responded at follow-up, only one person without MHFA training provided feedback at this stage. Thus, follow-up responses should be regarded as representing participants who were more experienced and knowledgeable about MHFA than the course participants as a whole.

### Stigmatising attitudes

The mean changes in stigmatising attitudes on the Personal Stigma Scale are reported in [table 2](#). The distribution of scores for the subscale weak-not-sick was highly skewed; before the course, the modal score was 6 (1 point above the minimum possible score of 5). Nevertheless, there were reductions in scores after the course, with over a third of participants (34.7%) recording the lowest possible score postcourse compared with 10.2% precourse. This change continued at follow-up, when over half (52.9%) of the responding participants recorded the lowest possible score. Analyses of means found that changes in the weak-not-sick scale from precourse means approached significance postcourse and was significant at follow-up ( $t(48.0)=1.91$ ,  $p<0.0623$  and  $t(22.3)=3.05$ ,  $p=0.0058$ , respectively). Probably reflecting a floor effect, the changes from precourse were small to medium in size.

In contrast to the weak-not-sick score distributions, those of the dangerous/unpredictable subscale were much less skewed, with modal responses of 13 and 14 (corresponding to an average response between 'disagree' and 'neutral'). After the course, the modal response was 8, falling further to 6 at follow-up. The changes in means from precourse means were significant both postcourse and at follow-up ( $t(48.0)=4.84$ ,  $p<0.0001$

and  $t(20.2)=3.29$ ,  $p=0.0036$ , respectively). The changes from precourse were medium to large in size.

### Confidence in ability to assist

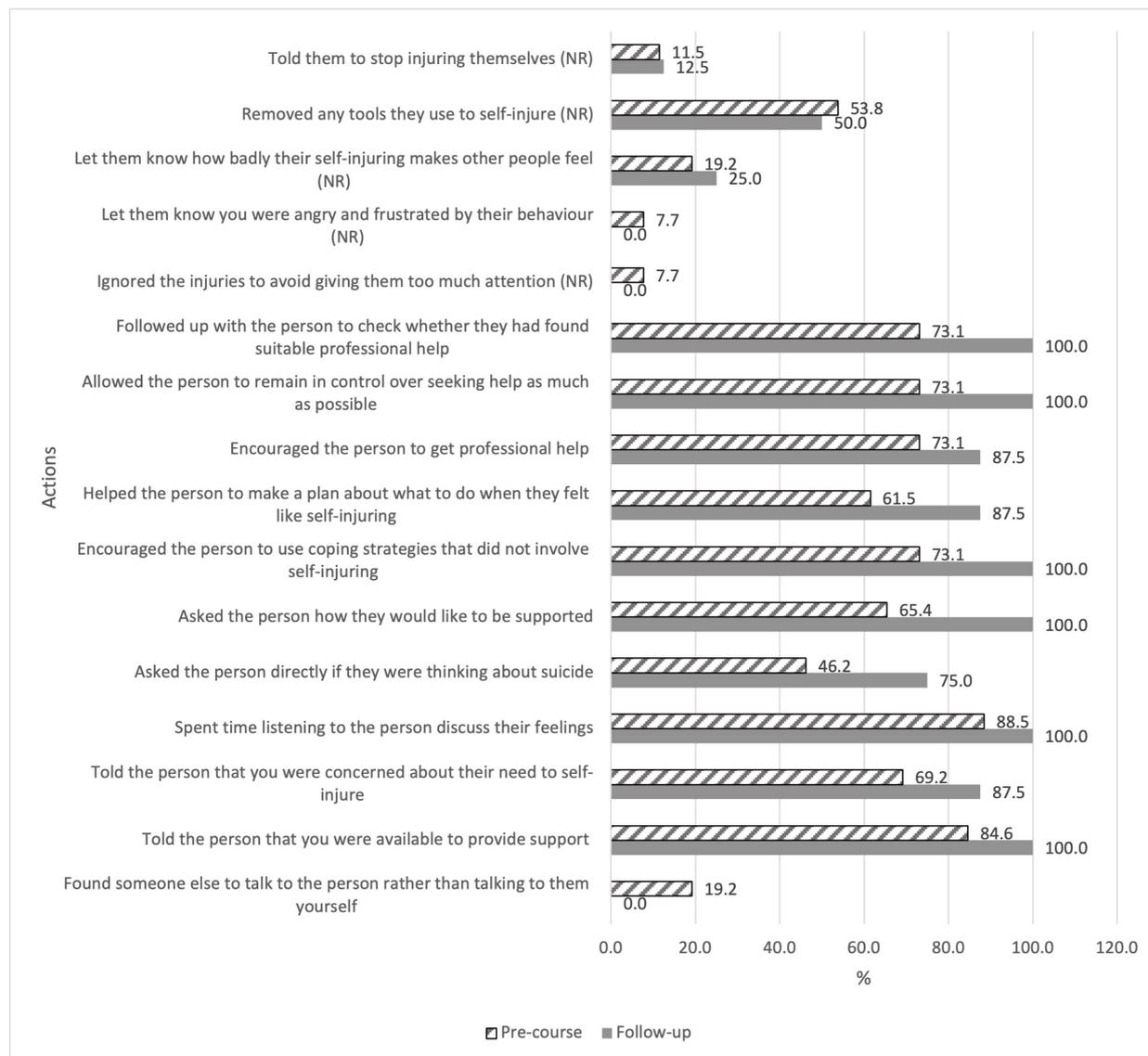
The modal response to the question asking participants about their confidence to assist Tidda moved from a modal response of 'moderately confident' to 'quite a bit confident' after the course and at follow-up. After the course, no participants felt 'not at all confident' or 'only a little bit' (confident) compared with just over 10% beforehand. Consistent with the pattern of endorsement, the mean responses increased from 3.52 (SD 0.94) before the course to 4.43 (SD 0.54) afterwards and 4.35 (SD 0.61) at follow-up. The changes correspond to large effect sizes ( $\Delta=0.96$  and  $\Delta=0.88$ , respectively). The change from precourse means at both times was statistically significant ( $t(50.9)=7.48$ ,  $p<0.0001$  and  $t(27.1)=4.48$ ,  $p<0.0001$ , respectively). The slight decline in confidence from after the course to follow-up was not significant ( $t(19.0)=0.24$ ,  $p=0.8145$ ).

### Intended assisting actions

#### Intentions related to recommended assisting actions

Before the course, most participants responded that they would be likely or very likely to take most of the recommended actions (see [figure 2](#)). Endorsement rates for six actions were above 90%—one effectively universal—with two others being above 80%. Asking directly about suicide was an outlier, with only 66.7% of the participants responding that they would be likely or very likely to do this. Given the high rates of endorsement for most actions, only small changes could be expected for many recommended actions. However, even under these circumstances, increases in the proportion of participants responding 'very likely' rather than 'likely' after the course led to endorsement rates well over 90% for all actions. Importantly, this also occurred for the 'ask about suicide' action, for which 'very likely' was endorsed by nearly three-quarters of participants after the course compared with less than 30% beforehand.

Formal analyses of change in mean responses using MMRMs were statistically significant for six actions after the course (see [table 3](#)). Non-significant changes were also positive and were associated with actions that had high mean scores before the course. The mean changes at follow-up were significant for only four actions, notably the suicide question. All means at follow-up remained



**Figure 2** Percentage of participants taking particular recommended and non-recommended actions talking to an Aboriginal or Torres Strait Islander person who is engaging in non-suicidal self-injury before the course (n=49) and at follow-up (n=17). NR, non-recommended actions.

higher than before the course, representing improvement, although not statistically significant. On a scale of recommended actions comprising all nine items, an increase in the likelihood of taking recommended actions was significant after the course and also at follow-up. The changes from before the course were of medium to large size after the course and remained of medium size at follow-up.

#### Intentions related to non-recommended actions

The pattern of precourse endorsement for contrary actions differed markedly from that for recommended actions. Following the course, responses moved to more guidelines-concordant stances, with the proportion of 'unlikely' and 'very unlikely' responses exceeding or approaching 90% for all but the 'Tell Tidda to stop injuring herself' item; while over half of the course participants endorsed 'very unlikely' after attendance,

nearly a third (30.6%) indicated that they were still likely or very likely to 'Tell Tidda to stop injuring herself'. The pattern of improvement was maintained at follow-up. There were statistically significant reductions (the desired direction for actions not recommended) after the course for three of the four actions (see table 4). The reduction in endorsement of 'Let Tidda know you are angry and frustrated by her behaviour' was small and not significant. At follow-up, all items remained below precourse values, although this was significant only for 'Ignore the injuries to avoid giving Tidda too much attention'. On a scale comprising the four contrary action items, a decrease in the likelihood of taking non-recommended actions was significant after the course and at follow-up, with the changes from precourse approaching medium size.

**Table 3** Intentions to implement recommended helping actions

Action	Precourse (n=49)‡		Postcourse (n=49)‡			Follow-up (n=17)‡		
	Mean	SD	Mean	SD	Δ†	Mean	SD	Δ†
Tell Tidda that you are available to provide support.	4.59	0.64	4.69	0.77	0.16	4.71	0.47	0.18
Tell Tidda that you are concerned about her need to self-injure.	4.29	0.71	4.61**	0.57	0.46	4.41	0.62	0.18
Spend time listening to Tidda discuss her feelings.	4.71	0.46	4.73	0.76	0.03	4.82	0.39	0.24
Ask Tidda directly if she is thinking about suicide.	3.73	1.18	4.61***	0.81	0.75	4.24*	0.66	0.43
Ask Tidda how she would like to be supported.	4.53	0.58	4.73	0.68	0.34	4.76	0.44	0.40
Encourage Tidda to use coping strategies that do not involve self-injuring.	4.31	0.80	4.58*	0.54	0.35	4.65*	0.49	0.43
Help Tidda to make a plan about what to do when she feels like self-injuring.	4.35	0.69	4.60*	0.57	0.37	4.71*	0.47	0.52
Encourage Tidda to get professional help.	4.48	0.62	4.82***	0.39	0.55	4.71*	0.47	0.37
Allow Tidda to remain in control over seeking help as much as possible.	4.29	0.82	4.67***	0.66	0.46	4.53	0.62	0.29
Scale (average)	39.31	4.13	42.08***	3.42	0.67	41.53*	3.36	0.54

\*P<0.05, \*\*P<0.01, \*\*\*P<0.001.

†Glass's delta compared with precourse mean using precourse SD.

‡Numbers vary slightly between actions due to missing responses.

### Actual assisting actions

Well over half of the participants (53.1%, 26 of 49) reported talking with a self-injuring person in the 12 months prior to the course. A comparable proportion (47.1%, 8 of 17) had done so in the 6 months between the course and follow-up data collection. [Figure 2](#) shows the percentage of participants taking each of the actual recommended and non-recommended assisting actions in each time period. It shows increases in the rates of taking many of the recommended actions in the follow-up period compared with before the course. The only recommended action that decreased in use was getting someone else to talk to the person. Use of non-recommended actions was relatively stable, although some, particularly 'ignored the injuries to avoid giving them too much attention' and 'let them know you were angry and frustrated

by their behaviour', were seldom used before the course. Persistence in 'removed any tools they use to self-injure' and 'let them know how badly their self-injuring makes other people feel' was particularly notable.

### Participant satisfaction with the course

An overwhelming majority of the participants were happy with the course. The majority felt the content was mostly (20.4%) or very relevant (79.6%), and was somewhat (28.6%), mostly (30.6%) or very new (30.6%). Course content was rated as being somewhat (3.4%), mostly (13.8%) or very (82.7%) culturally appropriate by participants who identified as Aboriginal or Torres Strait Islander. Majority of the participants were very satisfied (85.7%) with the course overall, and a high percentage were very satisfied with the different course materials,

**Table 4** Intentions to implement non-recommended helping actions

Action	Precourse (n=49)‡		Postcourse (n=49)‡			Follow-up (n=17)‡		
	Mean	SD	Mean	SD	Δ†	Mean	SD	Δ†
Ignore the injuries to avoid giving Tidda too much attention.	1.98	1.09	1.46***	0.82	-0.48	1.41**	0.62	-0.52
Let Tidda know you are angry and frustrated by her behaviour.	1.55	0.96	1.47	1.02	-0.09	1.29	0.59	-0.27
Let Tidda know how badly her self-injuring makes other people feel.	2.02	1.22	1.69	1.12	-0.27	1.65	1.00	-0.31
Tell Tidda to stop injuring herself.	2.82	1.35	2.20**	1.54	-0.45	2.41	1.23	-0.30
Scale (average)	8.37	3.62	6.84***	3.70	-0.42	6.76***	2.70	-0.44

\*P<0.05, \*\*P<0.01, \*\*\*P<0.001.

†Glass's delta compared with precourse mean using precourse SD.

‡Numbers vary slightly between actions due to missing responses.

including the handbook (70.8%), slides (79.2%), videos (85.7%) and activities (79.2%).

Three-quarters (n=37) of the participants reported no distress at all, while just over 20% (n=11) reported feeling a little distressed and one participant reported feeling very distressed. Before the course, seven participants reported they had experience of injuring themselves. Only two of them reported being distressed and that this was minor. Despite the experience, all those participants who felt distressed (including the person who was very distressed) endorsed that they were glad to have attended the course. Participants were also asked whether they had thought about harming themselves as a result of taking the course: all responses were negative.

## DISCUSSION

This uncontrolled trial of the Talking About Non-Suicidal Self-Injury course yielded encouraging results, despite attrition in follow-up data and participants being largely 'experienced' in mental health in a variety of formal ways as well as having personal and/or professional experience of self-injuring behaviour. After the course, we observed improvements in stigmatising attitudes, confidence in ability to assist and intended assisting behaviours. As might be expected, participants with the strongest, guidelines-concordant responses before the course maintained these after the course. Participants who gave less sure or neutral responses frequently jumped to ceiling levels, and those with initially less guidelines-concordant views showed positive responses after training. Participants reported feeling more confident to assist a person who was self-injuring after the course, which was maintained at follow-up. There was a trend towards an increase in the use of recommended assisting actions in participants' actual experiences of assisting someone who was self-injuring, yet no change in the use of non-recommended assisting actions. Formal statistical analyses on actual assisting actions were unable to be undertaken due to attrition and the extreme proportions observed (ie, all or no follow-up participants reporting an action). Reactions to the course were very positive, with many participants responding that it contained information that was new to them. The course was judged to be culturally appropriate by participants who identified as Aboriginal or Torres Strait Islanders.

Attrition at follow-up was an issue impacting statistical power and potential representativeness of the remaining respondents, so follow-up findings should be interpreted in this light. Nonetheless, several improvements in stigmatising attitudes, confidence to assist and intended assisting actions remained statistically significant at follow-up, and several other findings trended in a positive direction despite losing statistical significance.

Arguably, the most important marker of change in this study was the improvement in endorsement rates of intended assisting actions. The results in this area were especially encouraging and indicate that the course

supported participants to identify assisting actions that were consistent with the consensus guidelines.<sup>28</sup> Previous studies have observed that best practice intentions are highly correlated with best practice actions,<sup>38–40</sup> and consistent with this our study observed a trend towards an improvement in recommended assisting actions being used in actual practice. The only recommended action that decreased in use was getting someone else to talk to the person, which possibly reflects that participants were more confident in providing the support themselves. It is important to note that we did observe a tendency among participants to hold on to some non-recommended actions, which may be an area to focus on in future training sessions and reviews of the course materials. A review and refinement of the training materials may identify areas where these non-recommended assisting actions can be given greater attention.

## Significance of the study

The Talking About Non-Suicidal Self-Injury course contributes to a well-established need for the development of culturally appropriate initiatives to address self-injuring behaviour in Aboriginal and Torres Strait Islander communities.<sup>41</sup> This evaluation provides encouraging findings indicating that this training course can support local community efforts to address this issue. The Talking About Non-Suicidal Self-Injury course is relatively brief (ie, ~5 hours in length) and easily able to be delivered in a single day. In a short time period, it was able to produce improvements in participant attitudes and behaviours that were immediately and actively being used in communities to assist Aboriginal and Torres Strait Islander Peoples engaging in NSSI.

## Limitations and future research

There are some study limitations to acknowledge. First, the results of this trial may have been subject to a ceiling effect given that just over 60% had prior MHFA training and/or had engaged in other forms of mental health training (including 42.9% reporting prior training in people engaging in self-harm). As a result, precourse responses to most questions were generally strongly skewed to guidelines-concordant positions. Nevertheless, there were clear and statistically significant improvements after the course, demonstrating that even participants who were generally quite skilled/knowledgeable due to prior MHFA training still benefited from the course. Second, participants were predominantly front-line workers, with a substantial proportion having prior mental health training, making it difficult to generalise these findings to community members or to front-line workers without prior mental health training. Future research needs to investigate how well these results generalise to other populations that might be less experienced/knowledgeable in NSSI.

Third, 5 hours is a short time interval for conducting repeated questionnaire measurement between precourse and postcourse, and this may have resulted in testing

effects. However, we note that significant effects were also observed at follow-up measurement, which was 6 months later. Fourth, while our study was strengthened by the collection of follow-up data, 6 months is a relatively short time period and there are no data on whether the positive effects of the training were maintained over longer time periods. In addition, our follow-up findings need to be interpreted cautiously due to a high rate of attrition and the inability to conduct statistical analyses of the changes in actual assisting actions. Individuals who identified as Aboriginal or Torres Strait Islander or who lived in remote areas and participants who had not previously undertaken MHFA training based on precourse responses may be under-represented in the follow-up data. Fifth, participants may have been influenced by social desirability bias, such that they reported responses to some of the questions that were more socially acceptable or were perceived to be desired by the training facilitators; this may have particular impact on responses to questions related to course satisfaction. Finally, our study design was weakened by the absence of a control group, and some of the improvements observed may have been due to the effect of repeated measurements.

In terms of future research, there are several potential avenues for exploration, including looking at a broader range of health-related outcome measures, for example, referral and treatment patterns. There is also value in extending understanding of cultural relevance beyond what we could derive from a single postcourse question. It would be valuable to have a more nuanced understanding of the extent to which the cultural adaptation was acceptable, safe and relevant, and the extent to which further cultural adaptations could be embedded in the course to extend its effectiveness and reach. Further research might also explore the extent to which non-Indigenous participants gained knowledge of contextual, social and cultural factors around NSSI for Aboriginal and Torres Strait Islander Peoples even though this was not an explicit learning objective. Finally, future AMHFA programmes should consider as a matter of urgency recalibrating approaches to evaluation by giving Aboriginal and Torres Strait Islander researchers greater control of the research process, including determining evaluation methodologies.

## CONCLUSIONS

The results of this uncontrolled trial were encouraging, suggesting that over 5 hours of the Talking About Non-Suicidal Self-Injury course was able to improve participants' attitudes, confidence and intended assisting behaviours, including among those with prior experience and training. Assisting actions recommended during the training were implemented by several participants in the 6 months since participating in the training course, demonstrating immediate benefits for Aboriginal and Torres Strait Islander communities.

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**Contributors** AJ developed the overarching study design and acts as guarantor for the content in this paper. GA worked with the study investigators and the Aboriginal and Torres Strait Islander Project Reference Group to develop the initial plan and materials for the implementation of the study, including the expert consensus guidelines that formed the basis of the training. GS subsequently revised the plan and materials and led the implementation of the study under the supervision of AJ and NR. EP led the development of the training materials, with support from the Aboriginal and Torres Strait Islander Project Reference Group and other coauthors (see Acknowledgements) and brokered important community connections to facilitate the implementation of the study. AM analysed the data. GA wrote the first draft of the manuscript, with all authors suggesting improvements before approval of the final version.

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**Competing interests** AJ is unpaid Chair of the Board of Mental Health First Aid Australia, which is a not-for-profit organisation. EP was the curriculum developer for this course and continues to develop curriculum for the Aboriginal Mental Health First Aid programme as a consultant.

**Patient and public involvement** Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

**Patient consent for publication** Not required.

**Ethics approval** This study involves human participants and was approved by the Human Research Ethics Sub-Committee at the University of Melbourne (HREC no: 1646346.5). Participants gave informed consent to participate in the study before taking part.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** Data are available upon reasonable request. Data cannot be shared publicly. No consent was sought from participants to make the data publicly available, nor was it sought from the Aboriginal community-controlled health organisations and other Aboriginal corporations or community organisations, who gave permission for the training courses and associated data collection in their communities. We adhere to the Indigenous data sovereignty principle that the data be used only as agreed to by the Aboriginal-led organisations collaborating on this study. Reasonable requests for restricted access to the underlying data can be sent to the corresponding author.

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