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Trauma Risk Management (TRiM): Promoting Help Seeking for Mental Health Problems Among Combat-Exposed U.K. Military Personnel

Norman Jones, Howard Burdett, Kevin Green, and Neil Greenberg

Objectives: Trauma Risk Management (TRiM) is a peer-led, occupational mental health support process that aims to identify and assist U.K. military personnel with persistent mental ill health related to potentially traumatic events (PTEs). This study compared help seeking, mental disorder symptoms, and alcohol use between TRiM recipients and personnel experiencing similar combat events who did not receive TRiM; an unexposed group provided context. *Methods*: Records of TRiM activity during a U.K. military deployment in Afghanistan were linked to contemporaneous survey data assessing mental health and combat experiences. The resulting deployment data set was amalgamated with mental health, alcohol use, and help-seeking data collected within 12 weeks of homecoming and again one to two years later. Mental health and help-seeking outcomes were compared between a nonexposed, non-TRiM sample (n = 161), an exposed, non-TRiM sample (n = 149), and an exposed, TRiM-recipient sample (n = 328) using logistic regression analyses. *Results*: At follow-up, TRiM recipients were significantly more likely to seek help from mental health services than exposed, non-TRiM personnel. At baseline, TRiM recipients had significantly greater adjusted odds of reporting possible posttraumatic stress disorder (PTSD) symptoms than exposed non-TRiM personnel; the difference was not significant at follow-up. TRiM recipients were significantly more likely to report persistent mental disorder and alcohol misuse caseness over the follow-up period. *Conclusions*: TRiM recipients were significantly more likely to seek help from mental health services than a

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We are grateful to the men and women of the U.K. Armed Forces who contributed data to this study.

Conflict of Interest Statement: Norman Jones is a serving member of the British Army. Howard Burdett and Neil Greenberg are researchers employed under the terms of a contract by the U.K. Ministry of Defence. Kevin Green is employed by the Royal Navy. No direction was taken from the Ministry of Defence in the delivery of the research project or the presentation of the study outcomes.

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similar PTE-exposed group that did not receive TRiM; however, TRiM recipients experienced more persistent mental ill-health symptoms and hazardous alcohol use over the period of follow-up despite seeking help.

The early weeks following exposure to a potentially traumatic event (PTE) represent a potentially critical window of opportunity to encourage people who experience persistent psychological trauma symptoms to seek health care in order to avoid or reduce the risk of developing longer-term mental ill health. Historically, critical incident stress debriefing (CISD) has been used to provide postincident support; however, emerging evidence, including a Cochrane review (Rose, Bisson, Churchill, & Wessely, 2002), suggested this approach was relatively ineffective in preventing psychological injury (Sijbrandij, Olff, Reitsma, Carlier, & Gersons, 2006) and might enhance distress for some participants (Mayou, Ehlers, & Hobbs, 2000). Given the potentially damaging effects of CISD, the routine use of psychological debriefing in the U.K. military was withdrawn in 2000 (SGPL 03/06. 2006).

Trauma Risk Management (TRiM) is a voluntary, peer-led, trauma-related occupational mental health intervention first described in the literature in 2003 (Jones, Roberts, & Greenberg, 2003). TRiM seeks to identify and assist U.K. military personnel who are experiencing persistent difficulties following exposure to PTEs and has been used among international militaries to provide posttrauma support (Keller et al., 2005).

TRiM is not the only peer-delivered military mental health intervention. There are numerous examples of peer-delivered interventions, such as some elements of the U.S. Army's Comprehensive Soldier Fitness program (Casey, 2011); few have been subjected to robust evaluation. Pure peer-to-peer programs exist, although some interventions and support programs contain a peer-delivered element, such as Vets Prevail, which provides access to community message boards moderated by trained military personnel (Hobfoll, Blais, Stevens, Walt, & Gengler, 2016). Recent U.S. suicide prevention programs have incorporated an element of peer support; a sizable number of U.S. noncommissioned officers were trained to identify, intervene on behalf of, and refer peers at risk of suicide. Although training recipients felt more able to intervene with at-risk peers, many were reluctant to do so for fear that they would be held responsible for any suicide that might occur (Ramchand, Ayer, Geyer, Kofner, & Burgette, 2015).

TRiM was developed to overcome the perceived shortcomings of CISD while taking into account such factors as deploying in austere or remote locations, limited mental health care opportunities during deployment, and perceived barriers to care (BTC), such as mental health stigmatization, which appears to be heightened during deployment (Osório, Jones, Fertout, & Greenberg, 2013b). Subsequent studies suggest that TRiM is an acceptable intervention among military personnel (Greenberg, Langston, Iversen, & Wessely, 2011) as long as it is fully supported by military commanders (Greenberg, Henderson, Langston, Iversen, & Wessely, 2007; Langston et al., 2010).

The guiding principle of TRiM is the process of "watchful waiting" (National Institute for Clinical Excellence, 2005), where the mental health impact of a PTE is monitored by peers of all military ranks trained in the TRiM process; professional intervention is encouraged if mental health symptoms persist or appear after a delay. Following an in-depth, command-led consideration of the index PTE, personnel are offered the opportunity to participate in the active components of TRiM. While the process is voluntary, personnel are invited to attend formalized psychoeducational briefings (Greenberg, Cawkill, & Sharpley, 2005); those deemed to have been closely involved in a PTE are encouraged to take

part in a brief, peer-led psychological risk assessment. The intervention takes place at least 72 hours after the index event and takes the form of a structured interview where the TRiM practitioner assesses 10 factors that are theoretically linked to the development of poorer long-term mental health. Although they have been refined over time, the 10 items are described in detail in Jones et al. (2003) and are updated in Greenberg, Langston, and Jones (2008). There is no expectation that TRiM will improve mental health; it is merely a method of assessing psychological threat and any immediate requirements. The interview is repeated in a slightly modified format at the one-month postexposure point. There is generally minimal contact with the TRiM recipient between the two interviews unless the military unit is unable to provide mentoring or general support or if there is a crisis. The interview is repeated one month later, and the initial and follow-up outcomes are compared. Within the U.K. military, the TRiM process is recorded in either electronic or written form and stored in a secure facility. Those who deteriorate or are deemed at risk of psychological harm are encouraged to consult with health care professionals for a formal assessment of their needs, which they can choose to access or not. Facilitating timely access to appropriate help is the main aim of TRiM. Studies suggest that participation in TRiM may be occupationally helpful (Greenberg et al., 2010), may promote social support during deployment (Frappell-Cooke, Gulina, Green, Hacker Hughes, & Greenberg, 2010), and may reduce sickness absence (Hunt, Jones, Hastings, & Greenberg, 2013). However, outside of a positive mental health and stigma effect among TRiM practitioner trainees (Gould, Greenberg, & Hetherton, 2007), there is little evidence to suggest that it facilitates help seeking or has any discernible impact on the recipient's mental health.

While a randomized controlled trial (RCT) examining the use of TRiM within Royal Navy ships found a positive occupational impact within TRiM-trained ships companies (Greenberg et al., 2010), no difference was found in terms of mental health status or reported mental health stigmatization during the 18-month trial. However, comparison samples became fragmented and mixed together during follow-up, making it difficult to formally assess outcomes; furthermore, participants experienced overall low levels of traumatic exposure.

Conducting new U.K. military RCTs is now no longer feasible, as TRiM is available to all during deployment. Using RCT methodology would mean withholding the intervention in the control arm, which would probably be unacceptable to operational commanders who use all available means to support their subordinates; it might also be ethically unsound, given that TRiM participation may have some, albeit limited, benefit. However, not everyone is currently offered TRiM due to random factors such as the availability of TRiM practitioners, operational and mission-related pressures, visibility of PTEs, or the fog of war. The availability of TRiM records, which can be linked to other sources of mental health information, represents a pragmatic method of assessing the impact of TRiM.

Based on the primary aim of TRiM, the main study hypothesis was that when they identify a need, TRiM recipients will access care from mental health services more frequently than personnel with similar levels of PTE exposure who were not provided with TRiM support. Given that TRiM may have an impact on mental health and that it is peer delivered, the secondary aim of this study was to examine whether TRiM recipients had better mental health and lower levels of mental health stigmatization and perceived barriers to care than personnel with similar levels of PTE exposure who did not receive the TRiM intervention.

METHODS

Two primary sources of data were examined: (1) operational TRiM records

compiled in 2011 during deployment in Afghanistan (Jones, Mitchell, et al., 2013) and (2) an observational mental health survey data set gathered concurrently from similarly deployed U.K. military personnel. The latter was termed the Operational Mental Health Needs Evaluation (OMHNE). Written and informed consent was obtained prior to survey completion. These were linked to a third RCT data set, the post operational screening trial (POST), which gathered mental health–related data six to 12 weeks after returning from deployment, which we label "baseline" and then one to two years later, labeled "follow-up" (Rona et al., 2017); the latter was a fully consented registered clinical trial. Individual operational TRiM and OMHNE records were linked to each other and then to the POST data set using forename, surname, date of birth, and service number (which is unique). Following linkage, an exclusive study identifier was allocated and all personal identifying information deleted. The nonconsented element of the data linkage process was approved by the Ministry of Defence Research Ethics Committee 664/MODREC/15, dated August 27, 2015.

The TRiM Data Set

Participation in the TRiM process during deployment (n = 757) was confirmed in the record of TRiM activity compiled and maintained by deployed TRiM team leaders. PTE characteristics were categorized and recorded in the TRiM record; these were free-text entries that were standardized by the researchers when the study data set was compiled. This enabled a comparison to be made with a 17-item Combat Exposure Scale (CES) completed by OMHNE survey participants (n = 1,214). CES items were selected for their similarity to the exposure categories described in the TRiM record. There were eight items in total, grouped into four categories (Table 1); endorsing at least one of the eight CES items on one or more occasions constituted exposure. Exposure to one item was chosen because TRiM is usually initiated after a single discrete event. OMHNE participants who had a TRiM record were excluded from the comparison samples but were retained in the TRiM sample. TRiM records and OMHNE data were linked to the POST study data set, producing 638 matches. The stratification process generated three subsamples, each with follow-up data: a nonexposed non-TRiM sample (n = 161), an exposed non-TRiM sample (n = 149), and an exposed TRiM sample (n = 328) (Figure 1).

Help Seeking

The dependant variable for this study was whether participants had sought help. Sources of help were listed in sections of both the OMHNE and POST study surveys. Participants were asked whether they had sought help from two categories of health services—formal mental health support (mental health practitioners, psychiatrists, or psychiatric social workers) and formal medical support (general practitioners or medical officers)—or whether they had accessed informal sources (welfare officers, telephone helplines, Web-based help, clergy, or equivalent, and TRiM practitioners outside of the formal TRiM process) either at the time of completing the initial survey or during the subsequent follow-up period. Each help source was treated as a dichotomous *Accessed/Did not access* variable.

Mental Health Measures

To assess the first of the secondary study aims, the impact of TRiM on mental health, four brief mental health screening measures were examined, which were collected at baseline and follow-up in the POST study. All participants in the POST study completed stage one of the mental health screening process, which used brief measures. Only those who were classified as cases on the brief measures went on to complete the full instruments. This meant that only small numbers of POST participants

TABLE 1. Exposure to Potentially Traumatic Events (PTEs), Trauma Risk Management (TRiM) Categories, and Operational Mental Health Needs Evaluation (OMHNE) Combat Exposure Scale Items.

TRiM Exposure Type	*n* (%)	OMHNE Survey Exposure Type (*n*)	*n* (%)
Death or serious injury of a colleague	649 (81.5)	Had a mate injured or killed who was near you (235)	763 (44.4)
		Seen dead or seriously injured friendly forces personnel (528)	
Death or injury of local national	10 (1.3)	Seen injured or sick women or children who you were unable to help (275)	275 (16.0)
Near miss	84 (10.6)	Been wounded or injured (31)	489 (28.5)
		Had an improvised explosive device (IED) or booby trap explode near you (325)	
		Had a shell, grenade, rocket, or missile that failed to explode land near you (94)	
		Equipment shot or blown off or were shot/hit but protective gear saved you (39)	
Grotesque death	17 (2.1)	Handled or discovered human remains (192)	192 (11.2)
Overwhelming distress	2 (0.3)	No equivalent or similar exposure	
Long lasting or multiple exposure	34 (4.3)		
Total	796	Total	1,719

Note. Study participants may have endorsed more than one exposure.

completed full measures, whereas all participants completed brief measures.

Anxiety symptoms were measured using the first two items of the nine-item Generalized Anxiety Disorder Scale (GAD-2), specifically the items related to (1) feeling nervous, anxious, or on edge and (2) being unable to stop or control worrying (Plummer, Manea, Trepel, & McMillan, 2016). Responses were scored 0 to 3 for each item, giving possible response values of 0 to 6. Scores of 3 or more indicated the presence of possible symptoms of anxiety disorder.

Depression symptoms were measured using the first two items of the nine-item Patient Health Questionnaire (PHQ-2), specifically the items related to (1) little interest or pleasure in doing things and (2) feeling down, depressed, or hopeless (Kroenke, Spitzer, & Williams, 2003). Responses were scored 0 to 3 for each item, giving possible response values of 0 to 6. Scores of 3 or more indicated the presence of possible symptoms of depression.

Positive responses to the GAD-2 and PHQ-2 were conflated to produce a variable indicating the presence or absence of possible anxiety and or depression symptoms.

At baseline, symptoms of posttraumatic stress disorder (PTSD) were evaluated using the four-item Primary Care PTSD Scale (Prins et al., 2003). This scale asks respondents to answer yes or no to (1) the presence of nightmares or unbidden upsetting memories, (2) efforts to avoid thoughts or situations related to a traumatic event, (3) feeling constantly on guard, watchful, or easily startled, and (4) feeling numb or detached from people, activities, or surroundings. Endorsing two or more symptoms was taken to indicate the presence of possible PTSD. At follow-up, study participants completed the Posttraumatic Stress Disorder Checklist—Civilian Version (PCL-C; Blanchard et al., 1996). A PC-PTSD

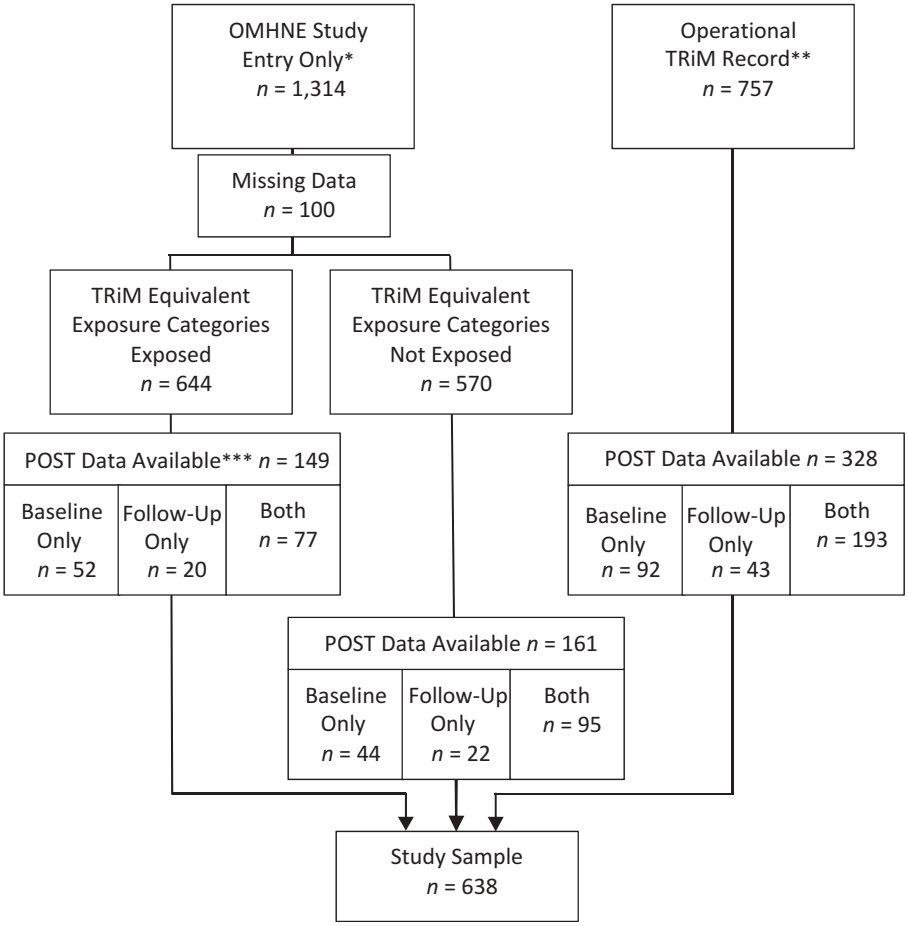

FIGURE 1. Sample generation procedure*Notes*. *Operational Mental Health Needs Evaluation (OMHNE), a mental health survey, was conducted in Afghanistan in August and September 2011. **Electronic record of Trauma Risk Management (TRiM) activity was conducted in Afghanistan from April to October 2011. ***Post Operational Screening Trial (POST), a cluster randomized controlled trial of mental health screening, took place following return from the August to September deployment to Afghanistan in 2011.

measure was generated from the PCL-C using eight items, which, when paired into two-item dyads, were equivalent to the four-item Primary Care PTSD Scale used at baseline. Relating to a stressful experience, the items were (1) repeated, disturbing memories, thoughts, or images paired with repeated, disturbing dreams; (2) avoiding thinking, talking about, or having feelings related to a stressful experience paired with avoiding activities or situations because they are reminders of it; (3) feeling distant or cut off from other people paired with feeling emotionally numb or being unable to have loving feelings for others, and (4) being super alert, watchful, or on guard paired with feeling jumpy or easily startled. Endorsement at the moderate to extreme level on each dyad indicated that a symptom was present. Endorsing two or more symptoms indicated caseness on the synthesized PC-PTSD measure.

Alcohol use was assessed using the two-item Alcohol Use Disorders Identification Test

(AUDIT-QF) (Meneses-Gaya et al., 2010). The questions related to (1) how often the person drinks alcohol and (2) how much the person drinks on a typical day. Responses were scored 0 to 4 giving a scale range of 0 to 8. The AUDIT-QF cutoff score is usually 4; however, given the high prevalence of alcohol misuse in the U.K. Armed Forces, scores of 7 or more for the combined items were taken to indicate the presence of possible alcohol misuse, as this cutoff provides optimal discriminatory power in this population (Burdett et al., 2016).

To assess changes in mental health caseness over time, a single variable was generated to reflect scoring positive on any of the four mental health and alcohol measures at baseline, follow-up, or both survey points.

Barriers to Care

A seven-item perceived barriers to care scale included in the POST study was used to assess the second of the secondary outcomes. Participants were asked to rate their agreement or disagreement with each scale item. The stem question was "I would not seek help for a mental health problem because ..." The response items were *Because it would be too embarrassing; My bosses might blame me; I would be seen as weak; My visit might not remain confidential; It would be difficult to get time off; I want to cope with the problem myself*; and *I would prefer help from family and friends*. Agreeing or strongly agreeing with an item was considered an endorsement. The number of endorsements was calculated, yielding scores of 0 through 7; endorsing three or more scale items was representative of substantial perceived barriers to care.

Analyses

Data were analysed using the Statistical Package for the Social Science (SPSS), Version 21. Sociodemographic and military variables were compared across the three samples using chi-square tests. The effect of receiving TRiM on help seeking, mental health symptom and alcohol measures, and perceived barriers to care were compared across the three subsamples using logistic regression analyses to generate odds ratios (ORs) with 95% confidence intervals (CIs). These were subsequently adjusted (AOR) for age, rank, and combat arm, all of which have been shown to have an impact on mental health in previous studies (Fear et al., 2010); the fields for these variables were fully populated in the data set.

RESULTS

We sought to assess whether the intervention received in the POST RCT might contribute to the study outcomes. Types of intervention received in the POST RCT (screening for probable mental disorder and receiving tailored help-seeking advice versus similar screening and the receipt of generic help-seeking advice) were equally distributed across the subsamples: 52.2% (n = 84) of the nonexposed non-TRiM sample received tailored advice; for the exposed, non-TRiM group, the proportion was 57.0% (n = 85); and for the exposed TRiM sample, the proportion was 52.7% (n = 173) (χ^2 = 0.94 (2) p = 0.63). Adjusting for this factor had negligible modifying effects on the results (results not shown here but are available from the authors).

The Sample

The study sample consisted mainly of Army and Royal Marine Commando participants; few Royal Navy personnel received TRiM, and the Royal Air Force was not represented; four women participated. The exposed non-TRiM and exposed TRiM samples were significantly younger than the nonexposed non-TRiM sample (p = 0.01) and contained significantly greater numbers of combat personnel (p < 0.001). The exposed non-TRiM and TRiM samples were overall significantly more junior in rank and the exposed

TRiM sample contained the greatest number of junior rank personnel ($p < 0.001$) (Table 2).

Help Seeking

During the period of follow-up, TRiM recipients had significantly greater adjusted odds of seeking help from formal mental health services than exposed non-TRiM study participants. In unadjusted analyses, nonexposed non-TRiM participants were significantly more likely to seek help from a medical officer than exposed non-TRiM group members; however this difference was not significant following adjustment for confounders. In unadjusted analyses, TRiM recipients were significantly more likely to seek help from informal sources of support than exposed non-TRiM participants; however, this difference was nonsignificant following adjustment for confounders (Table 3).

Mental Health Outcomes

The secondary aim of this study was to assess whether TRiM receipt positively impacted on mental health, alcohol use, stigma, and perceived barriers to care. Compared to exposed non-TRiM participants, exposed TRiM recipients had significantly greater adjusted odds of reporting possible PTSD symptoms at baseline. Although PTSD rates were higher among TRiM recipients at the follow-up point, the difference in PTSD rates between the exposed groups was not statistically significant. At baseline, compared to exposed non-TRiM participants, nonexposed non-TRiM personnel had significantly reduced adjusted odds of reporting possible PTSD symptoms and also functional impairment related to mental health symptoms. At both the baseline and follow-up points, TRiM recipients' functional impairment levels were not significantly different to exposed non-TRiM participants (Table 3). Exposed TRiM recipients had significantly greater adjusted odds of reporting persistent mental health caseness (possible anxiety, depression, PTSD, and alcohol misuse) over the follow-up period and significantly reduced adjusted odds of experiencing remission from mental health caseness compared to exposed non-TRiM participants. Examining the association between being a case on any of the mental health and alcohol measures during the follow-up period and help seeking, cases in the TRiM recipient class had significantly increased adjusted odds of seeking help from formal mental health services than members of the exposed non-TRiM group. For the other two classes of help, the differences were not significant (Table 4).

Stigma and perceived barriers to care levels were not significantly different between the exposed non-TRiM and TRiM recipient groups (Table 3). However, the difference between the nonexposed and exposed non-TRiM groups became marginally significant when adjusted for mental health caseness occurring any time during follow-up. Further analyses suggested that, at follow-up, TRiM recipients were significantly more likely to report stigma than nonexposed non-TRiM group members (AOR: 2.94, 95% CI: 1.39–4.49, $p < 0.01$), whereas the exposed non-TRiM group members reported levels of stigma that were not significantly different from the nonexposed non-TRiM group (AOR: 1.60, 95% CI: 0.80–3.17, $p = 0.18$) (data not shown in Table 3).

DISCUSSION

Through data linkage, this study utilized a number of preexisting sources of data to examine the impact of the TRiM process on help seeking, mental health, alcohol use, stigmatization, and perceived barriers to care. Supporting the main study hypothesis, the key finding was that, among personnel exposed to PTEs during deployment to Afghanistan, those who went through the TRiM process were more likely to seek formal mental health care. Furthermore, TRiM recipients who were cases on any mental

TABLE 2. Sociodemographic and Military Characteristics of the Study Sample.

Characteristics	Sample: Nonexposed, Non-TRiM[a] *n* (%)	Sample: Exposed Non-TRiM[b] *n* (%)	Sample: TRiM[c] *n* (%)	*p**
Service background (*n* = 638)				
RN	8 (5.0)	1 (0.7)	1 (0.3)	n.s.**
RM	69 (42.9)	59 (39.6)	123 (37.5)	
Army	84 (52.2)	89 (59.7)	204 (62.2)	
Sex (*n* = 562)				
Male	160 (99.4)	148 (99.3)	250 (99.2)	< 0.05
Female	1 (0.6)	1 (0.7)	2 (0.8)	
Age (*n* = 606)				
18 to 24 years old	64 (39.8)	76 (51.0)	161 (54.4)	0.01
25 years old and older	97 (60.2)	73 (49.0)	135 (45.6)	
Combat arm (*n* = 638)				
Combat	100 (62.1)	120 (80.5)	262 (79.9)	< 0.001***
Combat Support (CS)	22 (13.7)	11 (7.4)	52 (15.9)	
Combat Service Support (CSS)	39 (24.2)	18 (12.1)	14 (4.3)	
Rank groups (*n* = 638)				
Junior (private soldier to corporal)	129 (80.1)	127 (85.2)	303 (92.4)	< 0.001****
Senior (sergeant to warrant officer)	18 (11.2)	18 (12.1)	13 (4.0)	
Officer (commissioned)	14 (8.7)	4 (2.7)	12 (3.7)	

[a]Did not experience combat events derived from the OMHNE survey.
[b]Experienced the OMHNE combat events on one or more occasion.
[c]Received the TRiM intervention.
*Chi-square test; for sex, the statistic refers to Fisher's exact test.
**For the difference in Army/RM proportions (n.s. = not significant).
***For the difference in proportions between combat arm and CS/CSS combined.
****For the difference between junior and senior rank/officer proportions.

health or alcohol measure were more likely to seek help from formal mental health services than cases in the exposed non-TRiM group. TRiM recipients were significantly more likely than an exposed non-TRiM comparison group to report possible PTSD at baseline but not at follow-up. However, TRiM recipients were significantly more likely to report persistent mental health and alcohol caseness over the period of follow-up. Levels of mental health stigmatization and perceived barriers to care were not significantly different between the exposed non-TRiM and TRiM recipient samples; however, stigma levels were significantly higher in both exposed samples than among nonexposed personnel who did not receive TRiM.

A number of important limitations to this study suggest caution is required when interpreting the results. Several potential sources of bias are present: The results are based on observational data, and it is not possible to confidently attribute any mental health and help-seeking effects to the TRiM intervention alone. Linking three data sets gathered for differing purposes resulted in a substantial loss of data, particularly for the nonexposed no-TRiM and the exposed TRiM groups. Although adjusted regression analyses were used to control for bias, only a limited number of variables were common to the three data sets, and it is possible that unobserved confounding is present; furthermore, there were imbalances in

TABLE 3. Logistic Regression Analyses for the Difference in Mental Health, Stigma, and Help-Seeking Rates Between Subsamples.

Outcomes (*n*)	Exposed Non-TRiM		Nonexposed Non-TRiM				Exposed TRiM			
Help Seeking During Follow-Up	Yes	No	Yes	No	OR (95% CI)[a]	AOR (95% CI)[ab]	Yes	No	OR (95% CI) [a]	AOR (95% CI)[a b]
Mental health specialist (445)	9 (9.3)	88 (90.7)	11 (9.6)	104 (90.4)	0.97 (0.38–2.44)	0.84 (0.26–2.67)	59 (25.3)	174 (74.7)	**3.21 (1.61–6.34)****	**3.15 (1.30–7.62)****
Medical officer (441)	44 (45.4)	53 (54.6)	69 (60.0)	46 (40.0)	**0.55* (0.32–0.96)**	0.61 (0.32–1.17)	127 (55.5)	102 (44.5)	0.67 (0.41–1.08)	0.75 (0.44–1.30)
Informal sources of help (442)	14 (14.4)	83 (85.6)	23 (20.0)	92 (80.0)	0.68 (0.33–1.40)	0.89 (0.39–2.01)	62 (27.0)	168 (73.0)	**2.19 (1.16–4.14)***	1.53 (0.75–3.15)
Mental Health Measure	Case *n* (%)	No Case *n* (%)	Case *n* (%)	No Case *n* (%)	OR (95% CI)[a]	AOR (95% CI)[c]	Case *n* (%)	No Case *n* (%)	OR (95% CI)[a]	AOR (95% CI)[c]
PC-PTSD baseline (553)	25 (19.4)	104 (80.6)	10 (7.2)	129 (92.8)	**0.32 (0.15–0.70)*****	**0.33 (0.15–0.73)****	89 (31.2)	196 (68.8)	**1.89 (1.14–3.13)***	**1.91 (1.15–3.17)***
PC-PTSD follow-up (447)	20 (20.8)	76 (79.2)	15 (12.8)	102 (87.2)	0.56 (0.27–1.16)	0.56 (0.26–1.18)	70 (29.9)	164 (70.1)	1.62 (0.92–2.86)	1.65 (0.93–2.96)
GAD2 or PHQ2 baseline (553)	11 (8.5)	118 (91.5)	4 (2.9)	135 (97.1)	0.32 (0.10–1.03)	**0.25 (0.08–0.83)***	15 (5.3)	270 (94.7)	0.60 (0.27–1.34)	0.64 (0.28–1.44)
GAD2 or PHQ2 follow-up (447)	7 (7.2)	90 (92.8)	9 (7.7)	108 (92.3)	1.07 (0.38–2.99)	1.10 (0.39–3.14)	30 (12.9)	203 (87.1)	1.90 (0.81–4.49)	1.77 (0.73–4.26)
AUDIT-QF baseline (553)	53 (41.1)	76 (58.9)	55 (39.6)	84 (60.4)	0.94 (0.58–1.53)	1.05 (0.63–1.75)	116 (40.7)	169 (59.3)	0.98 (0.65–1.50)	0.91 (0.59–1.41)
AUDIT-QF follow-up (447)	25 (25.8)	72 (74.2)	36 (30.8)	81 (69.2)	1.28 (0.70–2.34)	1.32 (0.71–2.44)	59 (25.3)	174 (74.7)	0.98 (0.57–1.68)	0.94 (0.54–1.65)
Functional impairment baseline (553)	23 (17.8)	106 (82.2)	10 (7.2)	129 (92.8)	**0.36 (0.16–0.78)***	**0.32 (0.14–0.72)****	65 (22.8)	220 (77.2)	1.36 (0.80–2.31)	1.35 (0.79–2.30)
Functional impairment follow-up (437)	17 (17.7)	79 (82.3)	16 (13.9)	99 (86.1)	0.75 (0.36–1.58)	0.74 (0.35–1.60)	43 (19.0)	183 (81.0)	1.09 (0.59–2.03)	0.97 (0.51–1.86)
Stigma/barriers to care follow-up (437)[d]	24 (25.3)	71 (74.7)	21 (18.3)	94 (81.7)	0.66 (0.34–1.28)	**0.42 (0.18–0.98)*[b]**	79 (34.8)	148 (65.2)	1.58 (0.92–2.70)	1.75 (0.93–3.29)[b]

[a]Reference category is exposed non-TRiM.
[b]Adjusted for age, rank, combat arm, and caseness on any mental health or alcohol measure at baseline or follow-up.
[c]Adjusted for age, rank, and combat arm.
[d]Caseness was defined as endorsing three out of seven items on the mental health stigmatization and barriers to care scale.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

TABLE 4. Logistic Regression Analyses for Changes in Mental Health Status Over the Follow-Up Period by Subsample and Help Seeking Among Cases From a Mental Health Specialist.

Mental Ill-Health Caseness Category (*n*) [a]	**Exposed Non-TRiM (*n* = 77) *n* (%)**	**Nonexposed Non-TRiM (*n* = 95) *n* (%)**	**OR (95% CI)** [b]	**AOR (95% CI)** [c]	**Exposed TRiM (*n* = 191) *n* (%)**	**OR (95% CI)** [b]	**AOR (95% CI)** [c]
Never a case (119)	26 (33.8)	39 (41.1)	1.37 (0.73–2.55)	1.38 (0.72–2.62)	54 (28.3)	0.77 (0.44–1.36)	0.80 (0.45–1.42)
Remitted (baseline only) (76)	22 (28.6)	19 (20.0)	0.63 (0.31–1.27)	0.63 (0.30–1.31)	35 (18.3)	0.56 (0.30–1.04)	**0.51 (0.28–0.96)***
Follow-up only (new onset) (48)	11 (14.3)	13 (13.7)	0.95 (0.40–2.26)	0.79 (0.32–1.94)	24 (12.6)	0.86 (0.40–1.86)	0.95 (0.44–2.08)
Baseline and follow-up (persistent) (120)	18 (23.4)	24 (25.3)	1.11 (0.55–2.24)	1.22 (0.59–2.50)	78 (40.8)	**2.26 (1.24–4.13)****	**2.19 (1.20–4.02)****
Help Seeking Among Mental Ill-Health Cases Occurring During the Follow-Up Period (*n* = 238) [a]	Exposed Non-TRiM (*n* = 51) *n* (%)	Nonexposed Non-TRiM (*n* = 54) *n* (%)	OR (95% CI) [b]	AOR (95% CI) [c]	Exposed TRiM (*n* = 133) *n* (%)	OR (95% CI) [b]	AOR (95% CI) [c]
Accessed a mental health practitioner (52)	6 (11.8)	7 (13.0)	0.90 (0.28–2.87)	0.74 (0.21–2.57)	39 (29.3)	**2.79 (1.16–6.70)***	**2.94 (1.16–7.50)***
Accessed an informal source of help (61)	9 (17.6)	13 (24.1)	0.68 (0.26–1.75)	0.73 (0.26–2.06)	39 (29.3)	1.31 (0.63–2.71)	1.17 (0.54–2.56)
Accessed medical officer (134)	35 (64.8)	23 (45.1)	2.24 (1.02–4.92)	1.77 (0.78–4.05)	76 (57.6)	1.36 (0.70–2.62)	1.22 (0.61–2.23)

[a]Combined caseness for the measures, GAD-2, PHQ-2, PC-PTSD and AUDIT-QF.
[b]Reference category is exposed, non-TRiM.
[c]Adjusted for age, rank, and combat arm.
*$p < 0.05$; **$p < 0.01$.

sociodemographic and military factors across the three subsamples. The study uses brief screening measures to assess mental health outcomes. Such measures are known to be less reliable than clinical interview and full measure instruments; therefore, the mental health outcomes should be seen as indicative only. Mere participation in TRiM is a crude measure of the intervention. A further study should be undertaken to assess the components of TRiM in more detail. Although every effort was made to ensure that PTE exposure was similar between the exposed TRiM and exposed non-TRiM samples, it may well be that the TRiM record descriptions are not wholly comparable to self-completed measures of exposure. General mental health symptoms were relatively rare among the subsamples, and it may well be that the study was not sufficiently powered to adequately detect significant differences in some mental health symptom measures.

Despite these limitations, data linkage enabled the study authors to gain an insight into the mental health and help-seeking impact of TRiM when it was deployed in the high threat setting of a combat deployment. TRiM was mostly used in the context of death or serious injury of a colleague which, with the exception of serious personal injury (Bryant et al., 2010), is among the most impactful deployment event (Pivar & Field, 2004). It could therefore be argued that this represented a true, albeit somewhat limited, test of the impact of TRiM on mental health and help seeking. Although to some extent speculative given the study limitations, the results suggest that the use of TRiM may promote help seeking from mental health services, which is TRiM's intended effect. If replicated in further studies, this may be a potentially important finding, as encouraging help seeking for mental health conditions among military personnel is known to be problematic (Sharp et al., 2015). It is, of course, possible that TRiM was preferentially used among personnel with the highest levels of operational or combat exposure; the majority experienced death or injury of a colleague, and this could account for the substantially higher levels of possible mental disorder symptoms found among this group. It therefore follows that those who are suffering the most may also be the most likely to seek help, although research among military personnel suggests symptoms alone are not a reliable predictor of service use (Sareen et al., 2007).

Despite substantially higher rates of help seeking from mental health services, probable mental disorder symptoms and alcohol caseness were significantly more likely to persist among TRiM recipients, although PTSD rates were positively though marginally impacted and functional impairment was not significantly higher among TRiM recipients compared to the exposed non-TRiM group at follow-up. We do not consider it a likely cause, but we cannot rule out the potential influence of iatrogenesis. Theoretically, there are many potential factors that might influence mental disorder symptoms among the TRiM recipients in this study. Recent research suggests that inadequate treatment or receiving too few therapy sessions is widespread in military treatment programs (Hoge et al., 2014; Steenkamp, Litz, Hoge, & Marmar, 2015). Unfortunately, it was not possible to assess the quality or frequency of treatment in the current study, however, in the context of some study participants experiencing persistent symptoms, it is clearly important to ensure that effective mental health services are in place for those who are signposted from peer-to-peer programs to further care and that they are encouraged to stay in treatment long enough to benefit. We have previously speculated about the role of stigma during deployment, where it is considerable and may well inhibit treatment seeking (Osório, Jones, Fertout, & Greenberg, 2013a). Undeer the intense pressure of the deployed setting, where the conservation of workforce numbers is critical, operational commanders may have been less willing or potentially unable to refer people to mental

health services at a point where symptoms were emerging and the impact of any help may potentially have had the greatest effect in reducing chronicity (Dell'Osso, Glick, Baldwin, & Altamura, 2013).

We did not find that participation in TRiM had a specific potentiating or negative effect on PTSD symptoms, whereas this effect has been reported in psychological debriefing studies. The general mental disorder symptoms and probable alcohol misuse observed among TRiM recipients were persistent rather than new onset. Therefore, potentiation or iatrogenesis remains a possibility, and it is imperative that the use of TRiM be kept under review and consideration given to further robust testing. At present, TRiM is widely used in the U.K. Armed Forces, and it might therefore be difficult to study in a U.K. military context due to the lack of a comparison group.

Despite the peer-driven nature of TRiM, levels of mental health stigmatization, represented by perceived barriers to care, were unaffected by participation in the TRiM process. Stigma was substantially higher among TRiM recipients than among nonexposed non-TRiM participants and similar to levels in the other exposed group. Heightened stigma has been shown to be significantly associated with increased levels of mental disorder symptoms (Jones, Twardzicki et al., 2013) and help seeking (Corrigan, Druss, & Perlick, 2014), and it is possible that heightened stigma was a consequence of the TRiM sample being the least mentally well group rather than a lack of an anti-stigma effect for the TRiM intervention.

CONCLUSION

In this observational, comparative, data linkage study, the TRiM intervention appeared to be focused correctly on the most appropriate group—namely, those with higher levels of mental disorder symptoms and alcohol use. Although the majority of the sample remained psychologically healthy, we found evidence that receipt of TRiM was associated with greater levels of help seeking from mental health services, which is a key desired outcome of the intervention. However, in this sample, we found some evidence to suggest that accessing support did not lead to an improvement in overall mental health status. TRiM receipt did not appear to positively impact on perceived barriers to care. Further work is needed to understand why it might be that, with the exception of PTSD, involvement in the TRiM process and seeking help did not lead to an improvement in mental health and to better understand the impact of TRiM usage in both military and nonmilitary organizations given its widespread use by trauma-exposed organizations as a method of supporting their staff. It may be particularly helpful to carry out more qualitative studies to understand how TRiM is being used and to perhaps carry out prospective studies that explore the components of TRiM in more detail.

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