

# Impact of immigration detention and temporary protection on the mental health of refugees

ZACHARY STEEL, DERRICK SILOVE, ROBERT BROOKS, SHAKEH MOMARTIN, BUSHRA ALZUHAIRI and INA SUSLJK

**Background** Over the past decade, developed Western countries have supplied increasingly stringent measures to discourage those seeking asylum.

**Aims** To investigate the longer-term mental health effects of mandatory detention and subsequent temporary protection on refugees.

**Method** Lists of names provided by community leaders were supplemented by snowball sampling to recruit 241 Arabic-speaking Mandaean refugees in Sydney (60% of the total adult Mandaean population). Interviews assessed post-traumatic stress disorder (PTSD), major depressive episodes, and indices of stress related to past trauma, detention and temporary protection.

**Results** A multilevel model which included age, gender, family clustering, pre-migration trauma and length of residency revealed that past immigration detention and ongoing temporary protection each contributed independently to risk of ongoing PTSD, depression and mental health-related disability. Longer detention was associated with more severe mental disturbance, an effect that persisted for an average of 3 years after release.

**Conclusions** Policies of detention and temporary protection appear to be detrimental to the longer-term mental health of refugees.

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Over the past decade, developed Western countries have applied increasingly stringent measures to discourage those seeking asylum from entering their borders (United Nations High Commissioner for Refugees, 2000). Australian policy has shifted in two fundamental ways. In 1992, mandatory detention for the duration of the asylum determination procedure was introduced for persons arriving by boat or without valid entry visas. In 1999, time limits on residency were instituted by establishing a policy of temporary protection. Holders of temporary protection visas have restricted access to healthcare, education and work, no opportunity for overseas travel and are ineligible for migration to family reunions. Although these policies have led to substantial controversy, countries of the European Union are considering following Australia's lead by adopting similar approaches (Milne & Travis, 2003). The present study applied multilevel modelling (Goldstein, 1995) to test the hypothesis that past detention and ongoing temporary protection visa status each contributes to ongoing post-traumatic stress disorder (PTSD), depression and associated disability in refugees.

## METHOD

### Participants

The study group comprised Sabaeen-Mandaeans (Mandaeans), a small pre-Christian sect of approximately 100 000 people originating mainly from Iran and Iraq (Buckley, 2002). The Mandaeans have suffered long-term discrimination in their home countries, with abuses and persecution escalating prior to and during the Iraq war in 2003 (Kendal, 2004). Mandaean refugees in Sydney fall into two administrative categories based on their visa status (permanent protection visa (PPV) or temporary protection visa (TPV)). Those arriving before 1999 were granted the

former; those arriving after 1999 were issued the latter. Only those shown to be genuine refugees according to the 1951 United Nations Convention are eligible for either visa category. Mandaeans who arrived in Australia without entry documents were initially held in detention centres, with the remainder – those arriving with holiday or student visas – being allowed to live in the community while their refugee applications were processed.

### Sampling

No census or immigration figures were available for the Mandaean minority in Sydney. Community leaders estimated that there were fewer than 400 Arabic-speaking Mandaean adults living in the city. Sampling of very small and dispersed populations such as the Mandaeans creates formidable methodological challenges (Spring *et al.*, 2003) with random or small-area based probability sampling frames not being feasible. It was important, nevertheless, that the sampling frame adopted had an equal probability of capturing those with permanent and those with temporary protection visas.

Community leaders provided lists of Arabic-speaking Mandaeans and 76 families (172 adults) living in Sydney were identified. To widen the sample beyond those in contact with community groups, snowball or linkage sampling (Patrick *et al.*, 1998) was used, in which primary respondents were asked to provide the names and contact details of other Mandaean families. This procedure identified an additional 38 families (96 adults). The final sample comprised 241 Mandaeans (90% individual response rate for those contacted) living in 104 households (91% household response rate). Based on estimates by community leaders, the sample represented 60% of Arabic-speaking Mandaean adults living in Sydney.

### Measures

The study applied two psychometrically tested symptom measures: the Harvard Trauma Questionnaire (HTQ; Mollica *et al.*, 1992), which assesses exposure to refugee-related trauma and associated PTSD symptoms, and the Hopkins Symptom Checklist – 25 (HSCL; Mollica *et al.*, 1987), an instrument that records symptoms of depression and anxiety. The measures yield both continuous scores and diagnostic categories (PTSD and major

depressive episode, respectively) based on established DSM-IV-derived algorithms (Mollica *et al*, 2001). The Medical Outcomes Study – Short Form (SF-12; Gandek *et al*, 1998) is a widely used international instrument that provides a measure of physical (Physical Component Score; PCS) and mental (Mental Component Score; MCS) health status and disability. We applied the MCS, which is usually scored according to four disability levels: none (50 or above); mild (40–49); moderate (30–39); and severe (below 29) (Sanderson & Andrews, 2003).

Three additional measures were developed by the research team: (a) the Post-migration Living Difficulties (PMLD) Checklist, which identifies ongoing stresses that discriminate between refugee and asylum-seeker populations (Silove *et al*, 1998); (b) the Detention Experiences Checklist, which details 64 common adverse experiences specific to the detention environment and which has been piloted among detained families (Steel *et al*, 2004); and (c) the Detention Symptom Checklist, a modification of the HTQ (Mollica *et al*, 1992), which relates symptoms specifically to the detention experience (Steel *et al*, 2004).

### Translation–back-translation

Translation of measures into Arabic was undertaken using established translation and masked back-translation procedures (Bontempo, 1993). The original questionnaires were translated by an Arabic-speaking mental health professional and back-translated by a certified Arabic-speaking healthcare interpreter. Two Arabic-speaking mental health professionals reconciled some minor discrepancies identified by the process.

### Procedure

Approval for the study was obtained from the South West Sydney Area Health Service Human Ethics Committee. A research assistant, a nurse practitioner of Mandaean background, made contact with families and individual participants. After consent was obtained, the research assistant visited respondents in their homes and administered the measures.

### Data analysis

Preliminary univariate analyses using the Statistical Package for the Social Sciences (SPSS) version 11.5 for Windows were

applied to assess for differences across comparison groups in levels of trauma exposure, post-migration stresses, detention experiences and psychiatric morbidity using  $\chi^2$  analysis for categorical variables and analysis of variance (ANOVA) for numeric variables. Since key predictor variables varied in their frequency across comparison groups and because participants were clustered in family groupings (Goldstein, 1995), we next applied multi-level modelling using MLwiN 1.1 (Rasbash *et al*, 2001). The purpose of this was to establish whether detention and temporary protection status exerted independent effects on psychiatric symptoms when accounting for family clustering and other predictors and covariates identified by the univariate analysis.

## RESULTS

Table 1 presents the major characteristics of the sample and shows that temporary (58%) and permanent protection visas

**Table 1** Characteristics of Mandaean sample ( $n=241$ )

Characteristic	
Male gender, $n$ (%)	132 (54)
Age, years: mean (s.d.)	38 (14.2)
Country of origin, $n$ (%)	
Iraq	224 (94)
Iran	14 (6)
Marital status, $n$ (%)	
Married	162 (67)
Never married	67 (28)
Divorced/widowed	11 (5)
Detained on arrival, $n$ (%)	150 (62)
Families, $n$ (individuals) <sup>1</sup>	
with one member	31 (31)
with two members	40 (80)
with three members	15 (45)
with four members	10 (40)
with five members	3 (15)
with six members	5 (30)
Residential status, $n$ (%)	
Temporary protection	139 (58)
Permanent protection	102 (42)
Time in Australia, years: mean (s.d.)	
Temporary residents	2.8 (0.87)
Permanent residents	4.7 (3.3)*

\* $P < 0.001$ .

1. Total number of families=104.

(42%) were each well represented and that more than half of the sample (62%) had been detained. Those with permanent visas had lived in Australia for longer.

## Univariate analyses

### Pre-migration trauma

Table 2 shows the extent and nature of pre-migration trauma experiences as measured by the HTQ in holders of temporary and permanent visas. Holders of the former had experienced more traumas than holders of the latter, including death of family and friends, being close to death (i.e. almost dying) and lacking the basic necessities of life. This difference may reflect the increasing persecution of Mandaeans in Iraq leading up to and following the 2003 war.

### Post-migration living difficulties

Table 3 shows the causes of serious stress in the temporary and permanent visa holders. Holders of temporary visas reported greater stress for the majority of items. Consistent with their status, they continued to live in fear of repatriation, were unable to resolve family separations and struggled more with issues of day-to-day living.

### Immigration detention experiences

The majority of temporary visa holders (124 out of 139, 90%) and 30% of permanent-visa holders (30 out of 102) had been held in immigration detention centres on arrival in Australia. Table 4 includes all those held in detention and details the 20 highest-ranking adverse experiences that caused serious or very serious stress while confined. The results are stratified in terms of short detention (0–5 months) and long detention ( $\geq 6$  months) based on the median time spent in detention (6 months). Although groups with short- and long-term detention both reported substantial stress, the latter group scored higher on almost all items (total score=21.3, s.d.=10.4 *v.* 9.8, s.d.=10.1).

### Immigration detention symptoms

Table 5 shows the traumatic stress symptoms associated with negative detention experiences. Even though the mean time since release from detention was nearly 3 years (35.5 months), the group detained for  $\geq 6$  months reported more severe distress for all nine symptoms.

**Table 2** Lifetime exposure to trauma in holders of temporary (n=139) and permanent visa (n=102) (n=241)

Trauma event	Individuals exposed to event, n (%) <sup>1</sup>	
	TPV holders	PPV holders
Unnatural death of family or friend	110 (79)	63 (62)**
Being close to death	106 (76)	29 (29)***
Murder of family or friend	105 (75)	62 (61)*
Murder of stranger or strangers	68 (49)	32 (32)**
Lack of food or water	65 (46)	23 (23)***
Ill health without access to medical care	53 (38)	16 (16)***
Imprisonment	52 (37)	15 (15)***
Forced separation from family members	36 (26)	11 (11)**
Lack of shelter	26 (19)	11 (11)
Torture	25 (18)	12 (12)
Combat situation	21 (15)	8 (8)
Serious injury	20 (14)	9 (9)*
Forced isolation from others	20 (14)	6 (6)
Brainwashing	18 (13)	6 (6)
Lost or kidnapped	16 (11)	6 (6)

TPV, temporary protection visa; PPV, permanent protection visa.

1. Mean number (s.d.) of trauma events for TPV holders=5.3 (2.8) v. 3.1 (3.1) for PPV holders,  $P < 0.001$  (range=0–16).

\* $P < 0.05$ ; \*\* $P < 0.01$ ; \*\*\* $P < 0.001$ .

**Table 3** Serious or very serious living difficulties reported in the previous 12 months by holders of temporary (n=139) and permanent visas (n=102)

Living difficulty	Individuals exposed to difficulty, n (%) <sup>1</sup>	
	TPV holders	PPV holders
Unable to return home in an emergency	134 (96)	8 (8)***
Fearful of repatriation	133 (96)	2 (2)***
Concern for family in country of origin	121 (87)	62 (61)***
Unemployment	85 (61)	22 (22)***
Insufficient money to buy food, necessary clothes or pay rent	77 (55)	22 (22)***
Loneliness and boredom	76 (55)	14 (14)***
Communication difficulties	74 (53)	27 (26)***
Separation from family	66 (47)	12 (12)***
Long-term health problems	66 (47)	6 (6)***
Social isolation	65 (47)	11 (11)***
Poor access to treatment for health problems	63 (45)	7 (7)***
Poor access to emergency medical care	58 (42)	8 (8)***
Poor access to long-term healthcare	65 (47)	7 (7)***
Poor access to dental care	47 (34)	5 (5)***
Poor access to counselling	41 (29)	5 (5)***
Bad work conditions	18 (13)	6 (6)
Discrimination	17 (12)	3 (3)*
Difficulties obtaining help from charities	15 (11)	1 (1)**
Conflict with other ethnic groups in Australia	8 (6)	2 (2)
Difficulties obtaining government help with welfare	8 (6)	2 (2)
Conflict with immigration officials	4 (3)	0 (0)
Interviews with immigration officials	3 (2)	1 (1)

TPV, temporary protection visa; PPV, permanent protection visa.

1. Mean number (s.d.) of living difficulties for TPV holders=9.2 (3.8) v. 2.3 (2.4) for PPV holders,  $P < 0.001$  (range=0–23).

\* $P < 0.05$ ; \*\* $P < 0.01$ ; \*\*\* $P < 0.001$ .

**Psychiatric status and disability**

Figures 1 and 2 display the univariate results for depression, PTSD and mental health-related disability according to residency status and length of detention respectively. The HTQ and HSCL were analysed according to the standard algorithms to yield diagnoses of PTSD and major depressive episode respectively. The standard cut-off on the MCS was applied for moderate-to-severe mental health-related (MCS) disability. Holders of temporary protection visas had higher rates of depression, PTSD and disability than those with permanent visas. Those who had experienced long-term detention also continued to experience greater rates of depression, PTSD and MCS disability.

**Multilevel modelling**

Calculation of intraclass correlation coefficients indicated substantial family clustering for PTSD (0.42), depression (0.40) and MCS disability (0.27). To ascertain the independent effects of detention and temporary protection status, we applied multilevel modelling, an analysis which included the impact of family clustering and other predictor variables identified in the univariate analyses.

**Prediction of psychiatric status and disability**

Three multilevel models were calculated using continuous scores for PTSD, depression and MCS disability respectively. Level one predictor variables were age, gender, number of traumas prior to arrival, months in detention (0 for those not detained), residency status (temporary or permanent visa) and months living in the community (i.e. post-detention or post-immigration length of stay in Australia). The level two variable was family clustering.

Variables excluded on the basis of preliminary analyses were number of detention experiences (Table 4) and detention-specific symptoms (Table 5), since these correlated highly ( $r=0.72$  and  $r=0.70$  respectively) with the duration of detention. Similarly, indices of post-migration living difficulties were strongly related to temporary protection status and hence made no additional contribution as predictors.

Table 6 displays the key characteristics of the multilevel regression analysis, with each model emerging as statistically significant. The  $R^2$  estimates indicate that the overall models account for a substantial

**Table 4** Twenty most frequently reported negative detention experiences causing serious/very serious stress, stratified by duration of detention

Factor	Individuals reporting experience, n (%) <sup>1</sup>	
	0- to 5-month detainees (n=57)	≥ 6-month detainees (n=93)
<b>Application process</b>		
Fears of being sent home	33 (59)	88 (96)***
Separation from family	32 (56)	52 (57)
Worries about family back home	33 (59)	80 (87)***
Delays in processing refugee application	18 (32)	77 (85)***
Not being informed about progress of refugee application	11 (19)	75 (81)***
<b>Conditions</b>		
Boredom	20 (35)	76 (83)***
Isolation	13 (23)	73 (79)***
Overcrowding in rooms	9 (16)	44 (48)***
Woken during the night/head counts or other disturbances	9 (16)	43 (46)***
Poor-quality food	15 (26)	41 (45)*
<b>Interpersonal stress</b>		
Racist comments by other detainees	28 (49)	76 (82)***
Being sworn at by other detainees	26 (46)	75 (81)***
Being intentionally humiliated by other detainees	25 (44)	72 (77)***
Seeing people making suicide attempts	17 (30)	63 (68)***
Seeing people engage in self-harm	12 (21)	60 (65)***
Witnessing physical assault	17 (30)	57 (61)***
<b>Healthcare</b>		
Poor access to dental care	16 (29)	53 (57)**
Not getting treatment for health problems	12 (21)	44 (48)**
Poor access to emergency medical care	14 (25)	44 (48)**
Poor access to long-term medical care	10 (18)	42 (45)**

\* $P < 0.05$ ; \*\* $P < 0.01$ ; \*\*\* $P < 0.001$ .

1. Mean number of problems (s.d.) for those detained for 0–5 months = 9.8 (10.1) v. 21.3 (10.4) for those detained ≥ 6 months,  $P < 0.0001$  (range = 0–64).

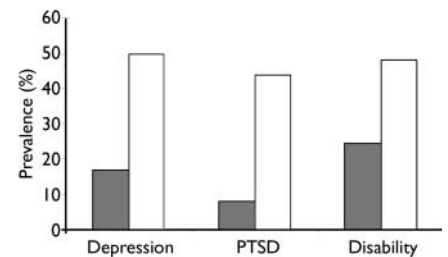
proportion of the variance for each dependent variable, although more so for PTSD and depression than for MCS disability. Intraclass correlation coefficients show the level of family clustering for each dependent variable, with the family variance partition coefficient indicating that nearly 30% of the symptom measures and 20% of the disability measures were accounted for by family clustering. Calculation of standardised regression weights ( $\beta$ ) allowed for direct comparison of the magnitude of the effect of each predictor variable. After including the effects of age, gender, previous trauma exposure, family composition and length of residency, time in detention and temporary protection status made an equal and substantial contribution to psychiatric morbidity and disability.

A subsidiary analysis showed that those who had no family in Australia (a proxy

measure for family isolation) were at greater risk for depression and PTSD than those living in families of three or more persons. Families consisting of two available members fell into an intermediate risk category ( $F_{2,238} = 3.82$ ,  $P < 0.05$  for depression and  $F_{2,237} = 4.09$ ,  $P < 0.05$  for PTSD).

## DISCUSSION

Developed Western countries have implemented increasingly stringent policies to deter those seeking asylum (Silove *et al*, 2000). Australia has adopted particularly restrictive policies, including the detention of people seeking asylum but arriving without entry visas and, more recently, limiting those found to be refugees to temporary protection visas only. European countries and North America are considering the



**Fig. 1** Prevalence of depression, post-traumatic stress disorder (PTSD) and mental health-related disability in permanent ( $n=102$ ) and temporary ( $n=139$ ) residents.

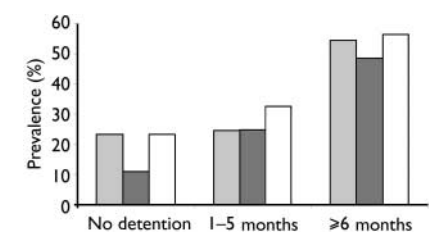
■, Permanent residents; □, temporary residents.

adoption of similar policies (Crisp, 2003). It is timely, therefore, to consider the impact of such policies on the mental health of refugees.

The present study suggests that both prolonged detention and temporary protection contribute substantially to the risk of ongoing depression, PTSD and mental health-related disability in refugees. The independent influence of these two risk factors remained robust after controlling for other variables previously identified as risk factors (de Jong *et al*, 2001), including female gender, greater age, extent of past traumas, length of residency and family separation.

## Limitations of the study design

Before interpreting the results in greater detail, limitations of the study design require consideration. A population-wide probabilistic sampling method was not feasible because of the minority status and dispersal of the target group. It is possible that community members with the most severe mental disturbances were more likely to respond, although previous research suggests that greater community



**Fig. 2** Prevalence of depression, post-traumatic stress disorder (PTSD) and mental health-related disability in those not detained ( $n=91$ ), those detained for 1–5 months ( $n=57$ ) and those detained for ≥ 6 months ( $n=93$ ).

■, Depression; ■, PTSD; □, disability.



**Table 5** Traumatic stress symptoms experienced in previous week related to past detention

Traumatic stress symptom	Individuals reporting experience, n (%) <sup>1</sup>	
	0- to 5-month detainees (n=57)	≥ 6-month detainees (n=93)
Feeling extremely sad and hopeless when thinking about detention	15 (26)	69 (74)***
Sudden and upsetting memories of time in detention	14 (25)	68 (73)***
Images of the threatening or humiliating events in detention	10 (18)	58 (62)***
Avoiding talking about detention because causes distress	10 (18)	54 (58)***
Sudden attacks of anger over small things since being in detention	8 (14)	53 (57)***
Becoming nervy, sweaty, shaky and/or having rapid heart beat when thinking about detention	10 (18)	52 (56)***
Nightmares about things that happened in detention	6 (11)	38 (41)***
Avoiding interaction with other people since being in detention	3 (5)	26 (28)**
Feeling numb since being in detention	4 (7)	24 (26)**

\*\*P < 0.01; \*\*\*P < 0.001.

1. Mean number of symptoms causing distress (s.d.) for those detained for 0–5 months=1.4 (2.3) v. 4.8 (3.0) for those detained ≥ 6 months, P < 0.0001 (range=0–9).

contact is a protective factor against emotional distress (Steel *et al*, 1999). It is also noteworthy that the rates of PTSD and depression fall within the limits of prevalence data in other groups of asylum seekers and refugees studied in Australia and other resettlement countries (Hobbs *et al*, 2002; Silove *et al*, 2002). Furthermore, Goodman (1961) argued that snowball sampling, although not ideal for establishing absolute prevalence rates, is appropriate for comparing subgroups within samples, the key focus of the present study.

Transcultural measurement issues must be considered as a potential source of error. We applied a standard translation and masked back-translation method, reconciling minor semantic and linguistic differences with the assistance of two Arabic-speaking mental health professionals. The relationships yielded between key variables provided indirect support for the validity of the measures. For example, we replicated the well-established dose–response relationship between trauma exposure and mental disorder, a finding that is robust across

the majority of published studies (e.g. Hauff & Vaglum, 1994; Mollica *et al*, 1998).

Recall bias is always a potential confounding variable, particularly when reporting past traumatic events. An important recent study (Herlihy *et al*, 2002) has shown that refugees remain consistent in reporting major traumatic events such as those we recorded, with more variability occurring in recall of minor historical details. The higher levels of trauma reported by holders of temporary protection visas who have arrived more recently in Australia was consistent with a history of escalating violence and persecution directed at the Mandaean group in Iraq in the lead-up to the 2003 war.

At the same time it may be argued that holders of temporary visas are prone to exaggerating their plight, a potentially self-serving bias motivated by the hope of advancing future claims for extension of their visas. Although this cannot be ruled out entirely, the anonymous nature of the study meant that there was no direct personal gain resulting from participation. Holders of temporary visas were not currently applying for extensions visa, so that further documentation at the time of the study was not directly useful. Furthermore, the criteria used by immigration officials in judging the need for further protection focus principally on risk of future persecution, not on past history or ongoing living difficulties, the subject of our study.

Although the shared cultural, historical and political experiences of the permanent

**Table 6** Multilevel regression models assessing predictors of post-traumatic stress disorder (PTSD), depression and mental health-related disability (from the Mental Component Score (MCS) of the SF-12) (n=241)<sup>1</sup>

	PTSD symptoms	Depressive symptoms	MCS disability score
Intraclass correlation for families	0.42	0.40	0.27
Family variance partition component, % <sup>2</sup>	30.1	29.0	19.5
R <sup>2</sup> estimate	0.44	0.45	0.29
Model significance	$\chi^2=131.4$ , d.f.=6, P < 0.001	$\chi^2=135.4$ , d.f.=5, P < 0.001	$\chi^2=96.48$ , d.f.=5, P < 0.001
Level one predictor variables, B ( $\beta$ ) <sup>3</sup>			
Gender	0.34 (0.23)	0.43 (0.27)	2.93 (0.14)
Age	0.014 (0.26)	0.013 (0.24)	0.16 (0.21)
Previous trauma	0.041 (0.18)	0.036 (0.14)	0.77 (0.23)
Months in detention	0.023 (0.14)	0.032 (0.18)	0.36 (0.16)
Residency status	0.33 (0.22)	0.50 (0.31)	3.84 (0.18)
Length of residency in Australia	−0.003 (−0.15)	NS	NS

NS, not significant, B, regression weight;  $\beta$ , standardised regression weight; SF-12, Medical Outcomes Study – Short Form.

1. All reported parameters are significant at 0.05 or greater unless marked NS.

2. Percentage of explained variance due to family.

3. Standardised regression weight used to determine the relative effect of each parameter.

and temporary visa holders strengthened the comparisons, the focus on a single refugee population potentially limits the generalisability of the findings, making it important for future studies to replicate our results in other cultural groups.

### Longer-term mental health impact of detention

Our study suggests that prolonged detention exerts a long-term impact on the psychological well-being of refugees. Refugees recording adverse conditions in detention centres also reported persistent sadness, hopelessness, intrusive memories, attacks of anger and physiological reactivity, which were related to the length of detention. Previous studies examining the effects of detention concur with our findings (Steel & Silove, 2001; Sultan & O'Sullivan, 2001; Keller *et al.*, 2003), although our study is the first to show that such mental health effects persist for a prolonged period after detention. These effects were independent of other established predictors of psychiatric morbidity in refugees, such as past exposure to trauma and recency of arrival (Steel *et al.*, 2002). The present findings provide systematic support for the observations of successive commissions of inquiry undertaken in Australia (Human Rights and Equal Opportunity Commission, 1998; Office of the High Commissioner for Human Rights, 2002) that have raised repeated concerns about the mental health effects of prolonged detention.

### Temporary protection

The present study is the first to investigate the specific effects of temporary protection on the mental health of refugees. In the past refugee settlement countries such as Australia have offered permanent residency to refugees according to the 1951 United Nations Convention and Australia continues to administer a separate programme of permanent resettlement for a quota of refugees screened in other countries. Permanent protection means that previously traumatised refugees are given certainty about their futures, allowing them to plan their lives with a substantial level of security. A recent epidemiological study undertaken among Vietnamese refugees in Australia (Steel *et al.*, 2002) has provided evidence that permanent residency is associated with improvement in the mental status of previously traumatised individuals.

### CLINICAL IMPLICATIONS

- To prevent further psychological harm to previously traumatised refugees, it is necessary to minimise detention and ensure that conditions in detention are humane.
- Certainty of residency to persons recognised as refugees seems to be essential for recovery from trauma-related psychiatric symptoms.
- Families and social groups that are not kept together or reunited may be at greater risk of prolonged mental disorder.

### LIMITATIONS

- The study used non-random sampling.
- The study was limited to one refugee group, the Mandaeans.
- There was potential for exaggeration bias in reporting.

ZACHARY STEEL, MPsych, DERRICK SILOVE, MD, ROBERT BROOKS, PhD, School of Psychiatry, University of New South Wales and Centre for Population Mental Health Research, Sydney South West Area Health Service; SHAKEH MOMARTIN, PhD, Service for the Treatment and Rehabilitation of Torture and Trauma Survivors, New South Wales; BUSHRA ALZUHAIIRI, PhD, INA SUSLIJIK, BA, School of Psychiatry, University of New South Wales and Centre for Population Mental Health Research, Sydney South West Area Health Service, Sydney, Australia

Correspondence: Zachary Steel, Psychiatry Research and Teaching Unit, Level 4, Health Services Building, Liverpool Hospital, Liverpool, NSW 2170, Australia. Tel: +61 2 9828 4902; fax: +61 2 9828 4910; e-mail: z.steel@unsw.edu.au

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In contrast, the present study adds to evidence (Silove *et al.*, 2000) that insecure residency and associated fears of repatriation contribute to the persistence of psychiatric symptoms and associated disabilities in refugees. Temporary protection status was strongly associated with daily stresses related to financial and work difficulties, and problems in accessing healthcare, language classes and other educational opportunities. Countries considering the adoption of temporary protection regimes therefore need to consider how such provisions may undermine the sense of security that seems to be essential for refugees to recover from trauma-related psychiatric symptoms.

### Family factors

The multilevel modelling analysis indicated that there was a concentration of mental distress within family groups. Risk of mental illness was lower in larger family units, whereas those refugees who were isolated

from other family members were more likely to experience severe psychiatric symptoms. Temporary protection status in Australia specifically denies refugees the right to family reunion and prevents holders from re-entering Australia if they travel overseas, making direct contact with families in other countries effectively impossible. The common consequence is prolonged separations that compound the disruptive effects on families of past persecution (Silove *et al.*, 2000). Our findings therefore highlight the need to consider carefully the impact of refugee policy changes on family unity and the potential risk that enforced family separations may result in prolonged mental disorder in isolated refugees.

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## REFERENCES

- Bontempo, R. (1993)** Translation fidelity of psychological scales: an item response theory analysis of an individualism–collectivism scale. *Journal of Cross-Cultural Psychology*, **24**, 1449–1466.
- Buckley, J. J. (2002)** *The Mandaean: Ancient Texts and Modern People*. London: Oxford University Press.
- Crisp, J. (2003)** *A New Asylum Paradigm? Globalization, Migration and the Uncertain Future of the International Refugee Regime*. Geneva: United Nations High Commission for Refugees.
- De Jong, J. T. V., Komproe, I. H., Ommeren, M. V., et al (2001)** Lifetime events and posttraumatic stress disorder in 4 post conflict settings. *JAMA*, **286**, 555–562.
- Gandek, B., Ware, J. E., Aaronson, N. K., et al (1998)** Cross-validation of item selection and scoring for the SF-12 Health Survey in nine countries: results from the IQOLA Project. International Quality of Life Assessment. *Journal of Clinical Epidemiology*, **51**, 1171–1178.
- Goldstein, H. (1995)** *Multilevel Statistical Models* (2nd edn). London: Edward Arnold.
- Goodman, L. (1961)** Snowball sampling. *Annals of Mathematical Statistics*, **32**, 245–268.
- Hauff, E. & Vaglum, P. (1994)** Chronic posttraumatic stress disorder in Vietnamese refugees. A prospective community study of prevalence, course, psychopathology, and stressors. *Journal of Nervous and Mental Disease*, **182**, 85–90.
- Herlihy, J., Scragg, P. & Turner, S. (2002)** Discrepancies in autobiographical memories – implications for the assessment of asylum seekers: repeated interviews study. *BMJ*, **324**, 324–327.
- Hobbs, M., Moor, C., Wansbrough, T., et al (2002)** The health status of asylum seekers screened by Auckland Public Health in 1999 and 2000. *New Zealand Medical Journal*, **115**, U152.
- Human Rights and Equal Opportunity Commission (1998)** *Those Who've Come Across the Seas: Detention of Unauthorised Arrivals*. Canberra: Commonwealth of Australia.
- Keller, A. S., Rosenfeld, B., Trinh-Shevrin, C., et al (2003)** Mental health of detained asylum seekers. *Lancet*, **362**, 1721–1723.
- Kendal, E. (2004)** *Iraq: The Persecution of Mandaeans*. Garden Grove, CA: ASSIST News Service. [http://www.mandaeanworld.com/mhr\\_iraq\\_2004\\_1.html](http://www.mandaeanworld.com/mhr_iraq_2004_1.html)
- Milne, S. & Travis, A. (2003)** Safe Havens Plan to Slash Asylum Numbers. *The Guardian*, 5 February. [http://www.guardian.co.uk/uk\\_news/story/0,3604,889014,00.html](http://www.guardian.co.uk/uk_news/story/0,3604,889014,00.html)
- Mollica, R. F., Wyshak, G., de Marneffe, D., et al (1987)** Indochinese versions of the Hopkins Symptom Checklist–25: a screening instrument for the psychiatric care of refugees. *American Journal of Psychiatry*, **144**, 497–500.
- Mollica, R. F., Caspi-Yavin, Y., Bollini, P., et al (1992)** The Harvard Trauma Questionnaire. Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *Journal of Nervous and Mental Disease*, **180**, 111–116.
- Mollica, R. F., McInnes, K., Poole, C., et al (1998)** Dose–effect relationships of trauma to symptoms of depression and post-traumatic stress disorder among Cambodian survivors of mass violence. *British Journal of Psychiatry*, **173**, 482–488.
- Mollica, R. F., Sarajlic, N., Chernoff, M., et al (2001)** Longitudinal study of psychiatric symptoms, disability, mortality, and emigration among Bosnian refugees. *JAMA*, **285**, 546–554.
- Office of the High Commissioner for Human Rights (2002)** *Report of Justice P. N. Bhagwati, Regional Advisor for Asia and the Pacific of the United Nations High Commissioner for Human Rights. Mission to Australia 24 May to 2 June 2002. Human Rights and Immigration Detention in Australia*. Geneva: UNHCR. [http://www.unhcr.ch/hurricane.nsf/0/bc4c8230f96684c8c125bc070032f5f1/\\$FILE/Report.doc](http://www.unhcr.ch/hurricane.nsf/0/bc4c8230f96684c8c125bc070032f5f1/$FILE/Report.doc)
- Patrick, J. H., Pruchno, R. A. & Rose, M. S. (1998)** Recruiting research participants: a comparison of the costs and effectiveness of five recruitment strategies. *Gerontologist*, **38**, 295–303.
- Rasbash, J., Browne, W., Goldstein, H., et al (2001)** *A User's Guide to MLwiN Centre for Multilevel Modelling*. London: Institute of Education, University of London.
- Sanderson, K. & Andrews, G. (2003)** Prevalence and severity of mental health-related disability and relationship to diagnosis. *Psychiatric Services*, **53**, 80–86.
- Silove, D., Steel, Z., McGorry, P., et al (1998)** Psychiatric symptoms and living difficulties in Tamil asylum seekers: comparisons with refugees and immigrants. *Acta Psychiatrica Scandinavica*, **97**, 175–181.
- Silove, D., Steel, Z. & Watters, C. (2000)** Policies of deterrence and the mental health of asylum seekers in Western countries. *JAMA*, **284**, 604–611.
- Silove, D., Steel, Z., McGorry, P., et al (2002)** The impact of torture on post-traumatic stress symptoms in war-affected Tamil refugees and immigrants. *Comprehensive Psychiatry*, **43**, 49–55.
- Spring, M., Westermeyer, J., Halcon, L., et al (2003)** Sampling in difficult to access refugee and immigrant communities. *Journal of Nervous and Mental Disease*, **191**, 813–819.
- Steel, Z. & Silove, D. M. (2001)** The mental health implications of detaining asylum seekers. *Medical Journal of Australia*, **175**, 596–599.
- Steel, Z., Silove, D., Bird, K., et al (1999)** Pathways from war trauma to posttraumatic stress symptoms among Tamil asylum seekers, refugees, and immigrants. *Journal of Traumatic Stress*, **12**, 421–435.
- Steel, Z., Silove, D., Phan, T., et al (2002)** The long-term impact of trauma on the mental health of Vietnamese refugees resettled in Australia. *Lancet*, **360**, 156–162.
- Steel, Z., Momartin, S., Bateman, C., et al (2004)** Psychiatric status of asylum seeker families held for a protracted period in a remote detention centre in Australia. *Australian and New Zealand Journal of Public Health*, **28**, 23–32.
- Sultan, A. & O'Sullivan, K. (2001)** Psychological disturbances in asylum seekers held in long term detention: a participant–observer account. *Medical Journal of Australia*, **175**, 593–596.
- United Nations High Commissioner for Refugees (2000)** *The State of the World's Refugees: A Humanitarian Agenda*. Geneva: United Nations High Commission for Refugees.