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[van Wyk, Sierra & Schweitzer, Robert](#) (2013) A systematic review of naturalistic interventions in refugee populations. *Journal of Immigrant and Minority Health*..

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<http://dx.doi.org/10.1007/s10903-013-9835-3>

A Systematic Review of Naturalistic Interventions in Refugee Populations

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Journal of Immigrant and Minority Health. May. DOI 10.1007/s10903-013-9835-3

Abstract

Naturalistic interventions with refugee populations examine outcomes following mental health interventions in existing refugee service organisations. The current review aimed to examine outcomes of naturalistic interventions and quality of the naturalistic intervention literature in refugee populations with the view to highlight the strengths and limitations of naturalistic intervention studies. Database search was conducted using the search terms 'refugee', 'asylum seeker', 'treatment', 'therapy' and 'intervention. No date limitations were applied, but searches were limited to articles written in English. Seven studies were identified that assessed the outcome of naturalistic interventions on adult refugees or asylum seekers in a country of resettlement using quantitative outcome measures. Results showed significant variation in the outcomes of naturalistic intervention studies, with a trend towards showing decreased symptomatology at post-intervention. However, conclusions are limited by methodological problems of the studies reviewed, particularly poor documentation of intervention methods and lack of control in the design of naturalistic intervention studies. Further examination of outcomes following naturalistic interventions is needed with studies which focus on increasing the rigour of the outcome assessment process.

A Systematic Review of Naturalistic Interventions in Refugee Populations

This review will examine outcomes following naturalistic mental health interventions with people from refugee backgrounds. Naturalistic interventions refer to interventions which are provided to people from refugee backgrounds within treatment settings as opposed to controlled clinical trials. Naturalistic interventions evidence greater ecological validity compared to controlled trials or single case studies.

Given the nature of the refugee experience, many people from refugee backgrounds have been subjected to a range of traumatic experiences and have suffered significant losses. The impact of these stressors on individual wellbeing is further confounded by difficulties in the post-migration period, where early expectations of resettlement are often not met and difficulties in acculturation arise. The combination of pre-migration trauma and loss, and post-migration difficulties impact the mental health and wellbeing of people from refugee backgrounds (Porter & Haslam, 2005), and necessitate specialised mental health interventions to address these issues. There is evidence to suggest that mental health interventions are effective in minimising the distress experienced by refugee people (Crumlish & O'Rourke, 2010; Nickerson, Bryant, Silove & Steel, 2011; Palic & Elklit, 2010; Murray, Davidson & Schweitzer, 2010). These studies primarily focus on examining outcomes following standardised interventions, whereas the majority of interventions occur in naturalistic settings. Naturalistic interventions assess outcomes following treatment at an existing treatment service. Intervention in naturalistic settings commonly includes psychological therapy in addition to medical and social assistance. The current review aims to examine outcomes of naturalistic interventions and the quality of naturalistic interventions described in the literature with people from refugee backgrounds.

Mental Health of Refugees

People from refugee backgrounds experience significantly poorer mental health and well-being than the general population (Fazel, Wheeler, & Danesh, 2005). While there is some contention about the cross cultural validity of diagnosis (Aroche & Coello, 2004), post-traumatic stress disorder (PTSD) and depression are found to predominate in refugee populations (Fazel et al., 2005). In a large systematic review it was estimated that for refugees, rates of PTSD across all cultural groups are around 9%, major depression around 5%, and generalised anxiety disorder around 4% (Fazel, et al., 2005). Mental health problems negatively impact refugee adjustment and wellbeing: PTSD and depression limit improvements in quality of life (Silove, Manicavasagar, Coello, & Aroche, 2005) and PTSD is related to increased physical disability (Silove, et al., 2007). Further, despite improvement over time, people from refugee backgrounds remain vulnerable to mental health problems and are likely to experience recurrence of symptoms when under stress (Silove et al., 2007; Vaage et al., 2010).

Mental Health Interventions with Refugees

Overall, results of the current reviews suggests that therapeutic interventions can have a positive effect on mental health and quality of life for people from refugee backgrounds (Crumlish & O'Rourke, 2010; Nickerson et al., 2011; Murray et al., 2010; Palic & Elklit, 2010). Cognitive-behavioural therapy (CBT) is the most studied treatment in the refugee intervention research (Murray et al., 2010; Palic & Elklit, 2010), and along with narrative exposure therapy (NET), is the most supported treatment modality in therapeutic interventions with people from refugee backgrounds (Crumlish & O'Rourke, 2010; Palic & Elklit, 2010). While Murray and colleagues (2010) found that a range of interventions, including psychological therapy, community based interventions, and pharmacotherapy, showed moderate to large effect sizes for reducing PTSD symptoms and anxiety in people from refugee backgrounds.

Reviews of refugee mental health interventions reflect the tendency of research in refugee populations to focus on trauma and PTSD. Nickerson and colleagues (2011) found that trauma-focused therapy was effective in decreasing PTSD symptoms, and further often lead to decreases in other negative symptoms (e.g., depression, anxiety or symptoms of physical illness). Nickerson and colleagues also concluded that there was limited evidence for multimodal treatments in treating PTSD, that is, interventions using multidisciplinary treatment commonly within a naturalistic setting.

Intervention studies can be divided between formal controlled interventions and naturalistic interventions. Previous reviews of mental health interventions with refugee populations have largely focused on treatment outcomes following controlled interventions (e.g., Crumlish & O'Rourke, 2010; Nicholl & Thompson, 2004; Nickerson et al., 2011; Palic & Elklit, 2010; Murray et al., 2010). While Nickerson and colleagues (2011) provided some examination of multimodal interventions in a review of PTSD treatment in refugee populations, there has been limited systematic examination of such interventions in their own right. The current review aims to examine the outcomes and quality of naturalistic interventions in treating the mental health problems of people from refugee backgrounds, with the view to highlight the strengths and limitations of naturalistic intervention studies.

Method

Literature search was completed using online databases (PsycInfo, Pubmed, Embase), and by reviewing the reference list of articles identified. To minimise publication bias, searches were also conducted using internet search engines (Google, Google Scholar). Search terms included: refugee, asylum seeker, treatment, therapy, and intervention. To ensure an exhaustive search of the literature no date limitations were applied, however the search was limited to articles written in English. This review is based on papers a) providing mental health interventions in a naturalistic setting, b) to adult refugees or asylum seekers, c) in a

country of resettlement, d) with more than 10 participants, and e) using quantitative outcome measures of mental health. The criteria aimed to ensure consistency between the studies and to increase the robustness of the systematic review. Naturalistic interventions were defined as those assessing mental health outcomes in an existing treatment service. Treatment in these settings often encompasses other forms of assistance including medical and social assistance. Information extracted from the studies included: participant information (age, nationality, diagnosis), treatment method, duration, quantitative symptom outcome variables, and results. To ensure validity in the review process, this review was conducted in accordance with the guidelines set out in the PRISMA statement (Preferred Reporting Items for Systematic reviews and Meta-Analyses) (Moher et al., 2009).

Results

A total of seven naturalistic intervention studies were identified that met the inclusion criteria, a summary of these studies can be seen in Table 1. Two studies identified through the search were included as one study because they described different follow-up periods of the same intervention (Carlsson, Mortensen & Kastrup, 2005; Carlsson, Olsen, Kastrup & Mortensen, 2010). Figure 1 details the process of selecting studies to be included in the review. Given the aims of the present review, studies were excluded that were conducted with families and children families and children, lacked quantitative outcome measures, had less than 10 participants, were implemented in a non-naturalistic setting or controlled design or were not conducted in a country of resettlement.

Figure 1 goes about here

Naturalistic Intervention Studies

Table 1 goes about here

The impact of treatment on victims of torture resettled in Germany was assessed by Birck (2001). Participants comprised asylum seekers who were patients of a specialist torture treatment centre in Berlin. Symptoms of PTSD, anxiety, depression were measured at pre-intervention, post-intervention and at two years follow-up. Participants received a combination of interventions from the specialist treatment service which included weekly psychotherapy, medical care and social support. Participants attended psychotherapy weekly for an average of 23.5 months (SD = 9.7, range = 7-40 months). Therapy was primarily psychodynamic with 83% of participants receiving psychodynamic psychotherapy; the remaining participants received systemic therapy (7%), Gestalt therapy (7%) and cognitive behavioural therapy (3%). Due to significant missing data at the post-intervention phase comparisons were made between symptom scores at pre-intervention and two years follow up. Results showed no change in symptom scores for PTSD, anxiety and depression. Participants reported a significant decrease in PTSD intrusion symptoms over the course of the intervention, but this comparison was problematic due to substantial missing data from the pre-intervention assessment. Birck attributed this lack of symptom change to the complexity of the participants presentation and the difficulty in using outcome measures in a refugee population. Qualitative interview data with participants identified clinically significant improvement in symptoms despite the absence of statistically significant improvement.

Brune and colleagues (2002) examined the impact of therapy on refugees engaged with multiple specialist refugee treatment services in Sweden and Germany (one therapist for 92% of participants). All participants were defined as 'traumatised' refugees and had received a minimum of three months therapy. Participants received an average of 21.5

months (range 3 months – 6 years) of therapy in addition to medical and social assistance.

The description of therapy offered was limited but was described as patient centred psychotherapies which included crisis intervention, short term therapy and long term therapy.

Depression symptoms were measured at pre- and post- intervention, and were shown to significantly decrease. A measure of clinician rated overall symptom severity and current functioning (Clinical Global Impressions Scale) showed significant improvements in functioning over time.

Carlsson and colleagues (2005) similarly assessed psychiatric symptoms following specialised treatment for torture victims resettled in Denmark. Participants received a combination of psychotherapy, medical help, physiotherapy and social assistance; 71% of participants received multidisciplinary intervention and 75% of participants attended sessions with a psychiatrist or psychotherapist. At post-intervention participants had attended a mean of 35 ($SD = 23.13$) sessions at the specialist treatment service (the purpose of these sessions cannot be determined based on the available data). The data consisted of symptoms of PTSD, depression and anxiety, and quality of life at pre-intervention and post-intervention 9 months after the start of treatment. Results showed no significant change in any of the outcome measures at post-intervention. A 23 month follow-up was conducted with 45 of the original participants (Carlsson, et al., 2010). At this time, participants had engaged in an average of 14.3 months of treatment and attended an average of 61 ($SD = 43.19$) sessions, of which 26 ($SD = 18.28$) had been with a psychiatrist or psychotherapist. That is, for some participants treatment had extended beyond the scope of the first study. At follow-up, participants had experienced significant decreases in symptoms of PTSD, depression and anxiety compared to pre-intervention. In addition participant's quality of life had improved in the environmental domain of the WHOQOL-Bref (World Health Organisation Quality of Life).

A study conducted in a specialised Indochinese Psychiatric Clinic examined the impact of a multidisciplinary intervention on psychological symptoms in Cambodian, Hmong/Laotian and Vietnamese refugees resettled in the United States (Mollica et al., 1990). Half of the participants had a diagnosis of PTSD (DSM-III) and all had experienced trauma. The number of traumas experienced varied due to cultural group and gender. Participants from Cambodian background had the highest rates of trauma, were more likely to have a PTSD diagnosis at pre-intervention, and had significantly higher rates of depression than participants from Hmong/Laotian or Vietnamese refugee background. Participants received six months of psychological, medical and social interventions at a specialist Indochinese Psychiatric clinic (Mollica & Lavelle, 1988). Depression and anxiety were measured at pre- and post-intervention. Comparison of pre- and post- intervention showed that participant improvement was dependent on cultural background: while Cambodian participants experienced a reduction in depression symptoms, Hmong/Laotian and Vietnamese participants did not. None of the participants experienced a significant change in anxiety.

Palic and Elklit (2009) examined psychiatric symptoms in refugees who received treatment at a specialist refugee trauma service in Denmark. The participants all had an ICD-10 diagnosis of post-traumatic stress disorder, adjustment disorder or enduring personality change after a catastrophic experience. Participants received 16-18 weeks of weekly psychological therapy, weekly physiotherapy and pharmacotherapy (all participants' prescribed anti-depressant or anti-psychotic medication). The psychological interventions were described as predominantly cognitive behaviour therapy with a focus on exposure within the context of Judith Herman's trauma treatment principles of establishing safety, remembrance and mourning, and reconnection with ordinary life (Herman, 1997). Psychiatric symptoms were assessed at three time points: pre-intervention, post-intervention, and six month follow-up. Scores on the Harvard Trauma Questionnaire showed that even though

there was no overall decrease in symptoms between pre- and post-intervention, at six months follow-up there had been a significant decrease in PTSD symptoms. However, this effect was not consistent across all PTSD symptom areas: results showed significant decreases in re-experiencing symptoms and avoidance-numbing symptoms, there were no changes in symptoms of hypervigilance. Symptoms of depression, anxiety and somatisation were significantly decreased at post-intervention. Although the effect had decreased by six months follow-up, symptoms remained significantly lower than pre-intervention.

Renner (2009) provided psychotherapy to refugees and asylum seekers who had resettled in Austria. The service organisation was a non-government organisation which offered free services to refugees and asylum seekers for trauma and resettlement issues. The theoretical framework for therapeutic interventions differed between the seven therapists engaged in the study; however therapy was described as being underpinned by a philosophy of promoting client's resources and avoidance of re-traumatisation due to early or inappropriate exposure to traumatic material. Therapies included psychodramatic treatment (45% group treatment, 27% individual therapy), behaviour therapy (16%), and existential analysis (11%). Therapy duration averaged 18 months ($SD = 14.0$) but therapy was ongoing for some participants. Psychological symptoms were measured at pre-intervention and post-intervention, or at the time of study data collection for participants in continuing therapy. Results showed a decrease in clinical symptoms on the German version of the Brief Symptom Inventory. Due to the presence of validity related issues using the Brief Symptom Inventory in refugee populations the authors were unable to examine symptom domains on this measure.

A recent study has examined the outcomes of interventions in refugees who had resettled in Australia (van Wyk, Schweitzer, Brough, Vromans & Murray, 2012). Participants were refugees from Burma who had been resettled in Australia.. Participants engaged in an

average of 11.34 ($SD = 6.94$, range 0-33) service contacts which consisted of therapeutic interventions, assessment, social assistance and referrals where appropriate. Participants received psychological interventions consisting of psychoeducation, structured-skills based therapy, supportive therapy, expressive therapy, couples and family therapy, CBT and exposure therapy. Given the nature of the organisation, not all participants engaged in the intervention. Symptoms of PTSD, anxiety, depression and somatisation were measured at pre-intervention and post-intervention when participants finished engagement with the service, time to post-intervention was uncontrolled ($M = 6.9$ months, $SD = 3.0$, range = 1-14) and impacted by missing data (post-intervention data collection date only recorded for 60% of participants). Results showed significant decreases in PTSD, anxiety, depression and somatisation. However, hierarchical regressions showed that outcomes for psychological symptoms were unrelated to the intervention received, and were primarily predicted by pre-intervention symptoms.

Limitations of studies

The studies reviewed here provide a significant contribution to our knowledge on mental health interventions in naturalistic settings. However, a number of limitations were identified in the literature reviewed (limitations summarised in Table 1). Although some of the limitations are inherent within the design of a naturalistic intervention they limit the capacity to determine the extent to which the outcomes are related to the treatment received. None of the studies included in the review used a control group. In several studies the symptom assessment was limited by a lack of blind assessment and the involvement of therapists in the assessment process (Brune et al., 2002; Palic & Elklit, 2009; Renner, 2009). Further limitations in assessment included use of measures which lack appropriate validation with refugee populations (Brune et al., 2002; Renner, 2009). Most of the studies reviewed did not provide sufficient description of the psychological services received by participants

(Birck, 2001; Brune et al., 2002; Carlsson et al., 2005; Mollica et al., 1990; Renner, 2009).

Finally, there were significant limitations in some of the studies reviewed where the assessment of results was impacted by incomplete or missing data (Birck, 2001; van Wyk et al., 2012).

Discussion

The results of the current review of interventions within naturalistic settings suggest that refugee clients engaged in naturalistic interventions experience decreases in symptoms of psychopathology over time and that these changes are maintained or increase over the long term. These decreases in symptoms were demonstrated with moderate to large effect sizes. Interventions in the reviewed studies reflected a range of psychological theories and commonly incorporated multidisciplinary interventions, such as medical and social assistance. Comparison between the seven naturalistic interventions identified is complicated by large variations in services offered between agencies, and the limited information available in some of the studies regarding therapeutic interventions. The results of the current review suggest that refugees engaged with specialist refugee treatment agencies experience high rates of trauma, torture and psychological distress. The majority of participants in the studies reviewed met diagnostic criteria for PTSD, enduring personality change after a catastrophic event or another major affective disorder (Brune et al., 2002; Mollica et al., 1990; Palic & Elklit, 2009), or scored within the clinical range on symptom measures such as the Harvard Trauma Questionnaire (HTQ) or Hopkins Symptom Checklist (HSCL) (Birck, 2001; Carlsson et al., 2005; van Wyk et al., 2012).

Treatment effects were not consistent across all studies, with some studies showing no change in symptoms (Birck, 2001), no change in symptoms until follow-up (Carlsson et al., 2005, 2010) or symptom change in only one participant group (Mollica et al., 1990). Given the large variation in the methodology of the studies reviewed it is difficult to determine

those factors that underlie the differences between studies which had positive outcomes and those that did not. This is made more complex by the fact that people seeking refuge come from different cultural groups, come from different countries, speak different languages, and their experiences differ vastly. Many have been in refugee camps for extended periods and have very different resettlement experiences. While, overall the results suggest the potential value of naturalistic interventions in decreasing symptoms of psychopathology in refugee people, due to methodological limitations and significant variation amongst participants groups it cannot be concluded that this change can be attributed to the interventions received by participants and the mechanisms underlying symptom change cannot be identified in the current review.

Although Carlsson and colleagues (2005) did not find significant decreases in participant symptoms, many of these participants had not yet completed therapy. There is potential that treatment was ongoing in the study by Carlsson and colleagues (2005) due to lack of symptom change in these participants. The impact of ongoing treatment potentially explains the positive outcomes that were identified by Carlsson and colleagues (2010) at follow-up where participants had on average an extra 25 sessions of intervention at the specialist treatment service. Further, as argued by Carlsson and colleagues (2005) the complexity of the trauma and the extended time since traumatisation is suggestive of chronicity in participant symptomatology, with positive outcomes only occurring after longer term engagement in therapy.

Participants in the studies reviewed often reported clinically significant change in the absence of statistically significant change (e.g., Birck, 2002; Carlsson et al., 2005). This suggests that the measures used in the studies reviewed are not sufficiently sensitive to detect change which participants find meaningful. This may represent statistical difficulties in high symptomatology and limited score variability (e.g., Birck, 2002; Palic & Elklit, 2009), but

may also pertain to arguments about culturally relevant symptomatology. The literature reviewed tended to focus on westernised concepts of PTSD and gave preference to symptoms of depression and anxiety. Although these symptoms as assessed by the HTQ and HSCL do have relevance in refugee populations (Hollifield et al., 2002), such measures are unlikely to capture all of the culturally relevant symptoms and concerns of individuals from multiple cultural backgrounds. The addition of somatisation measurement by van Wyk and colleagues (2012) addresses these issues in part, but no study reviewed focused on assessment of culturally relevant symptoms. Focus on issues such as functional impairment rather than symptomatology and diagnosis may have greater cross cultural validity and have the capacity to increase assessment of wellbeing in future naturalistic studies.

Given the impact of culture there is potential that the multiple backgrounds of the refugee participants included in the studies reviewed impacted the results. For example, even when controlling for PTSD diagnoses, and the experience of trauma and torture, Mollica and colleagues (1990) found significant differences in psychological distress and treatment outcomes dependent on cultural background. While Cambodian refugees improved, Hmong refugees showed a non-significant worsening of symptoms within the same treatment program. Similarly, in a controlled intervention study Schulz and colleagues (2006) found differences in outcome for Bosnian and Afghan refugees: Afghan refugees appeared to respond to treatment better, that is, pre-intervention they showed greater posttraumatic symptomatology than Bosnian refugees, but endorsed fewer symptoms post-treatment. Differences between cultural groups reflect a multitude of factors including differences in cultural expectations of psychological symptoms, willingness to engage in therapeutic interventions, and heterogeneity of the refugee experience. Mollica and colleagues (1990) argued that differences between cultural groups in their own study could potentially be

attributed to cultural differences in illness attributions, understanding of the therapeutic process and high rates of substance abuse in one of the cultural groups.

Differential outcomes highlight the problems associated with treating people from refugee backgrounds as a homogenous group. Further, reviews of therapeutic efficacy have shown that interventions are more effective when conducted with culturally homogenous groups (Griner & Smith, 2006; Murray et al., 2010) because of a greater capacity to target culturally relevant issues (Griner & Smith, 2006). The relationship between culture and outcomes is further problematic given that all of the reviewed studies (with the exception of van Wyk et al., 2012) provided interventions to culturally heterogenous groups and with the exception of Mollica and colleagues (1990), did not assess cultural differences in outcomes. The use of heterogeneous cultural groups does, however, increase the generalisability of the data within the naturalistic interventions reviewed and it could be argued that client heterogeneity is valid in this body of research because multicultural flexibility is a realistic expectation within refugee treatment organisations.

Recommendations for future research

Advancing knowledge in service provision in response to refugee mental health concerns requires improved quality and rigour in research examining outcomes following naturalistic intervention. There were a number of methodological issues identified in the studies reviewed that impaired our capacity to draw conclusions regarding the efficacy of such interventions. While it is recognised that achieving high levels of control are not the primary intention within a practice-based evidence paradigm (Barkham & Mellor-Clark, 2003), it is possible to increase the rigour of naturalistic interventions so as to improve confidence in their outcomes. The use of comparison groups would assist naturalistic intervention studies to provide meaningful data regarding factors related to participant outcomes. This is, however, often not possible in the context of studies conducted within

existing refugee health services where it is not ethically or reasonably possible to withhold treatment from some individuals and the aim is to test the outcomes of ‘treatment as usual’, which is commonly used as the comparison group in standardised, controlled interventions. One of the studies included here attempted to address these issues by implementing statistical controls to isolate the impact of treatment on outcomes (van Wyk et al., 2012). Although not comparable to a control group, statistical methods have some capacity to isolate treatment effects and may be utilised in further research.

Further, the results of the current review highlight the need for greater rigour in reporting the interventions received by participants within the service organisation. The studies reviewed often provided limited description of the services offered to participants. A more comprehensive description of services would allow for greater clarity in comparisons within the naturalistic intervention literature and between naturalistic interventions and the results of standardised, controlled trials. Not only does this description need to include a more comprehensive description of the types of treatments offered, but also provide more information regarding the length and frequency of intervention sessions. This is particularly important given that within controlled intervention literature there is evidence that therapeutic dose affects outcomes (Drozdek & Bolwerk, 2010a; Schulz et al., 2006).

Finally, greater length of follow-up will allow for further assessment of symptoms over time. This is particularly important given the impact of extended periods of time on symptom change in refugee clients in the studies reported in the current review. It is necessary to utilise long term follow-ups that allow these changes to develop and to examine the reactivation of symptoms that has been noted to occur in highly traumatised refugee populations (e.g., Birck, 2001; Silove et al., 2007; Vaage et al., 2010).

Limitations of the review

Although a rigorous approach to literature search was conducted, it is possible that relevant articles may not have been sourced and the presence of publication bias increases the likelihood that a positive effect will be found. Further, the current review only searched and reviewed articles written in English.

There is an argument that research should be interpreted in terms of the strength of the evidence. Randomised controlled trials are generally regarded as the gold standard, with naturalistic intervention studies regarded as being less persuasive (e.g., National Health and Medical Research Council, 2009). Based upon this approach, naturalistic studies are to be evaluated with caution. However, the value of this review lies in its capacity to highlight the strengths and limitations of previous intervention studies, and to make recommendations to improve the implementation of research within the naturalistic setting.

Conclusions

Refugee service organisations provide therapeutic services to highly traumatised and distressed people. The results of the current review suggest that people from refugee backgrounds who engaged with the specialist treatment organisations reviewed experienced decreased symptoms of psychopathology, with this change improving or being maintained over time. Treatment within the naturalistic setting appears to be psychotherapeutically integrative and prioritise a multidisciplinary approach to meet the multiple needs of traumatised refugee clients. The participants in the studies reviewed here had all experienced significant rates of trauma and torture, had high rates of psychiatric diagnosis and experienced significant symptoms of psychopathology. Given the specialised nature of the treatment services in which these interventions were conducted it is likely that this group of participants reflect a unique level of symptom severity and complexity. Although the mechanisms by which symptom change occurs cannot be identified based on the current

research, the people involved attending these specialist treatment services overall experience decreased distress over time.

References

References marked with an asterisk indicate studies included in the systematic review.

- Aroche, J., & Coello, M. J. (2004). Ethnocultural considerations in the treatment of refugees and asylum seekers. In J. P. Wilson & B. Drozdek (Eds), *Broken spirits: the treatment of traumatised asylum seekers, refugees, war and torture victims*. NY: Hove.
- Barkham, M., & Mellor-Clark, J. (2003). Bridging evidence-based practice and practice-based evidence: Developing a rigorous and relevant knowledge for the psychological therapies. *Clinical Psychology and Psychotherapy*, *10*, 319-327. doi: 10.1002/cpp.379
- *Birck, A. (2001). Torture victims after psychotherapy: A two-year follow-up. *Torture*, *11*(2), 55-58. Retrieved from <http://www.irct.org/library/torture-journal.aspx>
- *Brune, M., Haasen, C., Krausz, M., Yagdirn, O., Bustos, E., & Eisenman, D. (2002). Belief systems as coping factors for traumatised refugees: A pilot study. *European Psychiatry*, *17*, 451-458. Retrieved from <http://www.elsevier.com/wps/find/journaldescription.advertisers/505814/description#description>
- *Carlsson, J. M., Mortensen, E. L., & Kastrup, M. (2005). A follow-up study of mental health and health-related quality of life in torture refugees in multidisciplinary treatment. *The Journal of Nervous and Mental Disease*, *193*(10), 651-657. doi: 10.1097/01.nmd.0000180739.79884.10
- *Carlsson, J. M., Olsen, D. R., Kastrup, M., & Mortensen, E. L. (2010). Late mental health changes in tortured refugees in multidisciplinary treatment. *The Journal of Nervous and Mental Disease*, *198*(11), 824-828. doi: 10.1097/NMD.0bo13e3181f97be3
- Crumlish, N., & O'Rourke, K. (2010). A systematic review of treatments for post-traumatic stress disorder among refugees and asylum-seekers. *The Journal of Nervous and Mental Disease*, *198*(4), 237-251. doi: 10.1097/NMD.0b013e3181d61258

- Drozdek, B. (1997). Follow-up study of concentration camp survivors from Bosnia-Herzegovina: Three years later. *The Journal of Nervous and Mental Disease*, 185(11). Retrieved from <http://journals.lww.com/jonmd/pages/default.aspx>
- Fazel, M., Wheeler, J., & Danesh, J. (2005). Prevalence of serious mental disorder in 7000 refugees resettled in western countries: A systematic review. *The Lancet*, 365, 1309-1314. doi: 10.1016/S0140-6736(05)61027-6
- Griner, D., & Smith, T. B. (2006). Culturally adapted mental health interventions: A meta-analytic review. *Psychotherapy: Theory, Research, Practice, Training*, 43(4), 531-548. doi: 10.1037/0033-3204.43.4.531
- Herman, J. (1997). *Trauma and recovery*. NY: Basic Books.
- Hollifield, M., Warner, T., Lian, N., Krakow, B., Jenkins, J. H., Kesler, J., et al. (2002). Measuring trauma and health status in refugees: A critical review. *Journal of the American Medical Association*, 288(5), 611-621. doi: 1.1001/jama.288.5.611
- Kruse, J., Joksimovic, L., Cavka, M., Woller, W., & Schmitz, N. (2009). Effects of trauma-focused psychotherapy upon war refugees. *Journal of Traumatic Stress*, 22(6), 585-592. doi: 10.1002/jts.20477
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G. & The PRISMA Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *British Medical Journal*, 339, b2535. doi: 10.1136/bmj.b2535
- Mollica, R. F., & Lavelle, J. (1988). Southeast Asian Refugees. In L. Comas-Diaz & E. E. H. Griffith (Eds.), *Clinical guidelines in cross-cultural mental health*. New York: Wiley.
- *Mollica, R. F., Wyshak, G., Lavelle, J., Truong, T., Tor, S., & Yang, T. (1990). Assessing symptom change in Southeast Asian refugee survivors of mass violence and torture. *The American Journal of Psychiatry*, 147(1), 83-88. Retrieved from <http://ajp.psychiatryonline.org/>

- Murray, K. E., Davidson, G. R., & Schweitzer, R. (2010). Review of refugee mental health interventions following resettlement: Best practices and recommendations. *American Journal of Orthopsychiatry*, 80(4), 576-585. doi: 10.1111/j.1939-0025.2010.01062.x
- National Health and Medical Research Council. (2009). NHMRC levels of evidence and grades for recommendations for developers of guidelines. Retrieved from http://www.nhmrc.gov.au/_files_nhmrc/file/guidelines/evidence_statement_form.pdf
- Nicholl, C., & Thompson, A. (2004). The psychological treatment of Post Traumatic Stress Disorder (PTSD) in adult refugees: A review of the current state of psychological therapies. *Journal of Mental Health*, 13(4), 351-362. doi: 10.1080/09638230410001729807
- Nickerson, A., Bryant, R. A., Silove, D., & Steel, Z. (2011). A critical review of psychological treatments for posttraumatic stress disorder. *Clinical Psychology Review*, 31, 399-417. doi: 10.1016/j.cpr.2010.10.004
- *Palic, S., & Elklit, A. (2009). An explorative outcome study of CBT-based multidisciplinary treatment in a diverse group of refugees from a Danish treatment centre for rehabilitation of traumatised refugees. *Torture*, 19(3), 248-270. Retrieved from <http://www.irct.org/library/torture-journal.aspx>
- Palic, S., & Elklit, A. (2010). Psychosocial treatment of posttraumatic stress disorder in adult refugees: A systematic review of the literature of prospective treatment outcome studies and a critique. *Journal of Affective Disorders*. doi: 10.1016/j.jad.2010.07.005
- Porter, M., & Haslam, N. (2005). Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: A meta-analysis. *Journal of the American Medical Association*, 294(5), 602-612. doi: 10.1001/jama.294.5.602

*Renner, W. (2009). The effectiveness of psychotherapy with refugees and asylum seekers:

Preliminary results from an Austrian study. *Journal of Immigrant and Minority Health, 11*, 41-45. doi: 10.1007/s10903-007-9095-1

Schweitzer, R., Brough, M. K., Vromans, L., & Asic-Kobe, M. (2011). Mental health of newly arrived Burmese refugees in Australia: Contributions of pre-migration and post-migration experience. *Australian and New Zealand Journal of Psychiatry, 45*(4), 299-307. doi: 10.3109/00048674.2010.543412

Silove, D., Steel, Z., Bauman, A., Chey, T., & McFarlane, A. (2007). Trauma, PTSD and the longer-term mental health burden amongst Vietnamese refugees: A comparison with the Australian-born population. *Social Psychiatry and Psychiatric Epidemiology, 42*, 467-476. doi: 10.1007/s00127-007-0194

Silove, D., Manicavasagar, V., Coello, M., & Aroche, J. (2005). PTSD, depression and acculturation. *Intervention, 3*(1), 46-50. Retrieved from <http://www.interventionjournal.com/index2.html>

Somasundaram, D. (2010). Using cultural relaxation methods in post-trauma care among refugees in Australia. *International Journal of Culture and Mental Health, 3*(1), 16-24. doi: 10.1080/17542860903411615

Snodgrass, L.L., Yamamoto, J., Frederick, C. Ton-That, N., Foy, D.W., Chan, L., et al. (1993). Vietnamese refugees with PTSD symptomatology: Intervention via a coping skills model. *Journal of Traumatic Stress, 6*(4), 569-575. doi: 10.1007/BF00974325

Vaage, A. B., Thomsen, P. T., Silove, D., Wentzel-Larsen, T., Van Ta, T., & Hauff, E. (2010). Long-term mental health of Vietnamese refugees in the aftermath of trauma. *The British Journal of Psychiatry, 196*, 122-125. doi: 10.1192/bjp.bp.108.059139

*Van Wyk, S., Schweitzer, R., Brough, M., Vromanns, L., & Murray, K. (2012). A longitudinal study of mental health in refugees from Burma: The impact of

therapeutic interventions. *Australian and New Zealand Journal of Psychiatry*.

Advance online publication. doi: 10.1177/0004867412443059

UNHCR. (2007). Convention and protocol relating to the status of refugees: United Nations High Commissioner for Refugees.