Protective and risk factors of psychosocial wellbeing related to the reintegration of former child soldiers in Nepal

Ramesh Prasad Adhikari, Brandon A. Kohrt, Nagendra Prasad Luitel, Nawaraj Upadhaya, Dristy Gurung & Mark J.D. Jordans

This paper explores protective and risk factors for mental health and psychosocial wellbeing among 300 child solders (verified minors) through a longitudinal study. Both the Hopkins Symptoms Check list and the Posttraumatic Stress Disorder Checklist (civilian version) were used to measure mental health problems, while the Generalised Estimating Equation was used to identify both the protective and risk factors over time. Anxiety and posttraumatic stress disorder decreased over a nine month period, while depression prevalence did not change. Social support, inter-caste marriage, low caste and residence in far western geographic regions were all associated with greater mental health problems. Rehabilitation packages were not associated with improved mental health, and former child solders enrolled in vocational programmes had greater posttraumatic stress disorder symptom severity. The findings suggest that strong social support is needed, as rehabilitation packages alone may be insufficient to improve mental health.

Keywords: child soldier, mental health, reintegration, risk and protective factors

Introduction

Former child soldiers commonly suffer from mental health problems as a result of exposure to traumatic events during conflict periods (Derluyn et al., 2004). However, previous research (Kohrt et al., 2008) has demonstrated that the increased risk for mental health problems is not only due to traumatic events but that difficulties of reintegration also contribute. A study conducted in Uganda showed that former child soldiers, in comparison to their non recruited counterparts, faced signicantly more *"emotional"* and fewer *"social and relational"* challenges (Vindevogel et al., 2013).

Post conflict factors, such as educational and economic deprivation, stigmatisation and discrimination have all been associated with adverse outcomes (Blattman & Annan, 2010). Additionally, studies suggest economic and educational programmes support mental health and psychosocial functioning. For example, returning to, and staying in, school was associated with higher levels of confidence and pro social behaviours among youth in a Sierra Leone study (Betancourt et al., 2010b).

Post conflict, reintegration of child soldiers is a priority because failed reintegration is a threat to economic recovery, social integration, and peace (Annan et al., 2011). Successful reintegration is dependent on the protective and risk factors present in the children's immediate environment, and within the broader national context.

As child solders face different reintegration problems than adults, this paper focuses only on former child soldiers, and presents the protective and risk factors for psychosocial wellbeing during the reintegration process of former child soldiers.

Protective factors

Potential protective factors for successful reintegration include: community sensitisation, cleansing rituals, transitional periods

in interim care centres, religious support, psychosocial counselling, family mediation and skills and vocational training (Kryger & Lindgren, 2011; Williamson, 2006). In Sierra Leone, higher levels of family acceptance were linked to lower average levels of emotional distress among participants (Betancourt et al., 2010a). Supportive parenting was associated with better psychosocial adjustment in one study of Ugandan child soldiers (Derluyn et al., 2004). Higher levels of social support were associated with increased adaptive and pro social behaviours and attitudes (Betancourt et al., 2010b).

Former child soldiers need time and support to move away from their past role and take a new role, identifying themselves as a member of a local community (Watson, 2009). Generally, it is assumed that the initial external support, in the form of humanitarian assistance, helps to improve the relationship with family and community (Kingma, 2000). Subsequent, long term assistance from different stakeholders such as government, nongovernmental organisations (NGOs) and international NGOs (INGOs) can also contribute to successful reintegration. Attending school and training programmes are considered critical in assisting war affected youth attain a sense of normalcy and safety in their everyday lives while also increasing future employment opportunities (Betancourt & Khan, 2008).

Background and context: verified minors and late recruits

Nepal suffered violent conflict from 1996 to 2006 that claimed the lives of more than 13,000 people, while several thousands were subjected to torture, intimidation, extortion, and abduction (Russell, 2012). The comprehensive peace agreement, signed between the government of Nepal and the Communist Party of Nepal (Maoist) in November 2006, paved the way for the United Nations' involvement in Nepal's peace process. The verification of 32,250 Maoists combatants registered for the verification process was conducted by the UN team who collected personal military information and identity cards. Only 23, 610 combatants attended the individual interview session with the UN team. After assessing these combatants on criteria such as date of enrolment and date of birth only 19,602 were verified as Maoist Army and the rest (4,008) were verified as disqualified (UNDP, 2011). Among those disqualified, 2,973 were minors (those born after 25 May 1988) and 1,035 were "*late recruits*" (those who joined the Maoist army after the ceasefire of 25 May 2006). As a result of this process, the term "*verified minors and late recruits*" (VMLR) was coined to refer to this specific group of combatants.

In principle, VMLR combatants should have been discharged from the cantonment (camps that process former warring factions) immediately after the verification process, but this did not happen. Finally, after three years, the agreement was signed, on 16 December 2009. At the beginning of the formal discharge process in 2010, there were only 3,000 VMLR remaining in the cantonment. Over one thousand (1,008) VMLR had already left as a result of the long duration between verification and release (Colekessian, 2009). The government of Nepal, in collaboration with UN agencies and NGOs, provided a rehabilitation package for VMLR to support their transition back to civilian life. The rehabilitation package consisted of four options: 1) formal educational support which consisted of formal school enrolment and informal bridging courses; 2) financing a micro enterprise, including training in business oriented, short courses and post training support to start up the business; 3) vocational skill training to produce skilled manpower, such as welders, electricians, carpenters, etc.; and 4) training and formal education in the health sector for work in paramedics, such

as health assistant, nurse and lab technicians (UNDP, 2011).

In addition, psychosocial support was offered to the VMLR group in each career centre, through regional psychosocial counsellors. The regional counsellors also provided information on different rehabilitation packages and helped the combatants to make informed decision on the choices offered to them. As of July 2012, about 2,231 out of 4,008 combatants enrolled in the rehabilitation package and 73% of them completed the package (UNIRP, 2012). The remaining 1,764 combatants did not enrol in the rehabilitation package due to dissatisfaction with the content of the package and/or stigma associated with the label of being disqualified (Colekessian, 2009).

Methods

The baseline study was conducted April–May 2011, which covered 24 out of 75 districts of Nepal. This number of districts increased considerably in the follow up study conducted during January–March 2012, when 34 districts were represented, due to mobility of the VMLR group.

Study participants and sampling

As there were no up-to-date contact details available for the discharged VMLR group, a purposive sampling method was used to approach VMLR who had either participated in one of the rehabilitation packages, or were available in the district. At the baseline, 400 were interviewed, nearly 10% of the total 4,008 VMLR. At the follow-up 310, or 77.5% of the initial interview group, were included.

Out of 400 VMLR who participated in baseline, 316 were former child soldiers. Of the baseline participants, 250 (79%) were included in the follow-up study as some participants refused to participate further ($N = 6$), some were out of contact due to migration ($N = 59$) and one was in prison.

Instruments

Psychosocial and mental health problems were assessed using standardised structured questionnaires, i.e. the *Hopkins Symptoms Checklist* (HSCL-25) and *Post Traumatic Stress Disorder (PTSD) Checklist-civilian version* (PCL-C), which have been validated in Nepal "*against locally corresponding syndrome and Composite International Diagnostic Interviews*" (Thapa & Hauff, 2005). The validated cut off score points, in order to determine the increased level of depression, anxiety, and PTSD, were score $\geq$ 17.5 for anxiety (sensitivity = 0.77 and specificity = 0.58), score $\geq$ 24.5 for depression (sensitivity = 0.87 0.87 and specificity = 0.60) in HSCL-25; and score $\geq$ 50 for PTSD (sensitivity = 0.80 and specificity = 0.80) in PCL-C.

Additionally, a locally developed 11 item questionnaire was used for socio-economic reintegration. Of these, eight items were related to social integration, such as: community acceptance; participation in social activities; trust; ignorance; support; care and support by family members, etc. Three items were related to economic reintegration, such as: standard of living compared to friends; perceptions of future and opportunities; and confidence of potential economic improvement. Personal and household information of each participant were recorded through a questionnaire that included age, sex, education, region, caste/ethnicity, marital and family status and source of income.

Procedure

Three teams, each consisting of one male and one female researcher, were employed for the baseline and follow-up data collection. The field researchers received two weeks of extensive training on study design, interviewing skills and research ethics.

The eligible study participants were identified through the regional psychosocial counsellors and representatives of partner organisations of UN Interagency Rehabilitation Programme (UNIRP). Written

consent for the study was obtained from all research participants. In the case of children below age 18, consent was obtained from both parents and children. Provision for the referral of participants for psychosocial support was set up in case of need. Strict adherence to confidentiality was maintained.

Data analysis

The data was entered into the *Statistical Package for Social Science* (SPSS) 16.0 version. A multivariate analysis with *Generalized Estimating Equation* (GEE) was conducted to identify the supportive and risk factors of psychosocial wellbeing over time for those participating in baseline and follow-up study. Through the GEE model, beta-coefficient, confidence interval and p value for independent variables, such as age, gender, marital status, inter-caste marriage, geographical location, caste/ethnicity, rehabilitation package, level of education, schooling status, social support and economic opportunities were calculated. Possible "*interaction effects*" between certain independent variables were also included in the model. Social and economic support was measured using the composite score, which included eight different questions related to social support and three questions related to economic status based on their distribution, correlation and the eigen values to reduce variance in the correlation matrix. Because composite scores were not normally distributed, standardised Z-scores were generated to use in the GEE models. Reintegration support was measured based on the involvement status in the rehabilitation packages.

Results

Table 1 presents the background information of the respondents in baseline. Of the 316 respondents in baseline, 202 (63.9%) were males. The age of the respondents ranged from 16 to 23 years, with a mean age of 20.6 years (standard deviation 1.4), with four

Table 1. Background information (baseline)

Background characteristics	N	%
Gender		
Male	202	63.9
Female	114	36.1
Age		
Less than 20	61	19.3
20–22	215	68.0
23 24	40	12.7
Caste/ ethnicity		
Brahmin/Chhetri	129	40.8
Janajati	142	44.9
Dalit	45	14.2
Marital Status		
Unmarried	161	50.9
Married	155	49.1
Level of Education		
Below primary (illiterate/ informally literate)	8	2.5
Primary	45	14.2
Secondary	167	52.8
School leaving certificate	52	16.5
Intermediate level	44	13.9
School enrolment		
Yes	119	37.7
No	197	62.3
Rehabilitation support		
None	85	26.9
Education	68	21.5
Training and formal education in health sector	36	11.4
Vocational training	45	14.2
Micro enterprises	82	25.9
Development region		
Far western region	84	26.6
Mid western region	56)	17.7
Western region	20	6.3
Central region	88	27.8
Eastern region	68	21.5
N	316	100.0

below the 18 years of age. All participants were child soldiers when they joined the Maoist party and continued until the peace accord in November 2006. The majority of the respondents belonged to Janajati (44.9%) group and had secondary level education (52.8%). In the Nepali caste system, Brahmin/Chhetri are considered higher castes, Janajatis refer to indigenous ethnic groups, while Dalits refer to a group of people traditionally regarded as untouchable (Panday et al., 2006).

Prevalence of anxiety, depression and PTSD over study period

Table 2 presents the prevalence rate of anxiety, depression, and PTSD in the sample. At baseline, 106 (33.5%) had prevalence of anxiety above the cut off point, which changed to 61 (24.4%) at follow-up. The prevalence of depression declined from 110 (34.8%) at baseline to 75 (30%) in the follow-up; and likewise, the prevalence of PTSD changed from 75 (30%) at baseline to 18 (7.2%) out of 250 in the follow-up. These changes from baseline to follow-up were significant for anxiety and PTSD, but not for depression (see Table 3).

Protective and risk factors of psychosocial wellbeing for former child soldiers

The GEE model (Table 3) shows poor social support and inter-caste marriage as the strongest risk factors for psychosocial wellbeing during the study period. There was significant association of psychosocial wellbeing with development regions; respondents from eastern regions showed the lowest levels of psychosocial and mental health problems, and respondents from far western regions showed the highest levels of problems. Dalits reported the highest levels of depression and anxiety symptoms, whereas Janajati showed the best outcomes. Education, economic status, reintegration support and gender had no significant impact on their psychosocial wellbeing.

Protective and risk factors for anxiety: Anxiety levels of the respondents reduced significantly from baseline to follow-up. Social factor and inter-caste marriage was the strongest risk factors for high anxiety levels. The other contributing factors of higher levels of anxiety were caste/ethnicity (belonging to Janajati community was a supportive factor for anxiety while being a Dalit was a risk factor), marital status (being married was found to be a risk factor), and age (higher age was a supportive factor).

Protective and risk factors for depression: Depression scores did not change over time. The scores were best predicted by social factors, caste/ethnicity, and region of the country during the study period. Better social reception and belonging to Janjati caste/ethnicity were found to be protective factors, while living in the far western region was associated with significantly higher depression, compared to those in living the east. There was no significant improvement from baseline to follow-up for depression when controlling for factors in the model.

Protective and risk factors for PTSD: For PTSD, time was a significant factor for reduction of symptom levels from baseline to follow-up. Social support (lower social support was associated with higher PTSD symptoms), inter-caste marriage (inter-caste marriage associated with higher PTSD symptoms), and school enrolment (associated with lower PTSD symptoms) were the strongest predicting factors of PTSD. Other factors included development, region of the country (living in the far west was associated with higher PTSD compared to living in the east) and caste/ethnicity (Janajati had lower PTSD symptoms than Dalits).

Interaction effects: Time was evaluated (baseline vs. follow-up) by gender (female vs. male). For depression, there was a gender by time interaction effect, with boys showing greater depression reduction as a group, from T1 to T2 [beta = −2.28, 95%

Table 2. Prevalence of psychosocial problems over time

Background characteristics	Anxiety		Depression		PTSD		Number	
Gender	2011	2012	2011	2012	2011	2012	2011	2012
Male	68 (33.7)	36 (24.2)	76 (37.6)	45 (30.2)	34 (16.8)	10 (6.7)	202	149
Female	38 (33.0)	25 (24.8)	34 (29.8)	30 (29.7)	9 (7.9)	8 (7.9)	114	101
Age								
Below age 20	28 (45.9)	6 (21.4)	25 (41.0)	8 (28.6)	11 (18.0)	3 (10.7)	61	28
20–22	65 (30.2)	45 (27.8)	71 (33.0)	52 (32.1)	26 (12.1)	12 (7.4)	215	162
23–24	13 (32.5)	10 (16.7)	14 (35.0)	15 (25.0)	6 (15.0)	3 (5.0)	40	60
Caste/ethnicity								
Brahmin/Chhetri	53 (41.1)	10 (28.8)	56 (43.4)	37 (33.3)	22 (17.1)	8 (7.2)	129	111
Janajati	35 (24.6)	19 (18.8)	35 (24.6)	26 (25.7)	13 (9.2)	6 (5.9)	142	101
Dalit	18 (40.0)	32 (26.3)	19 (42.2)	12 (31.6)	8 (17.8)	4 (10.5)	45	38
Marital status								
Unmarried	44 (27.3)	18 (18.0)	52 (32.3)	26 (26.0)	20 (12.4)	5 (5.0)	161	100
Married	62 (40.0)	43 (28.7)	58 (37.4)	49 (32.7)	23 (14.8)	13 (8.7)	155	150
Level of education								
Below primary	4 (50.0)	3 (42.9)	4 (50.0)	3 (42.9)	1 (12.5)	2 (28.6)	8	7
Primary	17 (37.8)	13 (32.5)	16 (35.6)	17 (42.5)	7 (15.6)	5 (12.5)	45	40
Secondary	53 (31.7)	22 (19.1)	53 (31.7)	32 (27.8)	19 (11.4)	5 (4.3)	167	115
School leaving certificate	21 (40.4)	14 (23.7)	23 (44.2)	16 (27.1)	10 (19.2)	4 (6.8)	52	59
Intermediate level	11 (25.00)	9 (31.0)	14 (31.8)	7 (24.1)	6 (13.6)	2 (6.9)	44	29
Region								
Far western region	42 (50.0)	26 (40.0)	51 (48.8)	33 (50.8)	21 (25.0)	7 (10.8)	84	65
Mid western region	21 (37.5)	17 (38.6)	23 (41.1)	17 (38.6)	10 (17.90	6 (13.6)	56	44
Western region	3 (15.00)	3 (18.8)	5 (25.0)	5 (31.2)	1 (5.0)	0.0	20	16
Central region	22 (25.0)	10 (13.9)	24 (27.3)	15 (20.8)	7 (8.0)	3 (4.2)	88	72
Eastern region	18 (26.5)	5 (9.4)	17 (25.0)	5 (9.4)	4 (5.9)	2 (3.8)	68	53
Rehabilitation support								
None	37 (43.5)	14 (36.8)	35 (41.2)	18 (47.4)	18 (21.2)	4 (10.5)	85	38
Education	19 (27.9)	11 (18.3)	23 (33.8)	13 (21.7)	4 (5.9)	3 (5.0)	68	60
Training and formal education in health sector	11 (30.6)	8 (23.5)	13 (36.1)	9 (26.5)	8 (22.2)	2 (5.9)	36	34
Vocational training	14 (31.1)	13 (31.7)	18 (40.0)	14 (34.1)	7 (15.6)	5 (12.2)	45	41
Micro enterprises	25 (30.5)	15 (19.5)	21 (25.6)	21 (27.3)	6 (7.3)	4 (5.2)	82	77
Total	106 (33.5)	61 (24.4)	110 (34.8)	75 (30.0)	43 (13.6)	18 (7.2)	316	250

CI (confidence interval) −4.30, −0.27, p = 0.03]. For anxiety, there was no gender by time interaction effect. For PTSD, there was a gender by time effect. PTSD symptoms decreased from baseline to follow-up, but only among boys (beta = −3.95, 95%

Table 3 Protective/supportive and risk factors of anxiety, depression and PTSD

	Anxiety			Depression			PTSD		
Variable	Beta-coefficient	95% CI	p-value	Beta-coefficient	95% CI	p-value	Beta-coefficient	95% CI	p-value
Time (baseline *vs.* follow-up)	−0.76	−1.49–0.04	0.04	−0.40	−1.51–0.71	0.48	−2.47	−4.37–0.57	0.01
Gender (male vs. female)	0.58	−0.57–1.71	0.32	0.30	−1.37–1.98	0.72	1.64	−0.73–4.02	0.17
Marital status (married vs. unmarried)	1.69	0.64–2.75	0.00	1.00	−0.68–2.69	0.24	2.13	−0.24–4.50	0.08
Inter-caste marriage (no vs. yes)	1.71	0.12–3.23	0.03	2.22	−0.21–4.65	0.07	4.10	0.98–7.22	0.01
Schooling status (currently not in schooling Vs. currently at school)	−0.87	−2.33–0.58	0.24	−0.64	−2.85–1.57	0.57	−4.03	−7.29–0.78	0.01
Ages	−0.40	−0.74–0.05	0.02	−0.47	−0.99–0.04	0.07	−0.42	−1.15–1.21	0.26
Social support	−0.51	−0.64–0.39	0.00	−0.97	−1.17–0.77	0.00	−1.48	−1.75–1.21	0.00
Economic opportunities	0.09	−0.10–0.29	0.34	0.04	−0.25–0.33	0.80	0.15	−0.27–0.56	0.49
Caste/ethnicity									
Bahmin/Chhetri	−0.64	−2.30–1.02	0.45	−1.43	−3.78–0.92	0.23	−2.59	−6.0–0.82	0.14
Janajati	−1.66	−3.25–0.08	0.04	−2.58	−4.91–0.25	0.03	−3.32	−6.72–0.09	0.06
Dalit [Ref.]									
Educational level									
Intermediate level	−2.42	−6.73–1.89	0.27	−3.20	−9.13–2.73	0.29	−4.84	−16.30–6.61	0.41
School leaving certificate (SLC)	−1.12	−5.27–3.03	0.60	−2.34	−7.94–3.25	0.41	−2.90	−14.16–8.36	0.61

(*continued overleaf*)

Table 3. (Continued)

	Anxiety			Depression			PTSD		
Variable	Beta-coefficient	95% CI	p-value	Beta-coefficient	95% CI	p-value	Beta-coefficient	95% CI	p-value
Secondary	−2.77	−6.59−1.05	0.15	−4.32	−9.43−0.80	0.10	−6.38	−17.20−4.44	0.25
Primary	−1.33	−5.21−2.54	0.50	−1.92	−7.18−3.33	0.47	−3.34	−14.37−7.69	0.55
Below primary									
Region									
Far western region	1.53	−0.27−3.32	0.09	4.04	1.34−6.75	0.00	4.09	0.62−7.57	0.02
Mid western region	1.42	−0.66−3.50	0.18	1.98	−0.87−4.83	0.17	−0.18	−4.10−3.74	0.93
Western region	0.73	−1.23−2.70	0.46	3.19	−0.03−6.41	0.05	−0.57	−4.28−3.14	0.76
Central region	0.21	−1.10−1.53	0.75	0.66	−1.07−2.40	0.45	0.43	−2.29−3.14	0.76
Eastern region									
Rehabilitation support									
Micro enterprises	−0.61	−2.28−1.07	0.48	−0.14	−2.49−2.21	0.90	−0.33	−3.38−2.72	0.83
Vocational skill training	0.28	−1.64−2.20	0.78	1.92	−0.82−4.65	0.17	4.24	0.55−7.92	0.02
Training and formal education in health sector	−1.61	−4.56−1.34	0.28	0.30	−3.83−4.44	0.89	0.38	−6.16−5.40	0.90
Education	0.41	−3.08−2.26	0.76	1.21	−2.63−5.06	0.54	−2.68	8.09−2.74	0.33
None									

CI = Confidence interval.

CI −7.62, −0.28, p = 0.04). When this interaction is included, it was found that PTSD worsened for girls as a group, from T1 to T2.

Gender impacts: Gender was evaluated (female vs. male) by type of reintegration package (school, health programme, vocational skills training, micro-enterprise and none). For depression, there was one significant gender by package interaction effect: boys using the health package was associated with greater depression symptoms (beta = 8.44, 95% CI 2.67, 14.21, p = 0.004). For anxiety, there was no gender by package interaction effect. For PTSD, an interaction effect was found for males using the health package (beta = 11.31, 95% CI 2.72, 19.91, p = 0.01) and males using vocational training (beta = 9.31, 95% CI 0.30, 18.31, p = 0.04), when compared to females and education as the reference groups.

Discussion

Among former child soldiers released from cantonments in Nepal, changes in depression, anxiety, and PTSD symptoms were evaluated over a nine month period. It was found that depression symptoms did not change during this period. In contrast, both anxiety and PTSD symptoms reduced significantly during the period. Demographic factors were associated with differences in mental health outcomes among former child soldiers. Being Dalit was associated with worse mental health outcomes, while being Janajati was associated with both better psychosocial and mental health outcomes. This may be due to social hierarchy and cultural norms associated with different caste groups in Nepal (Panday et al., 2006). A consistent risk factor for all outcomes were the perceived lack of social support for inter-caste marriages, which is not looked at positively in Nepalese society and inter-caste couples often face social stigma, abuse from family members and rejection from the community (CESCR & HRTMCC, 2013). The study also demonstrated that former child soldiers in the far western parts of the country had significantly poorer outcomes than those in eastern regions. This may also be due to higher numbers of non participation in rehabilitation packages for former child soldiers from far western regions, lack of incoming generating opportunities and difficult living conditions.

For PTSD, participants in the vocational skills training had greater PTSD symptom severity compared to participants that did not participate in rehabilitation packages. Because rehabilitation packages were not randomised, we cannot determine whether selection factors or aspects of the rehabilitation package itself predicted these poor outcomes, as compared to participants not receiving any rehabilitation package. It could also be that participants with more PTSD symptoms were selected for this programme. When interactions were examined, the pattern of outcomes demonstrated important gender related issues. Although there was no change from T1 to T2 as a group for depression, there was a significant gender interaction with boys showing improvement in depression from T1 to T2, whereas girls showed worsening of depression during the nine months. Similarly, although the group as whole improved for PTSD symptoms from T1 to T2, this change was actually limited to boys only and girls as a group showed worsening of PTSD symptoms during the nine months. In contrast, there was no significant interaction for gender and time for anxiety.

In addition, there were significant interactions by type of rehabilitation package. The greater severity of symptoms for PTSD, based on the rehabilitation package, was only significant for boys, and it included both the vocational skills training and training and formal education on health rehabilitation package. So whereas boys in general showed improvement in PTSD, boys in these programmes did not. This may either be due to selection issues (e.g., boys selected for these programmes tended to have more

PTSD), or these packages in some manner exacerbated PTSD. Because rehabilitation packages were not randomly assigned, we cannot distinguish between these two interpretations. Interestingly, we also found a gender effect for boys receiving the training and formal education on health, with boys in this rehabilitation package showing greater depression severity. In summary, the negative association of rehabilitation packages with mental health outcomes was limited to boys. Whereas girls as a group tended to not show improvement in mental health outcomes, over nine months, regardless of the rehabilitation package type.

These findings raise questions about the benefit of the rehabilitation packages that were offered to former child soldiers to facilitate reintegration into civilian life. The current study does not demonstrate a benefit in terms of mental health outcomes, and in the case of boys there were negative findings in training and formal education on health or vocational skill training. This can be attributed to the time factor, as during follow-up research former child soldiers were not involved in any income generating activities and the benefits of training were not yet obvious. In contrast, social support was a significant and consistent predictor of mental health for all outcomes and among both boys and girls. The family and community's attitude towards those who participated in the package was positive, which indirectly contributed to a better psychosocial wellbeing for former child soldiers. This suggests that programmes and activities focusing on mobilising social support are essential for mental health outcomes.

Implications: The focus of these rehabilitation programmes operated with the assumption that former child soldiers were previously integrated back into their communities. However, some former child soldiers had join armed groups because they felt excluded from society. For those who did not join voluntarily, powerful stigma and discrimination that prevents reintegration may remain. For many adults, child soldiers are seen as threatening and morally corrupt (Boyden, 2003). It is well documented that former child soldiers struggle with community stigma upon return home (Burman & McKay, 2007; Denov & Maclure, 2007; Kohrt et al., 2010; Shakya, 2010). This is also supported by our present findings, connecting low social support with higher levels of mental health problems.

This study calls for a significant re-examining of how best to support psychosocial wellbeing and mental health of former child soldiers during the post conflict reintegration process. Social support, along with material support, may be the key issue that needs to be increasingly addressed. In addition, further rigorous research is needed to assess the impact of these rehabilitation packages of support.

Limitations: First, the non-probability sampling method used in the study means that it may not be possible to generalise findings for all former child soldiers. Second, there may have been an over representation of respondents from particular geographical areas and particular rehabilitation schemes.

Conclusions

During the process of reintegration, former child soldiers' mental health in the domains of PTSD and anxiety improved, especially for boys. However, depression symptoms did not improve. It is important to note that mental health of girls remained the same or worsened over time. Moreover, there was no direct positive impact of receiving rehabilitation support to facilitate transition to civilian life (provided by the government of Nepal, in collaboration with UN agencies and NGOs) on the psychosocial wellbeing and mental health among respondents. That said, the rehabilitation support might well be helpful for economic and educational outcomes over time, which should be the subject of further study. Mental health and psychosocial support is

especially important for girls, Dalit groups, participants residing in far western regions, and those who have had inter-caste marriage, as they have poorer mental health outcomes. Our findings suggest that improving social support is a key area to target for potential improvement of mental health and psychosocial wellbeing.

Acknowledgements

We would like to thank all the research participants for their time and support. We are grateful to Mr. Evan Rai, Child Protection Officer, UNICEF, Kathmandu for his valuable support. We are also thankful to our research staff for their support and cooperation. This study has been made possible with the financial support of UNICEF.

References

Annan, J., Blattman, C., Mazurana, D. & Carlson, K. (2011). Civil War, Reintegration, and Gender in Northern Uganda. *Journal of Conflict Resolution, 55*(6), 877-908.

Annan, J., Brier, M. & Aryemo, F. (2009). From "Rebel" to "Returnee": Daily life and reintegration for young soldiers in Northern Uganda. *Journal of Adolescent Research, 24*(6), 639-667.

Betancourt, T. S., Agnew-Blais, J., Gilman, S. E., Williams, D. R. & Ellis, B. H. (2010a). Past horrors, present struggles: The role of stigma in the association between war experiences and psychosocial adjustment among former child soldiers in Sierra Leone. *Social Science and Medicine, 70*(1), 17-26.

Betancourt, T. S., Brennan, R. T., Rubin-Smith, J., Fitzmaurice, G. M. & Gilman, S. E. (2010b). Sierra Leone's former child soldiers: a longitudinal study of risk, protective factors, and mental health. *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(6), 606-615.

Betancourt, T. S. & Khan, K. T. (2008). The mental health of children affected by armed conflict: Protective processes and pathways to resilience. *International Review of Psychiatry, 20*(3), 317-328.

Blattman, C. & Annan, J. (2010). The consequences of child soldiering. *Review of Economics and Statistics, 92*(4), 882-898.

Boothby, N. (2006). What happens when child soldiers grow up? The Mozambique case study. *Intervention, 4*(3), 244-259.

Boyden, J. (2003). The Moral Development of Child Soldiers: What Do Adults Have to Fear? *Peace and Conflict: Journal of Peace Psychology, 9*(4), 343-362.

Burman, M. E. & McKay, S. (2007). Marginalization of girl mothers during reintegration from armed groups in Sierra Leone. *International Nursing Review, 54*(4), 316-323.

Colekessian, A. (2009). Reintegrating Gender: A Gendered Analysis of the Nepali Rehabilitation Process. In: F. Partida (Ed.), *Gender, Peace and Security Series Working Paper.* Santo, Dominican Republic: United Nation International Research Training.

Committee on Economic, Social and Cultural Rights (CESCR) & Human Rights Treaty Monitoring Coordination Centre (HRTMCC) (2013). Economic, Social and Cultural Rights in Nepal: A Civil Society Parallel Report. Nepal: CESCR & HRTMCC.

Denov, M. (2010). Coping with the trauma of war: Former child soldiers in post-conflict Sierra Leone. *International Social Work, 53*(6), 791-806.

Denov, M. & Maclure, R. (2007). Turnings and epiphanies: Militarization, life histories, and the making and unmaking of two child soldiers in Sierra Leone. *Journal of Youth Studies, 10*(2), 243-261.

Derluyn, I., Broekaert, E., Schuyten, G. & de Temmerman, E. (2004). Post-traumatic stress in former Ugandan child soldiers. *Lancet, 363*(9412), 861-863.

Kingma, K. (2000). *In Sub-Saharan Africa: The Development and the Security Impacts.* Basingstoke: Macmillan Press Ltd. p. 28.

Kohrt, B. A., Jordans, M. J. D., Tol, W. A., Speckman, R. A., Maharjan, S. M., Worthman, C. M.

& Komproe, I. H. (2008). Comparison of mental health between former child soldiers and children never conscripted by armed groups in Nepal. *JAMA, 300*(6), 691-702.

Kohrt, B. A., Tol, W. A., Pettigrew, J. & Karki, R. (2010). Children and Revolution: The Mental Health and Psychosocial Wellbeing of Child Soldiers in Nepal's Maoist Army.. In: M. Singer & G. D. Hodge (Eds.), *The War Machine and Global Health* (89–116). Lanham, Maryland: Altamira Press: Rowan & Littlefield Publishers, Inc.

Kryger, L. S. & Lindgren, C. L. (2011). Fighting for a future: The potential for posttraumatic growth among youths formerly associated with armed forces in Northern Uganda. *Intervention, 9*(1), 6-20.

Panday, T. R., Chemjong, D., Mishra, S., Pokhrel, S. & Rawal, N. (2006). *Forms and Patterns of Social Discrimination in Nepal*. Nepal: United Nations Organization for Education, Science and Culture (UNESCO) Jawalakhel, Lalitpur Kathmandu.

Russell, A. (2012). Transitional Justice and the Truth Commission in Nepal 2012 *Senior Honors Projects. Paper 272.* Kingston, USA: University of Rhode Island.

Shakya, A. (2010). Experiences of children in armed conflict in Nepal. *Children and Youth Services Review, 33*(4), 557-563.

Thapa S. B. & Hauff, E. (2005). Psychological distress among displaced persons during an armed conict in Nepal. *Social Psychiatry and Psychiatric Epidemiology, 40*(8), 672– 679.

United Nation Development Programme (UNDP) (2011). A project Document titled Verified minors and late recruits are supported in their socio-economic rehabilitation through individual rehabilitation option packages. UNDP, United Nations Children's Fund (UNICEF)/United Nations Population Fund (UNFPA)/International Labour Organization (ILO)

UN Interagency Rehabilitation Programme (UNIRP) (2012). Rehabilitation update Newsletter, Oct 2012. UNIRP office, Pulchowk, Lalitpur, Nepal.

Vindevogel, S., Schryver, M. D., Broekaert, E. & Derluyn, I. (2013). Challenges Faced by Former Child Soldiers in the Aftermath of War in Uganda. *Journal of Adolescent Health, 52*, 757-764.

Watson, C. (2009). Socio-economic reintegration of ex-combatants: What role for the European Union? In C. Watson (Ed.), *Reintegration Briefing Paper 1.1*: International Alert.

Williamson, J. (2006). The disarmament, demobilization and reintegration of child soldiers: Social and psychological transformation in Sierra Leone. *Intervention, 4*(3), 185-203.

Ramesh P. Adhikari, is a psychiatrist and medical anthropologist at the Research Department, Transcultural Psychosocial Organization (TPO), Nepal
email: radhikari@tponepal.org.np
Brandon A. Kohrt, is a psychiatrist and medical anthropologist at the Department of Psychiatry and Behavioral Sciences Duke Global Health Institute, Duke University, USA
Nagendra P. Luitel, is a research manager, at the Research Department, TPO, Nepal
Nawaraj Upadhaya, is a project coordinator at the Research Department, TPO, Nepal
Dristy Gurung, is a research officer at the Research Department, TPO, Nepal
Mark J.D. Jordans, PhD, Head of Research at Research and Development, HealthNet TPO, the Netherlands and Senior Lecturer at the Centre for Global Mental Health, Institute of Psychiatry, King's College London, UK