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Lost in Translation? Cultural Adaptation of Child Mental Health Interventions in Nepal: A Systematic Review

Adele Pacini¹ · Hayley Broker² · Prithvi Shrestha³

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Abstract

This systematic review provides a synthesis of the state of the evidence relating to child and adolescent mental health interventions in Nepal, with particular emphasis on the use and impact of cultural adaptation of these interventions. The review follows the PRISMA and JBI review guidance. Nine papers met the inclusion criteria, studies were characterised by methodological weaknesses impacting on their reliability. Five of the nine studies reported statistically significant improvements, of these, all except one worked with the family and wider community alongside the child. The use of cultural adaptation was implemented in all studies, but varied in terms of the extent of the adaptation processes used. The findings from this review indicate that high quality studies are needed in this area, particularly those which consider the influence on the collectivist nature of Nepali culture on design of the intervention. Interventions need to consider cultural adaptation more closely, as well as the acceptability of the intervention to the wider community.

Keywords Nepal · Cultural adaptation · Mental health interventions

Highlights

- In a collectivist culture such as Nepal, successful interventions typically included the family and wider community alongside the child
- Cultural adaptation was implemented in all studies, but with marked variation in the extent of it. Some studies only adapted the outcome measurement tools
- The majority of the studies were of low to moderate quality, impacting on the reliability of the findings
- Future studies should look to report the implementation of cultural adaptation much more closely, alongside the acceptability of the intervention to the child's family, school and wider community.

The need for accessible and acceptable mental health interventions for young people is recognised as a health and development priority across the globe. Recent estimates put one in seven young people aged between 10–19 years

experiencing a mental disorder, accounting for 13% of the global burden of disease in this age group (WHO, 2021). For low and middle income countries (LMICs) mental illness is magnified by socio-economic factors such as poverty, education, stigma, physical ill-health and rapid social change (Patel & Kleinman, 2003). These factors are compounded by fewer trained mental health professionals, alongside access and availability of evidence based psychological interventions. However, the issue of transporting western treatments to LMICs brings with it concerns over the acceptability and appropriateness of the treatments themselves, alongside important debates over the process reinforcing western power and privilege (e.g. Rose & Kalathil, 2019, Bernal & Domenech Rodriguez, 2012). Western power and privilege broadly refers to the influence and advantages held by Western countries and individuals

✉ Adele Pacini
a.pacini@ucl.ac.uk

¹ Marie Curie Palliative Care Research Department, Division of Psychiatry, University College London, 6th Floor, Maple House, 149 Tottenham Court Road, London W1T 7NF, UK

² Gatehouse Charity, Dettigen Way, Bury St Edmunds IP33 3TU, UK

³ School of Languages and Applied Linguistics, The Open University, Walton Hall, Kents Hill, Milton Keynes MK7 6AA, UK

from those countries, typically those in Europe and North America. These considerations are further complicated by the question mark over what form culturally sensitive adaptations to interventions should take, and indeed, whether they are necessary.

On the one hand, a recent meta-analysis finds that both culturally adapted and non-adapted psychological treatments are effective in LMICs (Cuijpers et al., 2018). However, the criteria for cultural adaptation used was broad, an intervention was classified as adapted when *any* form of cultural adaptation was carried out in the study, or indeed the mention of it. The authors suggest that the finding should be interpreted with caution due to the limited amount of information provided by some studies on the adaptation methods used. Furthermore, when we consider that culture is broadly defined as ‘the multidimensional set of ascriptive group identities to which religion, language, and race (as a social construct) belong’ (Gopalkrishnan, 2018, p.2) aggregation across LMICs becomes problematic. Some LMICs will differ from western countries on language and dominant religions whilst others will not.

A review by Singla et al., (2017) is also cited as evidence for the effectiveness of un-adapted interventions. They find that common elements across interventions, such as engagement and rapport, account for a significant proportion of treatment efficacy in LMICs when delivered by a non-specialist provider (NSP). An important consideration here is that NSPs delivering the treatments were most commonly community health workers, peers or individuals recruited from the same community the participants engaged in the trial. Embedded within the same culture as participants, NSPs will plausibly have delivered the interventions in a culturally congruent way. Another issue raised by Cuijpers et al., (2018) is that the RCT comparator ‘care as usual’ in LMICs is no intervention, whilst in western countries it typically involves care from a specialist mental health team. In LMICs, including Nepal, access to mental health interventions is extremely limited, particularly in rural areas. Access to psychological therapy is hampered by a lack of trained professionals, whilst access to medication is restricted due to cost, supply chain issues and availability. Indeed, when Hall et al., (2016) completed a meta-analysis of culturally adapted and un-adapted mental health interventions in America, there was a significant benefit to using an adapted treatment model for minority ethnic groups.

From a clinical perspective, it is a common sense that psychological interventions are more acceptable and efficacious when adapted to the culture that they are delivered in. Psychotherapy is in essence a process of meaning-making, of challenging unhelpful beliefs and behaviours, and replacing them with helpful ones. Of course, the common elements of a therapy such as engagement and rapport, are essential, but they also rely on shared

meanings between therapist and patient which are culturally embedded.

To support this, a range of cultural adaptation frameworks have been proposed to guide researchers and practitioners. The ecological validity model (EVM) Bernal & Sáez-Santiago (2006) and more recently Heim & Kohrt’s (2019) and Chu & Leino (2017). These more recent models both emphasise variations of what is termed *surface* and *deep* adaptations (Resnicow et al., 1999; Lau, 2006). Surface adaptations refers to using familiar materials as well as therapist ethnicity and settings for treatment delivery to observable characteristics of the target population. By contrast, deep structure adaptations are interpretations of how members of a particular cultural group perceive the cause, course, and treatment of a particular illness, or ‘cultural concepts of distress’ (CCD). In practical terms, deep adaptations involve consideration of the cultural values which determine what personal traits are valued and how these manifest in behaviours. In addition, the magnitude and type of stressors, alongside the function of any risk behaviours. Resnicow et al., (1999) suggest that whilst surface adaptations will improve the acceptability or an intervention, deep adaptations determine the efficacy of it. Despite calls for experimental paradigms to test the utility of these frameworks, there is to date no research on whether specific adaptations improve either the acceptability or efficacy of interventions for non-western populations.

To examine these issues more closely, we take a data driven approach to the question of culture and mental health interventions for children and adolescents in one LMIC, Nepal. By looking at one LMIC we circumvent the difficulties associated with aggregating cultural adaptation across LMICs and across particular types of provider. This review aims to systematically understand the extent to which cultural adaptations are implemented in Nepali child and adolescent mental health interventions. Although the term CCD is used interchangeably with ‘deep’ adaptations in some frameworks, we use CCD to refer to Nepali conceptualisations of child and adolescent mental health, and deep adaptations to refer to intervention adaptations which take into account cultural, social, environmental or historical factors. Thus, we specifically examine what interventions have been tested, and their use of surface and deep level adaptations.

Our reason for examining child and adolescent mental health is two fold. Firstly, childhood and adolescence are a particularly important time of psychological and neurological development and this has clear implications for the promotion of mental wellness and the prevention of mental ill health. Internationally, prevalence rates of child and adolescent mental illness are 10–20%, with similar types of disorders, such as anxiety disorder, behaviour disorder and

mood disorders seen across cultures (Clausen et al., 2018). Secondly, it enables us to consider the intergenerational aspects of adaptations, this is a particularly pertinent issue where rapid development in LMICs may cause intergenerational tensions in relation to CCD, as children and adolescents become aware of western concepts of mental health and treatment.

We focus on Nepal as one of the most diverse countries in Asia in terms of languages, ethnicity and religion. This diversity is complicated by the deeply-rooted Hindu caste system and beliefs which have been predominant means of oppressing the ‘lower caste’ people such as Dalits by the ‘higher caste’ people such as Brahmins (Karki et al., 2009; Kiang et al., 2020). The majority of the people are Hindus, followed by Buddhists and other religions. Both the caste system and religious practices have influenced education, economic development and sociocultural practices which in turn shape up how children are brought up in families and educated in schools. Nepal’s economic, social, and developmental characteristics align closely with those of other LMICs, making it a representative example in discussions about the challenges and opportunities faced by countries in this category. Nepal’s young and growing population, the healthcare access and equality challenges that Nepal faces, make it a useful case example for reviewing child and adolescent mental health care.

The aim of the current review is to provide a comprehensive synthesis of the evidence relating to child and adolescent mental health interventions, and the adaptation of interventions, in Nepal.

The specific research questions are:

1. What psychosocial interventions have been carried out to treat mental health difficulties or support mental health resilience in Nepali children and adolescents, what outcomes do they report?
2. What surface and deep cultural adaptations are used?

Methods

Protocol and Registration

We conducted a systematic review and meta-analysis in accordance with PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Salmeh et al. 2020). The protocol was developed following the procedures outlined in the Joanna Briggs handbook for systematic reviews (Aromataris & Munn, 2002) and registered with PROSPERO (the international prospective register of systematic reviews; CRD42022322167).

Inclusion criteria

Population

The population was children and adolescents in Nepal (aged between 4–18 years). This age range was chosen to capture all children and adolescents attending school, providing broader insights for educational and healthcare systems specifically designed for children and adolescents.

Phenomena of Interest

The outcomes of interest were changes in mental health, wellbeing, and/or quality of life, following a psychosocial intervention. Studies will be required to report at least one of the following outcome measures:

1. Measures of mental health (e.g. depression, anxiety), typically self-report, validated questionnaire measures
2. Measures of Quality of Life, self-report, observational ratings, or behavioural markers
3. Measures of wellbeing either self-report or observational ratings

Secondary outcomes relate to changes in relationship quality (e.g. parent-child relationship quality), behavioural outcomes (e.g. prosocial behaviour), educational outcomes (e.g. school retention rates, grade increases). These are expected to be context specific, but secondary outcomes may include:

Self-report measures of relationship quality, observational ratings

Self-report measures of pro-social behaviour, observational ratings or records

Educational outcomes, dropout rates, school leaver destinations

Context

Research conducted in all educational or child orientated settings were included, for example special educational schools, ‘safe spaces’, hospital or therapy settings and street based research. Research that was carried out in the home was also included, across rural and city settings.

Types of Studies

This review considered quantitative, and mixed methods primary research, which could be published or unpublished, but had to be written in English. Studies that expressly delivered a psycho-social intervention variously described, these may include interventions to support mental wellbeing, behavioural problems or formal psychological therapy. Studies that did not expressly deliver a psycho-social intervention needed to

measure psycho-social outcomes, for example peer support interventions. Interventions in any duration or format were included but had to be delivered to children and/or adolescents. For intervention design, we included randomized controlled trials (RCT), quasi-RCT, and controlled before-and-after studies. A study was classified as an RCT if children were prospectively assigned to one of two groups (one being the intervention) via a concealed randomization procedure. If a study used a quasi-method of allocation or if a concealed randomization procedure was suspected but not stated, it will be classified as a quasi-RCT. Studies where participants were allocated to one of two groups without concealed- or quasi-randomization will be identified as controlled before-and-after studies. Inactive comparators (waitlist or treatment as usual [TAU]) and active comparators (alternative interventions where the mode of delivery, content, and design were described) will be included. If the study didn't use comparators but still answered our research question, it was included in the review.

Search Strategy

Articles and reports related to the topic of interest were identified through searches using PubMed, Psycinfo, and EMBASE. As this review is concerned with current interventions for mental health, the search is limited to literature written in English and to papers published from 2005 onwards.

The final search syntax was as follows:

(nepal [Title/Abstract] or nepali [Title/Abstract] or nepalese [Title/Abstract]) AND (Mental* [Title/Abstract] OR Madness [Title/Abstract] OR Psycholog* [Title/Abstract])

OR Distress* [Title/Abstract] OR Trauma* [Title/Abstract]) AND (children [Title/Abstract] or adolescents [Title/Abstract] or youth [Title/Abstract] or child [Title/Abstract] or teenager [Title/Abstract]) AND (Idioms* [Title/Abstract] OR Caus* [Title/Abstract] OR Cultur* [Title/Abstract] OR Belief* [Title/Abstract] OR help seeking [Title/Abstract] OR Healing [Title/Abstract] OR Psychosocial* [Title/Abstract] OR Counselling [Title/Abstract] OR Witch* [Title/Abstract] OR Ritual [Title/Abstract] OR Ethno* [Title/Abstract] OR intervention [Title/Abstract] OR Treatment [Title/Abstract])

A grey literature search for unpublished and difficult-to-locate studies was conducted according to the CADTH (<https://www.cadth.ca/resources/finding-evidence/grey-matters>) guide, using OpenGrey, Google and Google Scholar. We also performed a backward and forward citation search of all relevant review papers.

Study Selection

After eliminating the duplicates, study selection was performed by all three reviewers, independently. Any disagreements were resolved through discussion. The full texts were obtained for all the records that met the inclusion criteria (based on the title and abstract/summary screening). Studies that did not meet the inclusion criteria at this stage, were listed with the reasons for exclusion. An adapted PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses, Salameh et al., 2009) flow-chart of study selection is shown in Fig. 1.

Assessment of Methodological Quality

Each of the included studies was appraised using a JBI critical appraisal checklist. The JBI checklist for case control, quasi-experimental or RCTs was used depending on the study design. The checklists have between nine and thirteen quality indicator statements, with responses of 'yes', 'no' or 'unclear', more 'yes' responses indicates higher methodological quality. We classified these scores based on the quartiles for each checklist. This translated as 'very low' for < 1st quartile, 'low' for between the 1st and 2nd quartile, 'moderate' for 2nd-3rd quartile and 'good' for > 3rd quartile. The results are shown in Table 1.

Data Extraction

Searches and data for analysis extracted from the included studies were managed in an Excel spreadsheet. For the extracted data we used the headings and subheadings as per Tables 1 and 2. One reviewer (HB) independently extracted data all intervention studies. AP and PS independently extracted data for the intervention studies. The extracted data was cross checked for consistency by HB and AP and any discrepancies resolved via reference to the relevant papers.

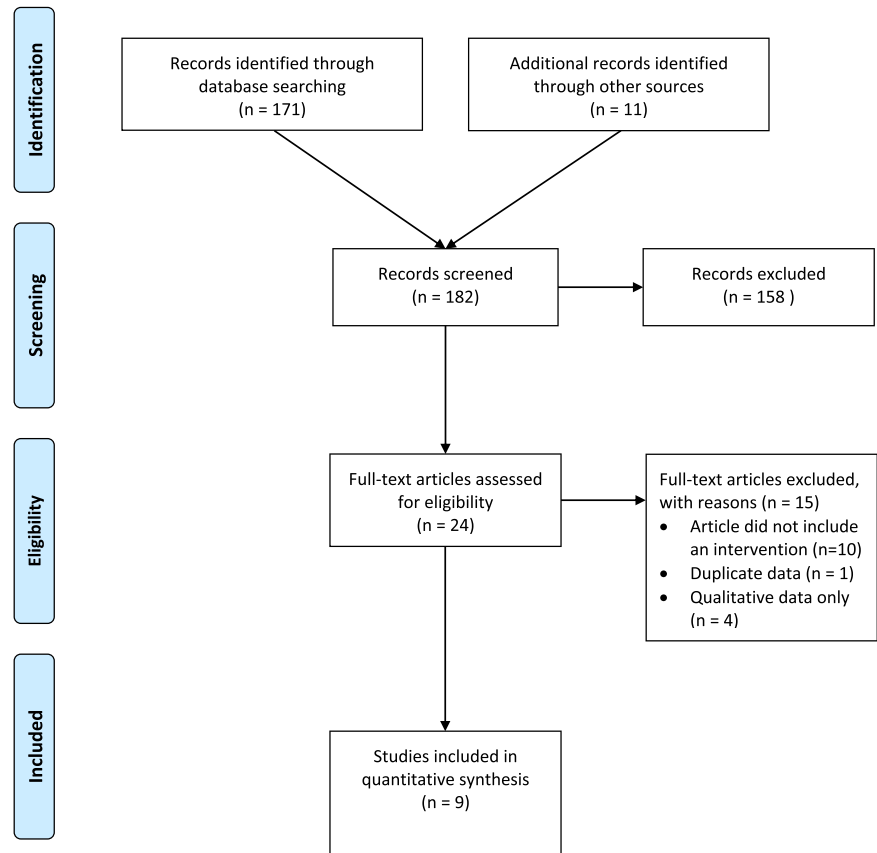
Data Synthesis

Findings from included studies were synthesized narratively using the JBI review guidance and structured using the research questions.

Results

Study Inclusion

A total of nine articles or chapters met the criteria for inclusion. Of these, five reported statistically significant beneficial effects following the intervention (ie. *p*-value of < 0.05)

Fig. 1 Flow Chart – selection of studies

Findings of the Review

What Psychosocial Interventions have been Carried out to Treat Mental Health Difficulties or Support Mental Health Resilience in Nepali Children and Adolescents? What Outcomes do they Report?

Of the nine intervention studies, four were in response to a specific natural disaster or war.

Table 1 summarises the main characteristics of the intervention studies, along with the methodological quality indicators. Five studies (Adhikari et al., 2018, Jordans et al., 2010, Dhital et al., 2019, Antle et al., 2018; Rose-Clarke et al., 2021) discuss school-based psychosocial interventions, of which four (Adhikari et al.'s, 2018, Jordans et al.'s, 2010, Antle et al., 2018, Rose-Clarke et al., 2021) report significant effects. Jordans et al.'s, (2010) large-scale Classroom-Based Intervention (CBI) was delivered in a cluster randomised controlled trial as the second level of a three-tiered community care system, with the dual aim of distress reduction and resilience enhancement. Practitioners with relevant experience were trained in delivering the eclectic intervention over fifteen days and regularly supervised by an experienced counsellor throughout the programme. CBI resulted in significant short-term beneficial effects on a range of social-behavioural and resilience

indicators but did not significantly reduce psychiatric symptoms. The effects differed by age and gender; older children demonstrated increased hope, whilst boys saw moderate reductions in general psychosocial difficulties and aggression and girls showed increased prosocial behaviour, with boys demonstrating greater benefits. The authors consider how the active nature of the intervention may fit better with externalised expressions of distress. In addition, the authors highlight the importance of delivering such interventions as part of a stepped-care programme offering specialised treatment where required and comprising wider community engagement reflecting the salience of social embeddedness.

Following extensive community member interviews to understand local childcare customs and perceptions of behavioural problems plus a scoping review of the existing literature, Adhikari et al's (2018) school and family-based Stepped Care Family Intervention (SCFI) was implemented by psychosocial counsellors. The intervention delivered significant reductions in behavioural problems, plus significantly improved functioning overall, with Brahman/Chhetri children and those from extended families showing the greatest reductions, whilst Dalit children and those from single-parent families benefited the least. Notably, boys greatly outnumbered girls in the sample, but this imbalance is not discussed nor the effect of gender measured. In

Table 1 Characteristics of Included Studies

References	Study Design & Quality Score	Population	Intervention Delivery	Outcome Measures & Results
	<ol style="list-style-type: none"> 1. Study type 2. Quality score 3. Description 	<ol style="list-style-type: none"> 1. <i>N</i> = number of participants, <i>C</i> = control group 2. Age range, mean (SD) 3. % male 4. Religion/ caste 5. health domain 	<ol style="list-style-type: none"> 1. Duration 	<ol style="list-style-type: none"> 1. Measures 2. Results 3. Follow up
Antle et al., 2018,	<ol style="list-style-type: none"> 1. Case control 2. Low 3. Can a mindfulness based computer program help children living in poverty self-regulate anxiety and attention? 	<ol style="list-style-type: none"> 1. <i>N</i> = 21, <i>C</i> = 12 2. 5–11 years 3. 0% male 4. Not recorded 5. PTSD 	<ol style="list-style-type: none"> 1. 24 × 15 min sessions, 3–4 times a week over 6 weeks. 	<ol style="list-style-type: none"> 1. Behavior observation. Supplementary process measures including session/game performance measures 2. Children demonstrated self-regulation and transference of skills across contexts 3. Follow-up at two months post-intervention. Effects continue to be demonstrated across contexts.
Jordans et al., 2010	<ol style="list-style-type: none"> 1. Cluster RCT 2. Moderate 3. Evaluate a classroom based psychosocial intervention (CBI) in conflict-affected rural Nepal. 	<ol style="list-style-type: none"> 1. <i>N</i> = 325 includes <i>C</i> = NR 2. 11–14 years, 12.7 (1.04) 3. 51.4% 4. Hindu 91.1%, Buddhist 2.5%, Muslim 4.9%, Other 1.5%, Brahmin/Chhetri/Thakuri 45.2%, Tharu 24.6%. 5. Depression, anxiety, PTSD 	<ol style="list-style-type: none"> 1. Five-week, 15 × 60 min session eclectic intervention 	<ol style="list-style-type: none"> 1. Reliable Change Index analyses/between groups linear mixed methods analyses. 2. Moderate short-term beneficial effects. No reduction in psychiatric symptoms. 3. N/A
Maharjan, 2017	<ol style="list-style-type: none"> 1. Case study 2. Very low 3. Case studies on the use of sand-play for underprivileged children. 	<ol style="list-style-type: none"> 1. <i>N</i> = 2 2. 13–16 years 3. 100% male 4. NR 5. PTSD 	<ol style="list-style-type: none"> 1. NR 	<ol style="list-style-type: none"> 1. Sandplay anecdotally effective in setting. 2. Development demonstrated in both cases as children learn to express, 'sit with' and process their own issues/trauma. 3. N/A
Kohrt et al., 2015	<ol style="list-style-type: none"> 1. Non-randomised control trial 2. Very low 3. Evaluate the impact of education/reintegration packages and other vocational/economic reintegration packages on the mental health of child soldiers. 	<ol style="list-style-type: none"> 1. <i>N</i> = 258, <i>C</i> = 0 2. NR 3. NR 4. NR 5. Depression, PTSD 	<ol style="list-style-type: none"> 1. Ongoing/varied by Integration Package activities) 	<ol style="list-style-type: none"> 1. Baseline depression self-rating scale (DSRS) for children, child PTSD symptom scale (CPSS), and child functional impairment (CFI) scale scores measured by self-report. 2. Non-significant reductions in levels of depression, plus non-significant increases in levels of PTSD and functional impairment following intervention 3. Follow-up at one-year, similar effects found.
Dhital et al., 2019	<ol style="list-style-type: none"> 1. Cluster randomised control trial 2. Moderate 3. Examine the effect of training for school teachers on psychosocial support on adolescents' mental health and hope 	<ol style="list-style-type: none"> 1. <i>N</i> = 605, <i>C</i> = 615 2. I mean age 12.9 (1.3), <i>C</i> mean age 12.9 (1.4) 3. I 47.7% male, <i>C</i> 45.2% 4. NR 5. PTSD, depression 	<ol style="list-style-type: none"> 1. Delivered over 6 months. 	<ol style="list-style-type: none"> 1. Child PTSD Symptom Scale (CPSS), DSRS, Children's Hope Scale (CHS). 2. Baseline data only. 3. At six months, the intervention did not show significant effects for PTSD symptoms, depressions symptoms or hope.
Adhikari et al., 2018	<ol style="list-style-type: none"> 1. Cohort 2. Very low 3. The feasibility, acceptability and outcomes of a 	<ol style="list-style-type: none"> 1. <i>N</i> = 41, <i>C</i> = 0, <i>N</i> = 39 at follow up 2. 6–15 years, mean 10.7 (2.8) 3. 76% male 	<ol style="list-style-type: none"> 1. 4 months 	<ol style="list-style-type: none"> 1. Interviews conducted using Disruptive Behaviour International Scale-Nepal Version (DBIS-N), the Child Functional Impairment

Table 1 (continued)

References	Study Design & Quality Score	Population	Intervention Delivery	Outcome Measures & Results
	<ol style="list-style-type: none"> 1. Study type 2. Quality score 3. Description 	<ol style="list-style-type: none"> 1. <i>N</i> = number of participants, <i>C</i> = control group 2. Age range, mean (SD) 3. % male 4. Religion/ caste 5. health domain 	<ol style="list-style-type: none"> 1. Duration 	<ol style="list-style-type: none"> 1. Measures 2. Results 3. Follow up
	<p>school- and family-based intervention delivered by psychosocial counselors for children with behaviour problems in rural Nepal.</p>	<ol style="list-style-type: none"> 4. Caste Brahman/Chhetri 46.3%, Janajati 43.9%, Dalit 9.8%. 5. Child development 		<p>Scale (CFIS) and the Eyberg Child Behavior Inventory (ECBI). Semi-structured key Informant Interviews (KIIs) assessed stakeholder perceptions</p> <ol style="list-style-type: none"> 2. Statistically significant reduction in DBIS-N problem scores, CFIS, ECBI problem and intensity scores 3. Assessment at baseline/follow up (four months post-intervention) of the acceptability/feasibility of the intervention.
Hermosilla et al., 2019	<ol style="list-style-type: none"> 1. Meta-analysis 2. Low 3. Assess the impact of Child Friendly Spaces (CFS) in humanitarian settings. 	<ol style="list-style-type: none"> 1. <i>N</i> = 1010 children, <i>N</i> = 1,312 adults, <i>C</i> included 2. Children 6–17 year 3. Not recorded 4. Not recorded 5. Child development, wellbeing 	<ol style="list-style-type: none"> 1. Baseline and endline (3 to 6 months post-baseline) assessment. 	<ol style="list-style-type: none"> 1. Elements drawn from Child Protection Rapid Assessment (CPRA), SEARCH institute's Developmental Assets Profile, Short Mood and Feelings Questionnaire, CHS 2. CFS provide a limited protective and promotive environment for children aged 6–11 years. CFS associated with a reduction in reporting of protection concerns, reports of improved wellbeing and a positive impact on developmental assets in younger children, but findings not statistically significant 3. N/A
Guragain & Ghimire, 2017	<ol style="list-style-type: none"> 1. Case study 2. Very low 3. Reduce psychological distress of four gender based violence survivors. Provide holistic package of support throughout criminal justice process and beyond 	<ol style="list-style-type: none"> 1. <i>N</i> = 4, <i>C</i> = 0 2. 4–12 years 3. 0% male 4. Christianity mentioned, no caste recorded 5. OCD, suicidality. 	<ol style="list-style-type: none"> 1. Ten sessions of individual counselling, eight session of group counselling 	<ol style="list-style-type: none"> 1. Clinical observation by Nepali Psychologist 2. All girls showed marked improvement as assessed through clinical observation by the psychologist and reported by the survivors themselves. 3. N/A
Rose-Clarke et al., 2021	<ol style="list-style-type: none"> 1. Feasibility 2. Low 3. A culturally adapted group interpersonal psychotherapy (IPT) program delivered to adolescents via schools in rural Nepal. 	<ol style="list-style-type: none"> 1. <i>N</i> = 62, <i>C</i> = 0 2. 13–19 years, 14.9 (1.2) years 3. 52% male 4. Brahman/Chhetri, 41.9%; Janajati, 53.2%, Dalit, 4.8% 5. Depression 	<ol style="list-style-type: none"> 1. 12 Group sessions 	<ol style="list-style-type: none"> 1. DSRs, PHQ-9A (Patient Health Questionnaire for Adolescents), Beck Anxiety Inventory (BAI); Child PTSD Symptom Scale (CPSS); and DBIS-N 2. All outcomes apart from disruptive behaviour improved between baseline and post treatment, with large effect sizes 3. Improvement maintained at 8–10 week follow up

Table 2 Cultural Adaptations used based on the definitions of surface and deep adaptations provided by Resnicow et al., 1999

Study	Surface Adaptations				Deep Adaptations			
	To Materials	Local Therapists	Matched Setting	Involvement of Family/Community	Cultural Values	Culture Specific Stressors	Culture Specific Risk Behaviours	
Antle et al., 2018,	✓	✓	✓	✗	✗	✓	✗	
Jordans et al., 2010	✓	✓	✓	✓	✗	✗	✗	
Maharjan, 2017	✗	✗	✓	✗	✗	✗	✗	
Kohrt et al., 2015	✓	✓	✓	✓	✓	✓	✗	
Dhital et al., 2019	✓	✓	✓	✗	✗	✓	✗	
Adhikari et al., 2018	✓	✓	✓	✓	✓	✗	✓	
Hermosilla et al., 2019	✓	✓	✗	✗	✗	✗	✗	
Guragain & Ghimire, 2017	✗	✓	✗	✗	✓	✓	✗	
Rose-Clarke et al., 2021	✓	✓	✓	✓	✓	✓	✓	

accordance with Jordans et al.'s (2010) recommendation, the intervention sat within a programme of wider community engagement and a qualitative research stream suggested that it was positively received by the community.

Rose-Clarke et al. (2021) report a feasibility study for school-based group interpersonal therapy (IPT) for adolescents with depression in rural Nepal. Local facilitators were intensively trained in a culturally adapted version of group IPT, in which 'depression' was re-named 'heart-mind problems' and the therapy was offered as 'life skills training.' Outcomes were measured using psychometric measures that had previously been validated in Nepal, and were translated into Nepali. As this was a feasibility study, the authors do not report statistical tests for the outcomes, but report an improvement in depression, functioning, anxiety and PTSD symptoms between baseline and 8–10 week follow up, with large effect sizes. Improvements did not differ by caste/ethnic group, income level or family type, but boys improved more than girls across all outcomes.

Antle et al., (2018) deliver a mindfulness based online intervention to help children living in poverty self-regulate attention and anxiety. The participants were pupils at a charity-funded school in Pokhara, for girls suffering from trauma as a result of poverty or political violence, with all 21 pupils included in either the intervention or the waitlist control group. The intervention was delivered by the school's counsellors and teachers who had prior training in western psychotherapy and were specially trained in the use of the system. The intervention reported significant improvements in children's ability to self-regulate both anxiety and attention at completion which transferred across contexts, and notably showed maintenance or continued improvement at two-month follow up. In line with Walsh & Shapiro's, (2006) recommendations for avoiding ethnocentric measures when researching across cultures, the instrument for assessment was a bespoke questionnaire to be completed by the teachers and counsellors. However, the same group were actively involved in the survey design, and whilst this increased cultural sensitivity, it may also have served to compromise their objectivity.

Across the studies reporting non-significant results authors consider a range of factors. Dhital et al., (2019) sought to reduce PTSD and depression and increase hope through delivering psycho-social support via teachers in a cluster randomised trial. Teachers were trained in multiple aspects of socio-emotional support by a clinical psychologist and specially trained research assistants, however the intervention reported no significant effects. The authors consider whether the detachment of delivering the intervention via teachers may have limited its effectiveness – a position which would align with the significant results obtained by both Adhikari et al., (2018) and Jordans et al., (2010) with interventions delivered directly to the children.

In further contrast with the former two studies, Dhital et al., (2019) delivered the intervention without any of the wider community engagement elements.

For former child soldiers, Kohrt et al., (2015) assess the effectiveness of education reintegration packages effectiveness in reducing symptoms of PTSD and depression and improving functioning, but show no significant effects. The authors note the ethical issues preventing a randomised controlled trial and the potential benefits of these packages in other life domains, and consider whether extended follow-up may demonstrate subsequent psycho-social improvements. Hermsilla et al.'s, (2019) meta-analysis of the effectiveness of Child Friendly Spaces in humanitarian settings determined no significant effects on protection concerns, psychosocial well-being or developmental assets either at baseline or at three-month subsequent endline. Here, the discussion considers the quality of delivery and the lack of context-specific tailoring of the intervention, reiterating the significance of cultural adaptation. The remaining two studies (Maharjan, 2017; Guragain & Ghimire, 2017) were case studies. Maharjan (2017) reports the benefit of sand play therapy for underprivileged children, based on observational report. Guragain & Ghimire (2017) report that individual counselling and group counselling was beneficial for four girls who experienced gender-based violence, as with Maharjan (2017), based on observational reports only.

What Surface and Deep Cultural Adaptations are Used?

Antle et al., (2018) used both surface and deep adaptations in their mindfulness-based intervention. Local therapists were used to support the computer delivered intervention, and familiar activities from the children's daily lives were included in the program. Both the intervention goals and the assessment instruments were developed alongside the school counsellors and teacher. Rose-Clarke et al., (2021) follow the ecological validity framework for cultural adaption of psychological therapies (Bernal & Saez-Sanriago, 2006) and use a desk review, existing IPT manual and qualitative data collection (focus groups and individual interviews) to adapt IPT for a school-based setting. The adaptations (152 in total) spanned across surface level changes to treatment delivery, alongside deep adaptations to concept, goals and metaphors used within the therapy.

Jordans et al., (2010) translated all measurement instruments into Nepali using a five-step procedure developed for transcultural research (Van Ommeren et al., 1999). No adaptations were made to the intervention itself, but local therapists carried out the intervention and the intervention involved the wider community. Adhikari et al., (2018) adapted their intervention for the Nepalese context through a collaborative workshop with Nepali clinicians and used a

culturally valid psychometric measure, the Disruptive Behaviour International Scale – Nepal version (DBIS-N). In contrast, Dhital et al., (2019) made adaptations to the training guidelines on psycho-social support for education in emergencies prepared by United Nations Relief and Works Agency but did not address adaptation for the Nepalese context specifically. Their intervention was delivered by the teachers based at the school, who were trained by a Nepali clinical psychologist. Kohrt et al., (2015) used culturally translated and validated psychometric measures to assess the outcomes from education reintegration packages for former child soldiers, which were delivered by local NGOs.

Hermsilla et al., (2019) used two psychometric questionnaires validated for use in Nepal in their child friendly spaces evaluation. No details were provided on whether the interventions were culturally adapted, or on training of therapists. Guragain & Ghimire's (2017) case study of individual and group counselling did not use psychometric outcome measures, or report whether it was culturally adapted. Similarly, in Maharjan's (2017) case study on the use of sand play for underprivileged children, outcome measures were not used, however, local counsellors delivered the intervention from the Nepal Youth Foundation.

Taken as a whole, the research on psycho-social interventions for children and adolescents in Nepal is characterised by a limited and opaque approach to cultural adaptation, only two of the studies describe the process by which they adapted either their intervention materials and/or outcome measurements. Interestingly, the majority of studies that reported significant beneficial effects (4 out of 5 studies), included the wider system around the child or adolescent.

Discussion

The aim of this systematic review was to synthesize the current evidence base on psychological interventions for children and adolescents in Nepal, of particular interest was the extent to which cultural adaptations were used prior to the delivery of mental health interventions. We identified nine papers which met the inclusion criteria, all papers utilised at least one form of cultural adaptation, and surface adaptations were more frequently used than deep adaptations. Only Rose-Clarke et al., (2021) carried out adaptations reflecting each of the dimensions identified by Resnicow et al., (1999). With regards to the process of cultural adaptation, there is more consideration of the adaptation of outcome measures than the intervention itself. Of the nine studies, five describe how measurement tools were adapted for Nepal, only two describes the process of adapting the intervention. This comprised a one day

workshop in Adhikari et al.'s (2018) study, and a comprehensive process following the ecological validity framework for the Rose-Clarke et al., (2021) study. Consistent with Cuijpers et al., (2018) meta-analysis, the majority of studies reported little or no information regarding the process of cultural adaptation.

Five of the nine studies reported significant improvements following the intervention, and of these, only two reported maintaining effects at follow up. This contrasts with meta-analytic reviews carried out for psychotherapy RCTs across LMICs (Singla et al., 2017; Cuijpers et al., 2018) which both showed a pooled moderate effect size. Our review included studies which were not an RCT (indeed, the majority were not) and thus the quality of the research reviewed may have limited the outcomes. Furthermore, half of the intervention studies were carried out in response to a specific natural disaster or war which tells us less about intervention for common mental health disorders.

Of the five studies reporting significant improvements, of these, all except one worked with the family and wider community alongside the child. Despite marked variation in the methodological quality of the intervention studies, the outcomes highlight the importance of paying attention to the wider system that surrounds the child, be that immediate family and/or community. Studies reporting significant effects used a range of interventions, and locally trained practitioners, however all but one included the wider community and/or family. The exception being the Rose-Clarke et al., (2021) study focussed on interpersonal processes within the therapy, rather than through the mode of delivery. Hermsilla et al., (2019) note that one reason why their 'child friendly spaces' intervention did not have a significant impact on wellbeing might have been that the children attended in a secured site with chain fences and security guards. Whilst this protected the children from external risks whilst attending, the authors note that it was possible that the design was insensitive to broader cultural awareness. Taken as a whole, this raises the question of how important the content of the therapy is, over and above the context of delivery.

This is an important question in low resource settings. Whilst the Rose-Clarke et al., (2021) study in many respects represents a gold standard for cultural adaptation, the authors do note the relatively high cost of delivery. This is in part due to the intensive training and subsequent supervision for practitioners in IPT, to deliver an intervention with high fidelity to the program manual. Notwithstanding, the authors report adverse events, for example a teacher referring to a participant as a 'psycho' and participants concerned that attending the group would adversely affect 'family prestige.' This may reflect the decision to deliver the intervention without the wider school and local community.

Lower cost interventions, utilizing existing resources and coping mechanisms may represent a viable alternative in collectivist LMIC countries, where delivered at a community level (for a review see Kohrt et al., 2018). For example, the successful roll out of the 'friendship bench' in Zimbabwe uses lay health workers with promising results (The Friendship Bench Organisation, 2020a).

Recommendations for Practice

In considering appropriate interventions for children and adolescents in Nepal, one of the strongest themes to emerge from the studies is the importance of social connectedness. This impacts on the causes and maintenance of mental wellbeing, and where intervention is needed, it speaks to the need to involve family and the wider community.

With regards to practice implications, at a basic level interventions should be delivered in group format, including school, family and ideally the wider community. Whilst the majority of therapies can be delivered in group format, some therapy models are better suited to an interpersonal focus. Rose-Clarke et al., (2021) intentionally adapted IPT due to its focus on the interpersonal aspect of depression. However, it is not clear whether the type of therapy is important, over and above the involvement of the family and wider community.

Recommendations for Research

This review brought together several strands of research on these topics, as well as highlighted the need for more high-quality research in this field. The information presented in this review responds to the needs of the primary care providers and funding bodies when planning future support for the mental health needs of children and adolescents in LMICs.

As noted by Chase et al., (2018) in their scoping review of mental health research in Nepal, there remains a need for high quality ethnographic research to support work on understanding how mental health is conceptualised and experienced in Nepal. The absence of this work means that the process of cultural adaptation for psychotherapies rests on shaky foundations.

Essentially, we need to understand what determines risk and resilience for a given presenting problem and how this differs across cultural and ecological contexts.

Limitations

An important limitation is that our searches used western databases, and only studies published in English were included. There are limitations of the findings synthesised here. All were classified as either low or moderate quality.

The process of cultural adaptation was frequently not described, and did not reflect a recognised model of cultural adaptation. This is consistent with the findings of Cuijpers et al., (2018).

As Heim & Kohrt (2019) note, there remains a large gap in the literature for experimental designs to specifically test the efficacy of cultural adaptation processes. Beyond the cost and feasibility implications of training local practitioners in adapted western treatment protocols, the process arguably undermines local coping mechanisms and support. It may be that 'light touch' interventions that mobilise and enhance existing coping processes at a community level and bridge some of the treatment gap for mental health difficulties in collectivist cultures of LMICs.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

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