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Mapping evidence-based interventions to the care of unaccompanied minor refugees using a group formulation approach

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Abstract

Background: How we adapt treatment algorithms to complex, clinically untested, difficult-to-engage patient groups without losing evidence base in everyday practice is a clinical challenge. Here we describe process and reasoning for fast, pragmatic, context-relevant and service-based adaptations of a group intervention for unaccompanied minor asylum seekers (UASC) arriving in Europe. We employed a distillation-matching model and deployment-focused process in a mixed-method, top-down (theory-driven) and bottom-up (participant-informed) approach. Prevalence of mental disorders amongst UASC is extremely high. They also represent a marginalised and hard-to-engage group with limited evidence for effective treatments.

Method: Content and process adaptations followed four steps: (1) descriptive local group characterisation and theoretical formulation of problems; (2) initial adaptation of evidenced treatment, based on problem-to-component grid; (3) iterative adaptation using triangulated feedback; and (4) small-scale pilot evaluation.

Results: Based on evidence and participant feedback, adaptations included minimising verbal demands, facilitating in-session inductive learning, fostering social connectedness via games, enhancing problem-solving skills, accounting for multi-traumatisation, uncertainty and deportation. Quantitative evaluation suggested improved feasibility, with increased attendance, low drop-out and symptom improvement on depression and trauma scores.

Conclusions: By describing the principles under-pinning development of a group intervention for severely traumatised UASC, we contribute to the literature supporting dynamic adaptations of psychological interventions, without losing reference to evidence base. Complex and difficult-to-reach clinical groups are often those in most need of care, yet least researched and most affected by inequality of care. Pragmatic adaptations of proven programs are often necessary to increase feasibility.

Keywords: Group intervention; PTSD; Social connectedness; UASC; Uncertainty

Introduction

Aged 15, 'A' witnessed the murder of his family in Burkina Faso. He narrowly escaped to Niger. He was imprisoned for 3 months. Following release, he travelled on with no destination. He was imprisoned again in Algeria. At the border to Libya, he was picked up by police and

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discharged into the desert without water. He survived. He was recruited by militia and tasked to collect dead bodies. With others, he was held in a container and beaten daily. He was imprisoned once more. He witnessed torture and executions. Eventually, he was bought free by the family of a fellow inmate and managed to get onto a boat. This was rescued by Italian border control. At the age of 16, he arrived in Germany. He was accommodated in a group home and started school. Due to his poor mental health he moved to a foster family. The arrangement broke down. Back in a group home, he started therapy. He passed his school exams and was accepted into an apprenticeship. At 18, his asylum application was rejected. With legal aid, he obtained permission to remain in training. At the end of his apprenticeship, he had accrued enough time to be granted settled status. He is now permanently employed in a supervisory position at his company.

[Representative narrative with elements combined from case series to protect identity]

Unaccompanied minor asylum seekers arriving in Europe

According to UN Refugee Agency (UNHCR) statistics, an estimated 30–39 million children worldwide are forcibly displaced. Millions are unaccompanied or separated from their families (UASC). Child-specific reasons for migration include political or ethnic persecution of their families, recruitment as child soldiers, forced prostitution, domestic violence, forced marriage, female genital mutilation, or search for parents who have already migrated (UNHCR UNICEF and IOM, 2017). UASC are an extremely vulnerable migrant population. In 2017, 56% had travelled for over 6 months, 89% of arrivals in Italy reported positive indicators of in-flight exploitation (including drafting into military groups), 46% kidnapping against ransom, and 63% witnessing extreme violence (including torture) (UNHCR UNICEF and IOM, 2017). On arrival in the host country, stressors of acculturation are layered on top of pre- or in-flight experiences. Hurdles for asylum applications often entail years of uncertainty, further impacting recovery, integration and psychological wellbeing (Eisenhuth, 2015). Unsurprisingly, prevalence of mental health problems amongst UASC is extremely high (Müller *et al.*, 2019).

Mental health and psychosocial support (MHPSS) for UASC

Many UASC have witnessed major human rights violations and survived without access to protective adults or agencies, with potentially profound and scarring impact on many aspects of their psychological development (van der Kolk, 2003). Yet, UASC are also survivors with considerable psychological resilience (Rodriguez and Dobler, 2021). Over and above statutory rights to special protection under UN Conventions and EU Law, MHPSS may not only promote recovery and integration, but it may also harness their resources, and stimulate ambassadorships for fairer systems and peace.

Challenges for developing interventions for UASCs in high-income countries

Cultural diversity

Until recently, the overwhelming majority (86–93%) of UASC lodging an application has been male, aged 15–17 years (UNHCR UNICEF and IOM, 2017). However, most settings are likely to encounter cultural and ethnic diversity within their cohorts of UASC. For example, in 2017 the ten countries of origin accounting for most UASC applications, included Guinea Conakry, Bangladesh, Afghanistan, Gambia, Eritrea, Somalia and Nigeria.

Regional differences in working practice

Amongst the 16 European countries that receive UASC, practice differs nationally, regionally or locally between communities or settings, involving public, private or voluntary sectors and placements within families, group accommodation, children's homes, detention centres or camps.

Barriers for access and evidence of current treatment options

While approximately 60% of UASCs report mental health problems, only 12–36% access support. Even after referral, high rates of missed appointments are reported (Michelson and Sclare, 2009). A small number of quantitative or qualitative studies have been published on psychological interventions for UASCs (Demazure *et al.*, 2018), many of them small scale or case series. In Europe, interventions based on trauma focused cognitive behavioral therapy (TF-CBT) have demonstrated some effectiveness both in individual (Unterhitzberger *et al.*, 2019) and group sessions (King and Said, 2019; Oppedal *et al.*, 2019; Pfeiffer *et al.*, 2019) and have shown post-treatment sustainability effects (Pfeiffer *et al.*, 2019). However, these appeared influenced by contextual factors, e.g. residential status (Oppedal *et al.*, 2019) and cultural background (Pfeiffer *et al.*, 2019). Pilot studies also suggest feasibility of individual narration-based therapies, e.g. narrative exposure therapy (NET) (Said and King, 2020), or dialectic behavioural therapy (DBT)-based group programs (Dixius *et al.*, 2017).

In summary, current data highlight widely differing contexts and practice, limited evidence for effective treatments and poor engagement of this heterogeneous, hard-to-reach and very vulnerable group. Furthermore, challenges for studies involving refugee populations are rarely reported. Large-scale evaluation of interventions is difficult due to the population characteristics, such as high mobility, contextual instability, sociodemographic heterogeneity, language, and other access barriers. Transferability across settings may be problematic or not practical. Intervention studies with children and youth suffering complex post-traumatic stress disorder (PTSD) are already extremely limited. Adaptable trauma-treatment pathways with 'problem to component' grids have been suggested (Lanktree *et al.*, 2012). However, UASC differ from children with complex PTSD in host countries on many dimensions, *let alone* cultural and contextual heterogeneity. Therefore, working with UASC calls for highly adaptable models that still deliver best practice to an extremely vulnerable population.

Treating complex clinical presentations

Applying research evidence and treatment approaches to clinical groups that differ markedly from those enrolled in the original research has been a challenge across health disciplines (Moore *et al.*, 2015). In mental health, ethological pathways are multi-factorial at the best of times. Yet, disparities between treatment groups further escalate in the context of cultural diversity or where psychosocial adversity (including disadvantaged socio-economic status or geographical context, social exclusion/isolation, maltreatment, other types of complex trauma or challenges at an individual level (e.g. neurodiversity)) have been organising factors throughout child development (Perry *et al.*, 1995). As a result, established service models or treatment approaches may not fit the needs of populations impacted by some – or even multiple – of these characteristics. Typically, these are also groups who are most affected by healthcare inequalities (Arcaya *et al.*, 2015). In practice, clinicians are likely to tailor interventions to individual profiles and context in some way or another. However, how are interventions adapted in response to complex clinical problems, varying contexts or local resources, without violating principles of evidence-based practice?

The American Psychological Association (APA) suggested a definition of 'evidence-based practice' where the therapist integrates knowledge from several sources, including evidence from

research, personal expertise as well as contextual and client-specific factors such as gender, age or culture (APA Presidential Task Force on Evidence-Based Practice, 2006). The distillation and matching model (DMM) provides a helpful framework for modular content adaptations of treatments via distilling elements of effective psychosocial interventions and matching these to client profiles (Lyon *et al.*, 2014). In line with APA recommendations, the model suggests various distinct evidence bases to inform data-driven clinical decision making: *causal mechanism evidence* (understanding of etiological and treatment processes), *general services research evidence* (evidence from research), *case history and local aggregate evidence* (direct client interaction and 'practice based' contextually summarised evidence across local caseloads) (Daleiden and Chorpita, 2005). Still, interventions adapted even to the best of our knowledge require 'forging in the field', namely, a transparent process of assimilation according to context-specific user and therapist feedback via 'continuous change experiments, large or small' (Masten, 2011). The process of such 'deployment-focused model' (DFM) (Weisz and Gray, 2008) might involve (1) developing theory regarding the nature and treatment of the target condition/population using DMM; (2) pilot tests with iterative modifications; (3) small group-design effectiveness tests; and (4) where possible, full-scale effectiveness testing. Irrespective of the exact design or process, in the context of dynamic treatment adaptations to complex or small-scale clinical challenges, in often vulnerable clinical populations, explicit statement of the 'theory of change' – the hypotheses of the mechanisms by which elements of interventions might work, and how context might affect outcome – becomes crucial to allow external scrutiny and conclusions about how circumstances might inform results (Moore *et al.*, 2015).

The unprecedented need of MHPSS after 2016 for UASC arriving in high-income countries required a rapid response of local services. Here we present a pragmatic approach to treatment adaptation, and pilot evaluation, employing DMM principles via a 'problem to component' grid, and a mixed-method, deployment focused, user-informed iterative process for adaptation of a NICE (National Institute for Health and Care Excellence) approved group intervention, teaching recovery techniques (TRT) (Yule *et al.*, 2013), for UASC arriving in high-income countries.

Method

Overview and reasoning

We considered engagement and retention in treatment as the primary goal. To generate a program that was evidence based, yet engaging, inclusive and closely adapted to the experiences and subjectively perceived needs of UASC arriving in a high-income country, we employed a mixed (qualitative and quantitative) methods approach. We iteratively combined triangulated service-user/carer/therapist feedback with theory and evidence in a four-step process (see supplement S1 in the Supplementary material): (1) exploration of local group characteristics to support a formulation of likely mental health needs and goals, (2) initial adaptation of TRT, based on theoretical considerations, (3) iterative adaptation using triangulated qualitative feedback, and (4) small-scale pilot evaluation.

Setting and context

The intervention development responded to the 2016–2018 referrals of UASC to an out-patient setting of Child and Adolescent Mental Health services in South-West Germany (full context: supplement S2 in the Supplementary material). An initial 100% attrition rate using TRT triggered the process for a systematic program adaptation.

Participants

Participants were referred to the regional clinic via local authorities from inner city and surrounding rural areas. Participants underwent initial assessment (supplement S3 in the Supplementary material) prior to placement on a treatment waiting list. The group intervention was offered according to waiting list order and participants' availability. Inclusion criteria were: male gender and score ≥ 17 in the Child and Adolescent Trauma screen (CATS) (supplement S3 in the Supplementary material). Exclusion criteria were severe physical illness or acute psychosis. There were no requirements regarding educational or German language levels. The availability of an interpreter was not required. The program was intended to be highly inclusive with low barriers for access.

Procedure

Quantitative data collection and analysis

Participant descriptive data. To generate an oversight of group characteristics, as a basis for our formulation, descriptive sociodemographic data of 30 UASC (Table 1) in running order of the waiting list, were ascertained via patient records (sources of information: supplement S4 in the Supplementary material).

Outcome measures. Drop-out (continuous non-attendance without apology from any point of the program to the end) and attendance rates (percentage of total sessions attended/participant) were recorded as measures of engagement. Subjective experience was recorded on four continuous rating scales (response poles: 'not at all' ☹ to 'very much' ☺, reported as a proportion of the full scale): Was the program fun? Understandable? Interesting? plus an 'Overall' impression (supplement S5 in the Supplementary material). Due to the small sample size, the reliable change (RC) in symptom scores was computed as a measure of clinically meaningful symptom reduction, using pre- and post-ratings of the CATS and BDI-II (supplement S3 in the Supplementary material), where individuals had attended $\geq 60\%$ of the program.

Qualitative data collection and analysis

To iteratively capture the voices of UASC, qualitative evaluation was conducted as UASC participated in the evolving group program. Prior to the end of each session, a reflection page was provided, and each participant (including carer when present) was encouraged to reflect individually (and where possible write down in their chosen language) 'what was important' for them during the session. Participants were then asked to participate in an end-of session feedback conversation with reference to the question and their notes. Comments from participant and carers was recorded verbatim by the team. Where comments were unclear, verbal clarification was sought, and/or interpretation of their written comment with the participant's permission (a copy of each participant's workbook was kept by team to ensure a take-home resource was available at the end of program). Therapists also recorded a written reflection after each session. Therapists' notes and feedback were mapped on a session-by session-basis to a grid that included problem (met/unmet need), suggested adaption and hypothesised change mechanism. Written feedback (participant and carer) was collected at the end of program (questionnaires: supplement S5 in the Supplementary material). To avoid recency bias, participants were asked to use their workbook and notes to reflect on the overall program (what was good, what could be different) in their chosen language. The program was iteratively updated following each cycle of feedback. For the purpose of reporting for this paper, the iteratively collected end-of-program 'what was good/bad overall' user-feedback of all groups was combined. We employed a mixed inductive and deductive process as proposed by Graneheim and Lundman (2004) (full procedure: supplement S6 in the Supplementary material).

Table 1. Mapping evidence-based interventions to the care of unaccompanied minor refugees using a group formulation approach

(A) Pre-flight					
Region of origin	Middle East	East Africa	West Africa		
% (n)	56.7 (17)	26.7 (8)	16.7 (5)		
Adversity	Physical abuse in family	Child soldier			
% (n)	66.7 (20)	26.7 (8)			
Parents alive (n = 29)	Both	Father	Mother	Orphan	
% (n)	34.5 (10)	10.3 (3)	31.0 (9)	27.6 (8)	
Schooling (n = 25)	Mean (SD)	Minimum	Maximum	CI (0.95)	
Years	3.54 (2.96)	0.00	10.00	2.34–4.76	
Age at departure (n = 27)	Mean (SD)	Minimum	Maximum	CI (0.95)	
Years	13.81 (1.24)	10	15	13.32–14.3	
(B) In-flight					
Duration of flight (n = 26)	Mean (SD)	Minimum	Maximum	CI (0.95)	
Months	13.13 (13.14)	1.00	56.00	7.82–18.44	
Trauma types	Mean (SD)	Minimum	Maximum	CI (0.95)	
n	9.10 (2.43)	4.00	14.00	8.19–10.01	
Trauma type (CATS)					%
Slapped, punched, beaten by s.o. outside family					93.33
Witnessed violence outside family					93.33
Witnessed someone being killed or severely injured with knife, firearm					83.33
Close person died violently					80
Being around war					80
Attacked with knife, firearm or else leading to severe injury					70
Slapped, punched, beaten in family					66.67
Other					66.67
Serious accident (e.g. car, bitten by dog)					63.33
Witnessed violence in family					60
Robbery including threat with weapon					56.67
Serious medical treatment					36.67
Serious natural disaster					30
Sexual harassment					16.67
Sexual abuse					13.33

(Continued)

Table 1. (Continued)

(C) Post-flight				
Age at referral	Mean (SD)			
	16.87 (1.17)			
CFT (<i>n</i> = 10)	Mean (SD)	Minimum	Maximum	CI (0.95)
IQ	72.0 (13.53)	52.0	90.0	62.32–81.68
CATS	Mean (SD)	Minimum	Maximum	CI (0.95)
score	32.07 (10.14)	17.00	55.00	28.28–35.86
CBCL (<i>n</i> = 14)	Mean (SD)	Minimum	Maximum	CI (0.95)
score int	61.00 (16.70)	13.00	78.00	51.36–70.64
score ext	51.43 (17.04)	1.00	69.00	41.69–61.27
Residential status	Accepted	Rejected	Uncertain	n/a
% (<i>n</i>)	13.33 (4)	3.33 (1)	76.67 (23)	6 (2)
German levels	A1	A2	B1	n/a
% (<i>n</i>)	8	4	4	14
Contact with family	Yes	No		
% (<i>n</i>)	56.67 (17)	43.33 (13)		

Group characteristics of UASC cohort. To characterise our cohort, we used the tripartite process of flight to understand the sequential impact of UASC experiences. (A) *Pre-flight*: the group was culturally/ethically heterogeneous. All had departed in early-mid adolescence. Common pre-flight experiences were parental loss and various experiences of violence. Mean years of formal schooling was below the end of primary school. (B) *In-flight*: duration of flight varied widely. However, all UASC had experienced multiple, predominantly interpersonal, trauma. (C) *Post flight*: most UASC reported uncertain residential status. Most UASC lived in socially disparate housing communities. Approximately half of the participants had some contact with family at home. Where data were not available for the full sample numbers (*n*) are specified.

Results

Group characteristics and initial formulation (Step 1)

Descriptive group characteristics

Pre-flight: UASCs presenting to the service were culturally heterogeneous (regions of origin included Middle East 56.7% [Afghanistan ($n = 14$), Iran ($n = 1$), Syria ($n = 2$)]; East Africa 26.7% [Somalia ($n = 5$), Ethiopia ($n = 2$), Eritrea ($n = 1$)]; West Africa 16.7% [(Ghana ($n = 1$), Gambia ($n = 1$), Guinea Konakry ($n = 1$), Guinea Bessau ($n = 1$) Ivory Coast ($n = 1$)]. Languages spoken included Arabic ($n = 2$), Dari ($n = 9$), Farsi ($n = 1$), French ($n = 1$), Fular ($n = 2$), Mandinka ($n = 1$), Pashtu ($n = 1$), Persian ($n = 3$), Somali ($n = 7$), Tiginya ($n = 1$), Wolof ($n = 1$), unknown ($n = 1$)). Common pre-flight characteristics were parental loss (usually father), mean years of formal schooling below the end of primary school, two-thirds reported being slapped, punched or beaten at home, and/or witnessing violence in family. All (100%) East-African UASCs reported pre-flight abduction/recruitment as child soldiers. All had departed in early to mid-adolescence (Table 1A).

In-flight: Duration of flight varied widely. However, all UASC had experienced multiple, predominantly interpersonal, trauma (Table 1B).

Post-flight: Most UASC lived in socially disparate housing communities, five in foster families. Approximately half of the participants had some contact with family at home. Most UASC reported uncertain residential status (e.g. first application rejected). Where recorded ($n = 16$), levels of German were 'basic' to 'independent user' (details of language competency framework: supplement S3 in the Supplementary material). IQ scores [non-verbal Cattell Culture Fair Intelligence Test (CFT) (Cattell, 1940)], where obtained ($n = 10$), may reflect lack of practice (limited experience in education) and/or cognitive compromise on the background of severe trauma and ongoing stressors. Internalising and externalising behaviours (assessed using the Achenbach Child Behaviour Checklist (CBCL) (Achenbach, 1994)) were equally expressed ($p = 0.15$) (Table 1C).

Psychological formulation based on group characteristics

General considerations: Local participant characteristics informed our hypotheses guiding initial program adaptations. We used the tripartite process of flight to understand the sequential impact of UASC's experiences. To generate a developmentally sensitive formulation, we considered developmental tasks and needs during adolescence. We also explored potential resources.

Developmental tasks in adolescence: Tasks in human development include formation of internal working models for interpersonal interactions and self-regulation, processing adverse experiences and problem solving, but also knowledge of cultural norms, and acquisition of skills (scholastic/practical) relevant to a given societal context. These processes are crucially supported by families, adults, peers, communities, and the wider socio-cultural context. In its entirety these structures generate an expectable environment in which, even in the presence of adversity, healthy development, and eventually the transition from childhood to adulthood takes place (Cicchetti, 2010).

Adolescence is considered a particularly dynamic developmental period. Age-specific social tasks include developing increasing independence, assuming social responsibilities, and acquisition of occupational skills. During adolescence the brain also undergoes significant transformation. While studies were conducted predominantly in the context of western countries and may be culturally confounded, Blakemore *et al.* (2010) suggest that neurodevelopmental processes during adolescence include a burst in development of neuronal circuits for social cognition (Blakemore *et al.*, 2010). Behaviourally, adolescents become more risk taking, socially orientated towards peers, while highly sensitive to peer rejection and social exclusion. The latter are strong predictors of adolescent mental health problems (Sebastian *et al.*, 2011). Susceptibility to peer influence and advice is increased (Foulkes *et al.*, 2018), while family, extended social

network, and cultural norms remain important guiding frameworks (Cicchetti, 2010). In the context of high-income societies, the young person is expected to complete some form of secondary education, make choices with regard to their future, and move outside the family home. In the context of their countries of origin different sets of expectation may be delineated.

Cumulative adversity for UASC: On arrival, the pre-flight educational status of most UASC would unlikely match age relevant expectations of high-income countries. Many would be affected by unresolved grief (e.g. loss of parent). At the point of flight, the intra-societal trajectories of adolescents were abruptly terminated. Guiding structures of their sociocultural context were lost and replaced with total unpredictability and life being governed by survival. The reported extreme interpersonal violence suggests severe moral injury. Moral injury by violation of ethical codes or schema of self and/or interpersonal interactions by perpetrating, failing to prevent or bearing witness to acts that trespass deeply held beliefs (Litz *et al.*, 2009) is associated with more severe and chronic PTSD (Andrews *et al.*, 2000). This has been attributed to emotions of shame, guilt or disgust, and cognitions of the self as being socially stigmatised and unworthy, entailing a sense of social disconnection (Runtz and Schallow, 1997). Acculturation while having to process loss, grief and other traumatic experiences, represents a challenge for many refugees arriving in a host country. UASC have not only survived extreme trauma and moral injury, face new societal parameters and often discrimination or stigma – all without familiar supportive systems – but they also tend to live in culturally disparate communities with other youngsters in similar distress. In adolescence, the relationship between social connectivity and recovery is likely to be escalated due to concurrent developmental processes (Sebastian *et al.*, 2011). Social disconnection generates considerable developmental distress (Blakemore and Mills, 2014; Orben *et al.*, 2020). Furthermore, peer exchange is an important coping strategy during adolescence. Loss of important coping strategies are likely perceived as further disempowering in a context where there is already little self-agency.

In addition, prolonged uncertainty and mental disorders, especially PTSD with hyperarousal, insomnia and alterations in cognitions further increase distress. Neurophysiologically, acute and chronic stress entail deactivation of brain neural networks that promote social connectivity, learning, memory consolidation, empathy, and self-reflection (Hermans *et al.*, 2014). As such, the total accumulation of stressors likely leads to neurobiological compromise of cognitive flexibility, adaptive learning and the ability to access coping strategies through social bonding and supportive networks. Stress itself perpetuates the overall adversity and social disconnection.

In summary, the psychological formulation considered the tripartite process of migration. In addition to the trauma and hassles associated with refugee status, UASC accumulate developmental stressors such as little or no access to education and lack of adult support. The adolescent brain also undergoes significant transformation, which, for example, results in adolescents becoming highly sensitive to social exclusion. Due to the underpinning developmental processes during adolescence, social disconnection – including absence of trusted adults and peer relationships – is perceived as particularly distressing. We hypothesised that UASC are trapped in a vicious cycle, where the combination of breakdown of social framework, moral injury, uncertainty, language barriers, the mismatch of skills to expectations, lack of social connectedness, and mental disorders result in extreme distress and an overwhelming sense of hopelessness, helplessness, and loss of control. Physiological impact of stress perpetuates the above in a vicious cycle (full formulation: Fig. 1).

Resources: UASC are survivors and equipped with considerable resources. Yet, the literature exploring resilience factors in UASC is limited and tends to focus on post-flight periods. While our data set did not explore resilience factors, we inferred these from literature review (Rodriguez and Dobler, 2021). Based on their countries of origins we assumed that many UASCs might have experienced collective cultures and communal social support. Low levels of formal education might have meant more unmanaged time spent with peers. Thus, while missing out on scholastic skills, UASC might have developed more independent problem solving and social negotiating

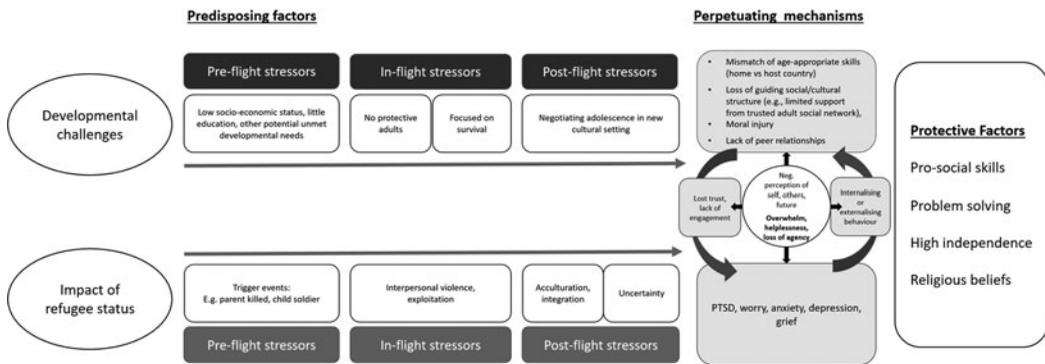


Figure 1. Psychological formulation. The psychological formulation considered the tripartite process of migration. UASC accumulate developmental stressors. These add to the stressors of extreme trauma, moral injury, grief, ongoing uncertainty or worry. Furthermore, the neurophysiological impact of stress interferes with the ability to socially connect, engage in education and negotiate integration, overall resulting in a perpetuating vicious cycle. UASC often report a sense of overwhelm and helplessness.

skills. Having less protected time in education possibly meant taking on earlier adult-type tasks (Majumder, 2016). This probably helped UASC to independently problem solve, adapt, and negotiate during the course of their flight. Unsurprisingly, post-flight living arrangements with low restrictions (low interference with their understanding of themselves as independent with near adult status) but higher support (providing access to guidance through the initial stages of adaptation including integration, school and legal support) have been associated with lower psychological distress (Rodriguez and Dobler, 2021).

In summary, resources of UASCs are likely to be located in their pro-social capital, early independence, problem-solving skills with regard to survival strategies and ability to deal with adversity, but also often a strong moral compass within communal cultures of origin.

Participant feedback and iterative model adaptation (Steps 2 and 3)

Qualitative participant feedback evaluation

Qualitative analysis included feedback of 22 participants (Groups 1–7). Five over-arching themes were identified.

Theme 1: Social Connectedness

The most pervasive theme (68% of all meaning units) was connecting through playfulness, games, talking and the resulting positive relationships within the group.

‘The best things were games and talking and getting to know this nice group!’

Subthemes related to (i) building trust and friendships: *‘I laughed a lot . . . we were playing together, and I made nice friends’*; (ii) re-connecting with positive childhood memories prior to extreme trauma: *‘It feels like being a child again . . .’*; (iii) discovery of resources through epistemic trust and peers: . . . [before I came here] *‘my head was broken . . . The games were the best, I felt normal . . . with the group I discovered new things . . . like sport’*.

Theme 2: Manageability

Another prominent theme developed around regaining a sense of agency.

'I am better because I did not understand [what was going on] before ... [it was good] to talk about stress and to be able to ask and talk about problems.'

Comments differentiated in three subthemes: (i) understanding the problem: *'I understand my problems better ...'*; (ii) managing distress: *'I learned new tricks when I have stress'*, but also (iii) dealing with day-to-day hassles including problem solving, acceptance and planning for the future: *'I make a plan for things that I can do'*, *'... in the evening I sit for half an hour and think about all the things that are s***, then I have a shower and get on with things'*.

Theme 3: Normalization

This related to the realization of not being alone with regard to the various experiences.

'Talking about the story of the others ... made me think about my own story ... and that I am not the worst.'

Comments related more specifically to (i) breaking the silence and being able to share some traumatic experiences: *'It was hard talking about the past ... [when I was] talking about it in the group, I understood that I am not alone ... I am not the only one'*, and (ii) normalization of symptoms: *'I am not mad'*.

Theme 4: Improvement of symptoms

One of the most distressing symptoms that participants reported (and they wished to change, when asked at the beginning of the group) was the enduring inability to sleep and nightmares, with likely cascading effects on many aspects of physical and mental health and cognitive function.

'I can sleep again ... I am stronger in my dreams.'

While improvement in sleep and decrease of intrusions is likely to reflect the combination of several components in the program (overall stress reduction, narration, and working with imagery) the explicit content related to imagery techniques ('deleting photos') and dream re-scripting.

Theme 5: Transferability

Only a few participants made specific comments about improvements.

'I am good when I am here ... but it comes back when I am home.'

Transferring group content into everyday life was highlighted as an issue that needed addressing.

Matching model to need

Overall reasoning: The program was based on TRT but was iteratively adapted, using a problem-to-component grid (Wolpert *et al.*, 2016), according to our formulation and group-by-group participant/carer feedback and therapist reflection. While tools were eclectic, they were chosen to fit the principles of a consensus model of trauma treatment (Schnyder *et al.*, 2016). Taking account of the dynamic circumstances of UASC, we organised the program in successive 'building

blocks' (modules) that were complete in their own right to provide 'portable gains' – learning that could be taken to a different context. Based on our formulation we assumed that managing distress and aligning UASC with their developmental needs for social connectedness, thus supporting age-appropriate coping skills would promote their sense of agency. Therefore, the vicious cycle between distress and social disconnectedness was addressed first.

Adaptations: Adaptations were made to process and content.

Process adaptations (strategies of how the content is delivered): *Decreasing barriers for access* was achieved by minimising written and verbal/didactic information to account for limited language skills and mixed ethnic groups (and difficulties accessing interpreters for many languages), low education/literacy levels. Adaptations included designing visual materials (including story board) and developing games or enactment to facilitate experiential and inductive learning. A visual summary was collated in a take-home workbook. Frequent in-session rehearsal, e.g. by weekly ritual of reflection on daily hassles and exploration of new solutions and strategies with peers, and end of session reflections, was used to promote cognitive consolidation of session content. *Enhancing Safety and Trust* was promoted via e.g. a ritualised structure of the sessions to increase sense predictability and safety. Group leaders assumed an attentive, empathetic and non-judgemental stance. Each session ended with a statement of gratitude, to support re-focusing on mental, physical, social or spiritual resources. Sessions on managing stress were moved to the beginning of the program and extended over 3–4 sessions as UASC often present in states of high distress and are therefore not receptive to learning or able to form social connections. *Adolescent need for social connectedness* was supported throughout the program. Multiple games introduced humour, connected with the UASC youthful, fun-loving natures, thus enhanced social amenability, group connectedness (despite cultural and language barriers) and engagement. *Increased self-agency* was supported via exploring playful (re)discovery of own resources that are relevant to their age group, cultural context or religious background through inductive learning and peer exchange. As the program progresses, group members increasingly become peer experts to each other. *Key worker support* was enhanced via key worker participation where support for translating session content into everyday practice seemed necessary.

Content adaptations (topics addressed): UASC have suffered multiple traumata and continue to be faced with multiple challenges, including ongoing uncertainty and potential deportation. Avoidance and multiple trauma and are addressed via a lifeline tool (Neuner *et al.*, 2008). This includes traumatic and constructive memories and experiences. The tool supports contextualising events, integration of the trauma into the overall lifetime narratives and accessing strengths for moving into the future.

Throughout the modules, we focused on eliciting and enhancing individual and systemic resources. This included additional content on enhancing problem-solving and dealing with uncertainty, adding an eco-map of support network, including social connections in the host country and with family in home country, and a session on contingency planning in case of deportation, including information on supporting organizations (Adaptations: Table 2, program structure and module content: supplement S7 in the Supplementary material).

Small-scale quantitative evaluation (Step 4)

Thirty UASC were offered the intervention over seven groups. In group 2, basic adaptations were made (visual learning aids, alterations to the order of the program). Content adaptations were introduced from group 3 [e.g. sessions on life-narrative (group 4) and deportation (group 5)]. Only minor process or content adaptations were made in groups 5–7. The length of the groups was: five sessions (groups 1 and 2), eight sessions (group 3), 10–12 sessions depending on group size/needs [group 4 (10 sessions), group 5 (10 sessions), groups 6, 7 (12 sessions)].

Table 2. Mapping evidence-based interventions to the care of unaccompanied minor refugees using a group formulation approach

Problem (formulation)	Intervention	Change mechanism	Outcome
Little formal education/ language barriers	<ul style="list-style-type: none"> i. Visual materials, e.g. visual prompts, emoji, visual workbook ii. Inductive learning approach via games, cartoon stories, metaphors, or enactment iii. In-session rehearsal 	<p>Inferring content/principles from exercises and exchange with others, playful (re) discovery of own resources</p> <p>Cognitive rehearsal of strategies when discussing day-to-day challenges at start of each session; reflection at end of session</p>	<p>Improved accessibility (irrespective of language, education, cultural heterogeneity)</p> <p>Subjective experience: <i>'I learned new things ...'</i></p>
Loss of trust/safety and predictability in life	<ul style="list-style-type: none"> i. Ritualized structure of the session ii. Agree group rules iii. Establish joint language for labelling emotions and a traffic light system of distress iv. Group leader supports curious, non-judgmental reflection in group v. Guided discovery of effective skills in sessions 1–2 	<p>Creating predictable environment, reducing hypervigilance as foundation for learning and social connectedness</p> <p>Safe framework for social interactions</p> <p>Enable safe communication of feelings with others in new language, enable emotional re-connection with self/others</p> <p>Feeling mentalised (heard and understood), re-build trust to adults</p> <p>Experiencing instant relief, promoting trust in program</p>	<p>Enhanced sense of safety and trust</p> <p>Communicating feelings and thoughts</p> <p>Subjective experience: <i>'... able to ask and talk about problems'</i></p> <p>Continued participation</p>
Distress, overwhelm, loss of control, daily hassles, and ongoing uncertainty	<ul style="list-style-type: none"> i. Content adaptation: Expanded sessions on arousal management and dealing with uncertainty (4 sessions) ii. Sharing and problem solving of day-to-day hassles iii. Gratitude (session ending ritual) iv. Content adaptation: Dealing with the possibility of deportation 	<p>Understanding/connecting with the stress related body sensation and emotions</p> <p>Re-discovering own resources and strategies for arousal management relevant to their age group, cultural context, or religious background</p> <p>Engaging in scheduled positive daytime activities to reduce rumination and enhance diurnal day-night rhythm</p> <p>Strategy for dealing with worry and uncertainty</p> <p>Dealing with daily hassles or worries and acceptance of the unchangeable</p> <p>Re-focus on resources</p> <p>Develop contingency plan</p>	<p>Better able to manage distress.</p> <p>Increased sense of agency and controllability over their day-to-day lives and daily hassles</p> <p>Subjective experience: <i>'I learned new tricks when I have stress'</i> <i>'I make a plan ...'</i></p>

(Continued)

Table 2. (Continued)

Problem (formulation)	Intervention	Change mechanism	Outcome
Lack of social connectedness/peer relationships, heterogeneity of group, loss of social framework (including loss of trusting adult relationships)	<ul style="list-style-type: none"> i. Games ii. Unstructured time, tea/food iii. Promote peer to peer advice iv. Content adaptation: Develop visual network (eco-map) of relationships 	<ul style="list-style-type: none"> Humour, playfulness, laughter facilitating social amenability Opportunity for informal connections Developing epistemic trust and learning amongst peers Creating a visual representation of social network and roles of helpers 	<ul style="list-style-type: none"> Adolescent developmental needs of social and peer connectedness are accounted for Subjective experience: <i>'I laughed a lot ... and I made nice friends'</i> Increased sense of social connectedness/support in the host country and wider network, including family abroad
PTSD symptoms, multiple traumatic events, moral injury	<ul style="list-style-type: none"> i. Psychoeducation (cartoon story board) acknowledgment of human rights violation, normalisation of PTSD symptoms ii. Dealing with intrusive imagery iii. Content adaptation: Sharing life story using 'flowers and stones tool' 	<ul style="list-style-type: none"> Breaking the silence by permitting acknowledgement of difficult experiences, e.g. torture, slavery, trafficking Managing intrusions and nightmares Taking account of multiple traumata. Integrating trauma and resources into lifetime narratives, as part of cognitive reframing, and accessing strengths for moving into the future 	<ul style="list-style-type: none"> Decreased avoidance, relief Subjective experience: <i>'I can sleep again'</i> <i>'Talking about it ... I understood that I am not alone ...'</i>
Transferability	Participation of key-workers	Key-worker involved in psychoeducation, arousal management, managing worries and network	Key-workers able to support participant at home

Adaptations using problem to component grid. The iterative adaptations combined theory and participant feedback. Considering heterogeneity of the group, low education levels and limited language skills, many adaptations were made to ensure *Increased accessibility* for as many as possible, even where interpretation was not available. *Enhancing Safety and Trust* and supporting *adolescent need for social connectedness* was considered as pre-requisite for engagement and further work. UASC have managed a period of flight without adult support, yet often feel a loss of control in the host country. Therefore, the program focused on re-developing *a sense of self-agency*. This included managing physiological distress, as well as current hassles and worries, including deportation. The program aimed to *account for multi-traumatisation*. *Key-worker support* was enhanced via key-worker participation to support transferability to everyday life.

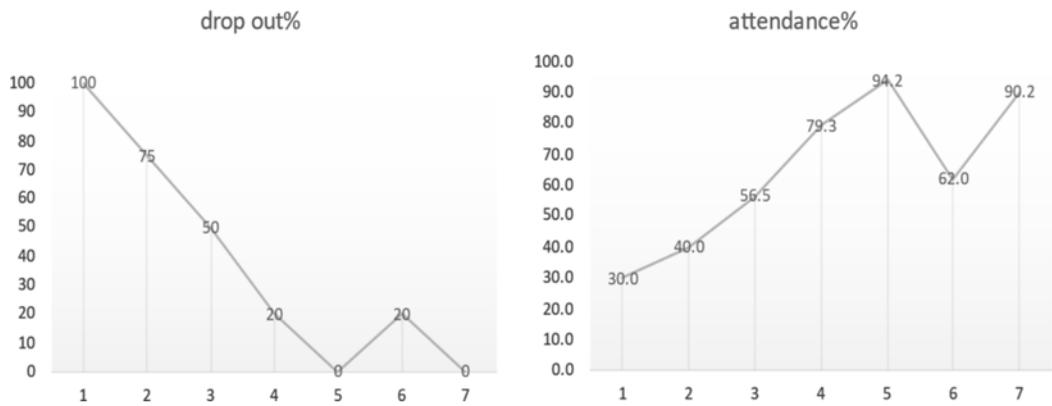


Figure 2. Drop-out and attendance. Drop-out group 1–7: group 1: $n = 4$ (100%), group 2: $n = 3$ (75%), group 3: $n = 2$ (50%), groups 4–7: $n = 1$ [20% (group 6)]. Attendance groups 1–7: group 1: mean = 30% (min 20%, max 40%), group 2: mean = 40% (min 20%, max 100%), group 3: mean = 56.5% (min 25%, max 88%), group 4: mean = 79.33% (min 63%, max 100%), group 5: mean = 94% (min 88%, max 100%), group 6: mean = 62% (min 50%, max 90%), group 7: mean = 90.2% (min 83%, max 92%).

Engagement

Attrition analysis: Twenty-six participants took part in groups 2–7, with group sizes between three to five participants. Overall, six participants dropped out of groups 2–7, but retention increased over time (Fig. 2).

Attendance: Overall mean attendance was 69.65% (SD 26.89). However, attendance rates changed over time (Fig. 2). Reasons for non-attendance were: bicycle accident on the way to the group ($n = 1$), appointment at the Home Office ($n = 4$), end of term football match ($n = 1$), doctor/dentist appointment ($n = 5$), forgotten ($n = 4$), school project ($n = 4$), interview ($n = 2$), care planning meeting ($n = 3$), no explanation ($n = 7$).

Overall subjective experience (was this fun, understandable, interesting, overall?)

Twenty-one participants returned the group evaluation forms. Of these, 20 questionnaires were interpretable (clear mark placed on continuous line). Across all groups the program ratings were: ‘Overall’ mean = 0.8 (SD 0.5), ‘fun’ mean = 0.91 (SD 0.15), ‘understandable’ mean = 0.85 (SD 0.15), ‘interesting’ mean = 0.66 (SD 0.34).

Symptom improvement

Nine participants between groups 3–7 with attendance $\geq 60\%$ returned completed post-intervention CATS, and seven participants post intervention BDI (groups 5–7) only. The reliable change (RC) for each participant was calculated. For CATS a RC was achieved for 44% ($n = 4$) (groups 3–7) [CATS pre: mean 32.44 (SD 10.96), post: 25.2 (SD 9.74)]; however, this was entirely attributable to improvement of scores in groups 5–7 (paired data: $n = 6$) (RC achieved: 66% ($n = 4$) in groups 5–7). For BDI a reliable change was achieved for 60% [BDI pre: mean = 22.86 (SD 9.14); post: mean = 13.40 (SD 8.59)].

Discussion

Adaptation of treatment approaches for clinical groups that differ markedly from those enrolled in the original research is often necessary. Retaining transparency and reference to evidence base is a recognised clinical challenge. Equally, local expertise is easily lost or not reported. We reported on the process of treatment adaptation that is pragmatic, evidence-driven and user-informed.

Adaptation of a proven program responded to the sudden demand for MHPSS for UASC – a clinically under researched, complex, severely traumatised, and hard-to-reach group. This involved: (1) exploration of local group characteristics, formulation of likely mental health needs and goals, (2) initial adaptation of intervention, based on theoretical considerations, (3) iterative change using triangulated qualitative feedback, and (4) small-scale pilot evaluation. The process employed DMM and DFM (Lyon *et al.*, 2014; Weisz and Gray, 2008) principles. It included creative adjustments of learning tools, order and content, but with clear reference to evidence base and formulation. The deployment focused iterative, mixed top-down (theory-driven) and bottom-up (participant-informed) approach resulted in a clinically meaningful intervention that recognises (i) empirical findings concerning best treatment for traumatised and displaced populations, (ii) fundamental psychological principles relating to adolescent developmental needs, as well as neurophysiology of stress, and (iii) real-world clinical feedback. As such, it resulted in a relevant, user-friendly, transcultural and trans-diagnostic approach for supporting young refugees. The remit of this work was not to address PTSD *per se*; the goal was a broader one of evolving an engaging therapeutic milieu for traumatised young asylum seekers. CATS data indicated reliable change for 44% of the total population, which is promising. This study is a pilot trial and subsequent investigations could benefit from these guidelines for developing a therapeutic milieu and focus attention on scrutinising PTSD and C-PTSD outcome.

Clearly, large scale effectiveness testing would be desirable (Weisz and Gray, 2008). Working with UASC, however, involves heterogenous groups, against the background of unstable settings, shifting political grounds, and varied contexts. Even where large enough samples can be recruited, transferability to different contexts likely requires exploration. Displacement and flight remain worldwide challenges. A blueprint demonstration for a small-scale, service-based adaptation process hopes to encourage future adaptive, yet transparent MHPSS design with clear reference to evidence *and* local context. Explicit statement of contextual factors that informed change could facilitate development of rich repertoires for bespoke, context-relevant treatment elements.

Adaptive treatment models for complex populations, while maintaining grounding in evidence-based treatments, have been advocated elsewhere (*AFNCCF Manuals*, n.d.; Lanktree *et al.*, 2012). A future avenue may be developing open-source platforms (as e.g. *AFNCCF Manuals*) for therapeutic communities to capture dynamic intervention adaptations with contributions, informed by local grassroots experience and practice. While facilitating transparent and traceable adaptations relevant to circumstances, this would harness creative expertise of a wide community of local contributors, while allowing scrutiny of treatments for populations who differ from better researched groups on several domains, and often become marginalised in health care provisions.

Conclusions and clinical implications

In summary, the clinical implications of this paper are that pragmatic adaptation of psychological interventions is possible and requires:

- Reference to a broad and pertinent literature: developmental psychology, group dynamics, post-traumatic psychotherapies, cultural diversity, etc.
- Attention to individual needs and resources (problem conceptualisation).
- Attention to the group's needs and resources (problem conceptualisation).
- The marrying of theory with client problems to create bespoke but testable interventions.
- Dynamic (iterative) review of the impact of interventions.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/S1352465823000437>

Data availability statement. The datasets generated and analysed during this study are not publicly available due to sensitive and potentially identifying participant information. The data that support the findings of this study are available upon reasonable request from the corresponding author.

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