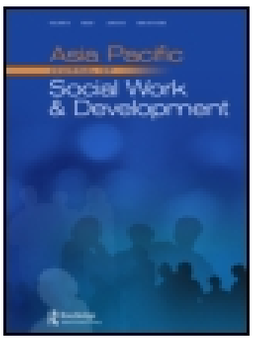

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ARTICLE

Self-reported mental health problems and post-traumatic growth among children in Pakistan care homes

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ABSTRACT

Children in care experience multiple risk factors, particularly in low-income countries such as Pakistan. The aim was to establish rates of mental health problems and their relationship with posttraumatic growth, as reported by 132 children aged 9–19 years, living in three care homes in Pakistan. Children reported high rates of posttraumatic stress (70.45%) and common mental health symptoms (43.94%) within the clinical range, but also high levels of posttraumatic growth. These findings highlight the high levels of mental health needs among children in residential care, as well as the importance of understanding factors that promote their posttraumatic growth and resilience.

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Care; looked after children; children's homes; child mental health; post traumatic growth; low income countries

Introduction

Around 2.7 million children under the age of 18 years live in institutional care all over the world (Petrowski, Cappa, & Gross, 2017). As a substantive proportion of care homes are not officially registered, these figures may be underestimates, with some reports quoting up to eight million children in residential settings (UNICEF, 2009). The majority of these children live in low- and middle-income countries (LMIC). Their characteristics vary considerably, depending on legislation, care systems and available resources (Ainsworth & Thoburn, 2014). Unlike high-income countries, where children are usually accommodated to protect them from abuse and neglect, reasons and pathways to care maybe different or mixed in LMIC. Socioeconomic disadvantage is often a key factor, with a high proportion of children returning to their birth family for certain periods or long-term (Nazeer & Khurram, 2017; Thabet, Thabet, Hussein, & Vostanis, 2007). Poverty is often associated with factors such as political conflict and instability (Ali, 2010; Naqshbandi, Sehgal, & Hassan, 2012), or cultural issues like early marriage (Akram, Anjum, & Akram, 2015).

These factors, as well as other vulnerabilities, pose a well-established risk to their mental wellbeing. Major factors include recurrent trauma exposure to maltreatment, domestic and community violence (Cecil, Viding, Fearon, Glaser, & McCrory, 2017). These are usually mediated by disrupted child–parent relationships, negative parenting styles, and parental ill

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mental health (Eruyar, Maltby, & Vostanis, 2018). Early accommodation and a prolonged period of living in care have also been found to be associated with the development of mental health problems (Hermenau, Hecker, Elbert, & Ruf-Leuschner, 2014).

Children in residential care are faced with the additional risks of being re-traumatised through bullying, sexual harassment, violence and exploitation (Attar-Schwartz, 2014). Having multiple carers and frequent staff changes further disrupt children's attachment relationships. The stigma of being in care *and* having mental health problems are compounding factors (Calheiros, Garrido, Lopes, & Patricio, 2015). Other vulnerabilities include developmental delays, interpersonal difficulties, lack of literacy, and poor school attainment (Alvi, Nausheen, Kanwal, & Anwar, 2017; Ibrahim, El-Bilsha, El-Gilany, & Khater, 2012).

Child mental health research in LMIC care homes has been limited. However, the available evidence consistently highlights the high prevalence of a range of mental health problems. These rates are similar to those established in high-income countries (Familiar et al., 2014; Ford, Vostanis, Meltzer, & Goodman, 2007). The established prevalence rates vary between 20% and 50% (e.g. Egypt: Elebiary, Behilak, & Kabbash, 2010; Turkey: Erol, Simsek, & Munir, 2010; Pakistan: Lassi, Mahmud, Syed, & Janjua, 2011; Kenya: Mutiso, Musyimi, Tele, & Ndetei, 2017). More specifically, across several LMIC, children in care homes have been found to suffer from significantly higher rates of emotional (posttraumatic stress, depressive, anxiety) and behavioural problems than the general population (e.g. orphans through AIDS in South Africa: Cluver & Gardner, 2006, 2007; orphans in Tanzania: Makame, Ani, & Grantham-McGregor, 2002; or children in care homes in Palestine: Thabet et al., 2007). The mental health needs of children in care are also complex in being inter-linked with social, physical health, developmental and educational difficulties (Senefeld, Strasser, & Campbell, 2009).

Although early studies predominantly focused on the role of risk factors, the increasing influence of positive psychology has led to research and interventions that aim to identify and promote protective factors among children exposed to trauma. These protective factors can help children develop adaptive coping strategies and build their resilience in dealing with future stressors (Dutton & Greene, 2010). Such protective factors for children in care include living in a nurturing and stable environment, maintaining positive and regular contact with their birth parents, accessing social support, school attainment (Zabern & Bouteyre, 2018), and having certain individual adaptive attributes (Sobana, 2018). The identification of protective factors is pertinent for children in residential care, as these can buffer previous exposure to trauma and vulnerabilities within the care system, thus inform the assessment of their mental health needs and the formulation of a care plan. They are also important in equipping children and young people towards their next stage of independent living.

The construct of resilience is becoming increasingly influential in research, practice and service development. Indeed, several theories on factors that promote children's resilience, and emerging findings, have shifted our understanding of resilience from only being an individual trait to rather viewing it as a complex phenomenon, which is sensitive to and dependent on socio-cultural and contextual factors (Theron, 2018; Ungar, 2011). Ungar (2015), for example, highlights the seminal importance of both context and culture in his socio-ecological theory of resilience (SERT). These theories and supporting evidence are particularly important for children in care and other vulnerable groups, as they indicate the appropriateness of multi-modal interventions at child, care home,

school and community level (Vostanis, 2017). Rather than only focusing on the child, care plans thus need to consider support for residential caregivers, liaison with the child's school, community activities and life skills training.

Psychological interventions have similarly been expanded from the re-processing of traumatic experiences and the reduction of mental health symptoms, notably post-traumatic stress, to the parallel development of adaptive functioning or posttraumatic growth (PTG). Posttraumatic growth has been heralded as a potentially positive psychological outcome that transcends pre-trauma functioning. This is multidimensional and includes relating to others, exploiting new possibilities, acquiring personal strength, spiritual change, and appreciation of life (Tedeschi & Calhoun, 2004). The term 'growth' denotes that the child can step into a phase of personal development that is more adaptive than their pre-trauma functional level. The term 'posttraumatic' indicates that such growth takes place after an extreme stressor, i.e. PTG does not apply to exposure to mild life stressors and/or as a natural developmental process (Zoellner & Maercker, 2006). Therefore, it is especially relevant to vulnerable groups have experienced complex and recurrent trauma such as children in residential care. Children's posttraumatic growth can be promoted in various ways, is thus relevant to all caregivers and professionals with children in care, rather than only mental health specialists.

Posttraumatic growth may result from constructive cognitive re-processing of trauma, which is often referred to as deliberate rumination (Tedeschi & Calhoun, 2004). This consists of repetitive thoughts directed towards problem-solving or making sense of the event; in contrast with maladaptive rumination or brooding, which includes repetitive thoughts that are automatic and intrusive (Cann et al., 2011). Although both deliberate and maladaptive rumination have been shown to be associated with PTSD symptoms, deliberate rumination has consistently demonstrated positive associations with posttraumatic growth (Stockton, Hunt, & Joseph, 2011; Taku, Cann, Tedeschi, & Calhoun, 2015). Reviewing 25 studies on child posttraumatic growth, Meyerson, Grant, Carter, and Kilmer (2011) highlighted multiple intrinsic and environmental factors that can influence the relationship between traumatic events and posttraumatic growth. The role of PTG has largely been studied following accidents, natural disasters or war, with limited knowledge on its function for children in care, who are chronically exposed to traumatic events. The limited evidence in this field is predominantly based on adult reports, which can under-estimate children's experiences and emotional presentations (O'Reilly, Lester, & Muskett, 2016). This research gap informed the rationale for this study.

Method

Research aims

The aims of this study are the perspectives of children in care homes in Pakistan, on their:

(a) Rates of emerging mental health problems.
(b) Association between different types of child mental health problems and post-traumatic growth.

Policy and service context

In Pakistan, 2% of children under 18 years do not live with their birth parents; 5% have one or both deceased parents; and there has been an increase in recognised cases of maltreatment in recent years (Shujaat, 2015). As there are no official records of children in care homes, an Orphan Registration Policy was established in 2014. Although care homes in Pakistan mostly accommodate the elderly, there has been a growth of institutions for orphaned or disabled children. For instance, the Child Care Foundation (CCF) was set up in 1996 to ensure the prevention, elimination and rehabilitation of child labour. Other examples include the SOS Children's Villages for orphans, Darul Sukun and Darul Khushnud for children with disabilities.

Participants

A convenience sampling frame was adopted to recruit participants from three care homes: two boys' homes in Karachi and one girls' home in Gilgit Baltistan, in the North East of the country. Of the total 65 and 24 male residents, 29 and 16 consented to participate, respectively; as well as 100 of 151 female residents. The study thus initially surveyed 145 children, of whom 13 were subsequently removed from the analysis, due to their scores being outliers. Of the remaining 132 participants, 35 were boys and 97 girls, aged 9–19 years (M= 13.86, SD= 1.96). Participants had completed secondary (47.73%) or primary school (43.18%), followed by matriculation (4.55%) or intermediate (4.55%) educational level.

Measures

The Children Revised Impact of Events Scale (CRIES-13; Horowitz, Wilner, & Alvarez, 1979) was used as a measure of PTSD symptoms. This comprises 13 items split into three subscales of intrusion, avoidance and arousal symptoms. Items are rated on a 4-point Likert scale ranging from 0 (not at all) to 5 (often). The summation of all 13 items gives a total score ranging from 0 to 65. A cut-off score of 30 has been found to indicate the likely presence of PTSD that requires at least an assessment, with a view to providing an intervention (Perrin, Meiser-Stedman, & Smith, 2005). Cronbach's alphas in this study were .59 for intrusion, .58 for avoidance, and .69 for arousal subscales.

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is a widely used measure of common child mental health problems. The SDQ includes 25 items divided into five subscales of emotional, conduct, hyperactivity and peer relationships problems; and prosocial behaviours. Each item is rated on a Likert scale ranging from 0 (not true) and 2 (certainly true). A total difficulties score is estimated by summing the 20 items of the four problems subscales. A cut-off score between 0–14, 15–17, 18–19, and 20–40, respectively, refers to close to average, slightly raised, high, and very high difficulties; while for prosocial behaviours, a cut-off score of 7–10, 6, 5, and 0–4, respectively, indicates close to average, slightly raised, high, and very high degree of prosocial (adaptive) capacity. Cronbach alphas were .53 for emotional, .51 conduct, .45 hyperactivity, .53 peer relationships problems; and .58 for prosocial behaviours. The SDQ has previously been used in an epidemiological study with school children in Karachi (Hussein, Vostanis, & Bankart, 2012).

The Posttraumatic Growth Inventory for Children–Revised (PTGI-C-R; Tedeschi & Calhoun, 1996) is an established measure of posttraumatic growth. It consists of 10 positively worded items grouped into five subscales of new possibilities, relating to others, personal strength, appreciation of life, and spiritual change. Responses on each statement are made on a Likert scale ranging from 0 (no change) to 3 (a lot of change). The summing up of all 10 items produces a total growth score, with higher scores being indicative of greater growth. A cut-off score of 20 or higher is indicative of average responses that lead to some perceived change, while a score of 10 or lower is indicative of average responses that bring little or no change (Tedeschi & Calhoun, 1996). Cronbach's alphas were .54 for new possibilities, .58 relating to others, .87 personal strength, .62 appreciation for life, and .72 for spiritual change.

Research procedure

As there was no formal research ethics governance in place locally, the study received ethical approval from the Psychology Research Ethics Committee of the University of Leicester in the UK. Initially, a meeting was set up with the Director of each care home, who provided provisional agreement for the researchers to access the children and their legal guardians. Written consent was provided by the child's legal guardian (social worker or care home manager). During a formal meeting, eligible participants were approached, and the aims and procedure of the study were explained to them in developmentally appropriate terms (O'Reilly, Ronzoni, & Dogra, 2013). In particular, researchers highlighted that their confidentiality would be ensured and that they had the option not to take part, even if their guardian had consented. They were also assured that taking part would not affect the care or other services they received. Participants subsequently completed self-rated questionnaires in paper format, where items were presented in their native language, Urdu. Questionnaires were administered in their care homes. A researcher was present at all times to clarify items, answer any questions, reassure the children, and direct them to appropriate help if required.

Data analysis

Cut-off scores were estimated for the main variables, according to the previously presented literature, in order to determine their frequencies. Descriptive statistics established the participants' profile. No serious issues were identified regarding the distribution of the data, as skewness and kurtosis values ranged between ±2. The only exception was the subscale Other spiritual change, which could be anticipated, as participants were drawn from a religious community. Independent sample t-tests were thus used to analyse differences in CRIES-13, SDQ and PTGI scores according to participants' gender and education status. Correlations between the variables were calculated by using Pearson's correlation coefficients. A series of multiple regressions was carried out to examine the impact of CRIES and SDQ scores on PTGI scores. The data were analysed using IBM SPSS for Windows 24.0.

Results

Rates of child mental health problems and posttraumatic growth

High rates of likely PTSD were reported by the children, as more than two-thirds (70.45%) scored above the CRIES-13 cut-off score (Table 1). Rates for likely common mental health problems were lower, but still substantive, with 43.94% scoring within the high/very high SDQ score range. Interestingly though, almost all children (98.48%) also reported positive changes in posttraumatic growth.

Gender differences on child mental health problems and posttraumatic growth

Girls showed higher rates of likely PTSD (78.35%), compared to boys (48.57%). In terms of common mental health problems, 51.55% of girls reported high/very high SDQ scores, compared to 22.86% of boys. Both boys (97.14%) and girls (98.97%) predominantly reported to have indicative of an average response of some perceived change. An independent sample t-test was performed to compare girls and boys on total and subscales scores. Results showed that girls reported significantly higher levels of intrusion (13.35 vs 9.51), arousal (16.94 vs 10.89) and total PTSD scores than boys (38.32 vs 26.46). Girls also reported significantly higher emotional (6.86 vs 4.63) and total difficulties scores (15.59 vs 13.26), whereas boys reported significantly higher peer problems scores (3.70 vs 2.74). As for posttraumatic growth, girls scored significantly higher in terms of looking for new possibilities (5.38 vs 4.29) and total growth (27.53 vs 25.86) than boys. As care homes were either all boys or girls settings, this variable could not be disentangled from gender in the analysis.

Relationship between child mental health problems and posttraumatic growth

A Pearson product moment correlation was conducted to explore the relationship among the subscales of PTSD, common mental health problems and posttraumatic growth (Table 2). Intrusion, arousal and total CRIES-13 scores were significantly positively related with emotional, hyperactivity, peer problems, and total SDQ scores. CRIES-13 scores were not found to be correlated with PTGI scores. Conduct problems were significantly negatively correlated with the PTGI subscale relating to others. Age was

Table 1. Rates of PTSD, general mental health problems and posttraumatic growth.

			Overall		Boys		Girls	
Variable	Cut-off score		n	%	n	%	n	%
PTSD	CRIES ≤ 29	-	39	29.55	18	51.43	21	21.65
	CRIES ≥ 30	Likely presence of PTSD	93	70.45	17	48.57	76	78.35
SDQ	0 ≤ SDQ ≤ 14	Close to average	42	31.82	20	57.14	22	22.68
	15 ≤ SDQ ≤ 17	Slightly raised	32	24.24	7	20.00	25	25.77
	18 ≤ SDQ ≤ 19	High	28	21.21	5	14.29	23	23.71
	20 ≤ SDQ ≤ 40	Very high	30	22.73	3	8.57	27	27.84
PTGI	PTGI ≥ 20	Indicative of average responses of some perceived change	130	98.48	34	97.14	96	98.97
	10 < PTGI < 20	-	2	1.52	1	2.86	1	1.03
	PTGI ≤ 10	Indicative of average responses of little or no change	-	-	-	-	-	-

Table 2. Association between mental health and posttraumatic growth scores (n = 132).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age	1																
CRIES-13																	
2. Intrusion	.41**	1															
3. Avoidance	.35**	0.13	1														
4. Arousal	.29**	.62**	0.16	1													
5. Total score	.47**	.78**	.56**	.85**	1												
SDQ																	
6. Emotional problems	−0.17	.31**	0.01	.45**	.37**	1											
7. Conduct problems	0.06	0.08	0.13	0.02	0.10	0.17	1										
8. Hyperactivity	0.02	.19*	−0.01	.32**	.24**	.31**	.21*	1									
9. Peer problems	.18*	.33**	0.08	.25**	.30**	0.10	.30**	0.09	1								
10. Prosocial	−0.02	−0.01	−0.03	0.00	−0.01	0.14	−.25**	−0.06	−0.15	1							
11. Total difficulties	0.04	.38**	0.08	.42**	.41**	.64**	.65**	.61**	.619**	−0.12	1						
PTGI																	
12. Relating to others	0.06	−0.05	0.12	0.16	0.12	0.02	−.23**	0.06	−0.05	0.08	−0.08	1					
13. Personal strength	−.20*	−.23**	0.00	−.39**	−.30**	−0.05	−0.03	−0.01	−0.13	0.12	−0.09	0.09	1				
14. Appreciation of life	0.06	0.06	0.00	−0.02	0.01	0.02	−0.02	−0.04	0.01	0.01	−0.01	.24**	0.06	1			
15. Spiritual change	−0.07	0.01	0.05	−0.04	0.00	0.06	0.08	0.03	0.04	−0.08	0.09	−0.03	0.04	0.00	1		
16. New possibilities	−0.03	0.09	0.11	0.08	0.13	0.17	−0.02	0.08	0.15	0.15	0.16	0.05	.25**	0.13	0.00	1	
17. Total PTGI	−0.09	−0.06	0.10	−0.12	−0.05	0.08	−0.09	0.04	0.00	0.15	0.01	.46**	.68**	.50**	0.15	.67**	1

**$p < 0.01$, *$p < 0.05$

positively correlated with intrusion, avoidance, arousal, total CRIES-13, and peer problems scores; and was negatively correlated with personal strength.

Regression model between child mental health problems and posttraumatic growth

We performed five multiple regression analyses, with PTGI subscales scores (relating to others, personal growth, appreciation of life, spiritual change, and new possibilities) being the dependent variables; while CRIES-13 (intrusion, avoidance and arousal) and SDQ subscales scores (emotional, conduct, hyperactivity, and peer problems; prosocial behaviours) were entered in the series as independent variables. Concerning assumptions of multiple regression analysis, an *a priori* sample size calculator was used to estimate the minimum required number of participants. The estimation was based on a desired probability level of $p < 0.05$, a number of eight independent variables in the model, a medium anticipated effect size ($f^2 = 0.15$), and a desired statistical power level of 0.80. The results yielded the minimum required sample size as n= 108, suggesting that the current sample size of n = 132 employed for this analysis exceeded these criteria. Multicollinearity diagnostics were checked, using variance inflation factor (VIF) and tolerance statistics. No concerns around multicollinearity were identified, as tolerance factors were more than 0.2 (range = 0.50–0.97) and VIF was less than 10 (range = 1.04–2) (Cheung & Rensvold, 2002). Cook's distance (Cook, 1977) indicated that the influence of a single case on the overall model was not a serious issue, as all absolute values were lower than 1.

A summary of the results of the regression analyses is presented in Table 3. Intrusion (β = −.22) CRIES-13 subscales and conduct problems SDQ subscales scores (β = −.25) significantly negatively predicted relating to others; while arousal positively predicted relating to others (β = .25): F [8, 131] = 2.34, r = .36; r^2 = .13, $p < .05$. Arousal (β = −.52), however, also negatively predicted personal growth: F[8, 131] = 3.86, r = .45; r^2 = .20, $p < .05$. No CRIES-13 or SDQ subscales scores significantly predicted appreciation of life, spiritual change, or new possibilities.

Discussion

The key findings of this study are in line with research on the mental health of children in care across the world, i.e. both in high- and LMIC. Children reported high rates of emotional and behavioural problems, and particularly high levels of posttraumatic stress symptoms. These indicate both their vulnerability and also the likelihood that they have been exposed to severe trauma, rather than only being accommodated on socioeconomic grounds. At the same time, children also demonstrated trends of posttraumatic growth along its different domains, which was a promising finding, both in terms of children's resilience in the face of adversity and in informing future interventions. These patterns are no longer viewed as 'either or' between children suffering from mental health problems whilst also demonstrating adaptive capacity, as this dynamic interaction and co-existence between negative and positive aspects of functioning can be understood within the resilience frameworks discussed earlier (Theron, 2018; Ungar, 2004).

The higher rates of predominantly emotional presentations among females was also largely consistent with the literature, with girls reporting significantly higher rates of internalising problems, and boys exhibiting more externalising behaviours (Morgos,

Table 3. Multiple regression models.

	Relating to others				Personal strength				Appreciation of life				Spiritual change				New possibilities			
Variable	B	Beta	t	Sig.	B	Beta	t	Sig.	B	Beta	t	Sig.	B	Beta	T	Sig.	B	Beta	t	Sig.
CRIES-13																				
Intrusion	−0.04	−0.22	−2.01	0.05	0.01	0.03	0.25	0.80	0.02	0.13	1.08	0.28	0.00	0.04	0.38	0.71	0.00	0.01	0.12	0.90
Avoidance	0.02	0.14	1.62	0.11	0.02	0.08	1.02	0.31	0.00	0.00	−0.02	0.98	0.00	0.06	0.67	0.50	0.03	0.12	1.41	0.16
Arousal	0.03	0.25	2.14	0.03	−0.11	−0.52	−4.51	0.00	−0.01	−0.11	−0.86	0.39	−0.01	−0.15	−1.15	0.25	−0.02	−0.08	−0.70	0.49
SDQ																				
Emotional	−0.01	−0.02	−0.16	0.88	0.09	0.13	1.36	0.18	0.02	0.05	0.47	0.64	0.02	0.12	1.09	0.28	0.10	0.16	1.55	0.12
Conduct	−0.12	−0.25	−2.63	0.01	−0.05	−0.06	−0.64	0.53	−0.01	−0.02	−0.22	0.83	0.00	0.02	0.20	0.84	−0.07	−0.10	−1.01	0.31
Hyperactivity	0.04	0.08	0.91	0.36	0.10	0.13	1.44	0.15	−0.02	−0.04	−0.44	0.66	0.00	0.02	0.20	0.84	0.05	0.07	0.75	0.45
Peer	0.01	0.02	0.23	0.82	−0.01	−0.01	−0.10	0.92	0.00	0.00	−0.03	0.98	0.00	0.02	0.24	0.81	0.12	0.18	1.87	0.06
Prosocial	0.01	0.03	0.31	0.76	0.08	0.09	1.08	0.28	0.00	0.00	0.00	1.00	−0.02	−0.09	−0.91	0.37	0.11	0.14	1.54	0.13

Worden, & Gupta, 2008); although some studies have not detected any gender effects, especially in relation to PTSD (Kia-Keating & Ellis, 2007). Some authors have explained these trends in the use of different coping strategies, i.e. boys using more problem-solving and girls commonly using emotion-focused strategies (Al-Arjani, Thabet, & Vostanis, 2008). This explanation could have implications for differential strategies according to gender and other factors.

Unlike previous studies, there was a less robust association between mental health problems and posttraumatic growth, although intrusion PTSD symptoms and behavioural problems were negatively correlated to children's ability to develop peer relationships. This seemingly contradictory transitional period of children experiencing distress, which may be internalised or acted out, whilst also developing adaptive functional skills in terms of posttraumatic growth, is crucial for their future outcome. This requires skilled management within the care home and by external professionals, ideally working together in reducing the former while enhancing the latter. The recognition of emotional problems such as PTSD, anxiety and depression relies on staff training in observing subtle changes; as well as in building trusting relationship with the children, so that they share cognitions and feelings, particularly related to deliberate self-harm, before they become entrenched.

Externalising presentations are easier to detect but more difficult to manage. These could involve verbal or physical aggressive outbursts directed at carers or other residents, or antisocial behaviours such as stealing, using illicit substances or other types of offending outside the care home. In this case, it is important to understand the context of these behaviours, which is especially hard in settings with multiple carers, who may respond differently to the same behaviours – for example, one staff member would be sympathetic while the next one could be punitive, thus confuse the child. Detailed records of behavioural patterns, clear communication, individualised care plans, regular staff meetings to review these plans, consistent responses, and joint strategies with teachers, social workers and mental health professionals are all essential in addressing longstanding behavioural patterns. A thorough assessment and formulation of intervention goals will inform the staff when they need to address the behaviours as trauma-induced (emotional dysregulation for children who suffered maltreatment), thus requiring attachment-based strategies; and when these are learned (conduct problems or disorders); hence, they require strategies informed by social learning.

Despite differences on the profile of children admitted to care, care pathways, settings and measures used, global evidence is consistent on the severity and complexity of the mental health needs facing this particularly vulnerable population (Familiar et al., 2014). The nature of these mental health needs is often not clear from questionnaire-based assessments (contrasted with diagnostic interviews) as, for example, the heterogeneous group of behavioural (or conduct problems) includes externalising presentations of distress, which can be explained by children's experience of trauma and disrupted attachment relationships, prior to and while being in care (Majeed, Khan, & Khan, 2014). This understanding is important for carer and staff training, as well as for developing attachment-focused and trauma-informed interventions (Levine, 2008; Van der Kolk, 2014; Vostanis, 2014). The close relationship between mental health, social care, educational, physical, and developmental needs also indicates the importance of integrated care and service provision. This can be particularly challenging for care homes

and Social Services in LMIC, which have limited access to mental health resources. For these reasons, such extensive individual needs and collective service gaps should be co-addressed at different levels.

Integration between health and social care should begin at policy level, if this is to be mirrored on the ground. Children's rights should inform standards in setting up, approving and monitoring care homes for vulnerable groups such as orphaned or street children (Nazeer & Khurram, 2017; Shanthi & Eljo, 2014). Care settings need to establish direct links to health and social care agencies, including non-governmental organisations (NGOs), which undertake a substantial proportion of welfare and psychosocial provision in LMIC. Accountability must ideally lie with the state, otherwise a legally approved representative agency. Within each care home, standards of care should include meeting children's mental, physical and developmental needs. An identified key worker or case manager is best placed to corroborate information and co-ordinate input from different agencies, birth and extended families, no matter how limited their resources are. An inter-agency approach should aim to prevent children's accommodation and to facilitate their rehabilitation, wherever possible. Children's active participation is paramount in this process (O'Reilly et al., 2016).

The findings have implications for training at different levels (Ismail, Hidawi, Awamleh, & Alawamleh, 2018), as children's mental well-being is everyone's responsibility (Tamburrino, Getanda, O'Reilly, & Vostanis, 2018). Residential carers to acquire nurturing skills, and for all professionals and volunteers involved in a child's care plan to adapt psychosocial principles to their agency remit (Vostanis, 2017). The shift from only addressing risk factors to strengthening children's posttraumatic growth resilience is increasingly influencing services for vulnerable groups (Nabunya et al., 2019; Shariff & Zadeh, 2018; Tefera & Mulatie, 2014). Training should thus not be confined to trauma-related interventions, but also include resilience-building programmes in enhancing children's life skills, coping strategies, interpersonal relationships, and school attainment. These can be based on similar therapeutic frameworks such as creative or cognitive-behavioural approaches, albeit with a different 'here-and-now' rather than trauma-reprocessing focus (Vostanis, 2016).

Training in an interdisciplinary context is effective in sharing knowledge of agency roles and establishing networks, especially for children who are likely to require a multimodal approach (Vostanis, O'Reilly, Duncan, Maltby, & Anderson, 2019). A scaled service model can maximise the use of resources, including direct access to mental health services for children with more severe psychiatric disorders that have not responded to other interventions (Vostanis, 2018).

A number of limitations in this study should also be acknowledged. Although child-informed evidence is generally lacking in this field, corroboration with carers and other important adults would have enhanced the validity of the findings. The recording of the reasons for entering care in conjunction with the measurement of experienced life events would have shed more understanding on the nature of children's pre- and care adversities. This could have been aided by interviews with some children, their carers and Social Workers on their perspectives. Such an approach would prevent over-reliance on paper–pencil surveys, particularly with young groups with developmental and literacy difficulties. It could also help understand any gender-influenced bias in reporting mental health problems and PTG. Future research should explore the cultural and care context

across different LMIC, so that they inform the development of appropriate psychosocial interventions and service systems.

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