A R T I C L E

ASSESSING THE PREVALENCE OF MENTAL HEALTH DISORDERS AND MENTAL HEALTH NEEDS AMONG PRESCHOOL CHILDREN IN CARE IN ENGLAND

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ABSTRACT: Although school-aged children living in foster care have been identified as a high-risk group for mental health and developmental disorders, there is a paucity of data relating to preschool children in care (CIC). This study aimed to identify the prevalence of mental health and developmental disorders along with corresponding need for interventions in preschool CIC. All CIC aged 0 to 5 years in an inner city local authority underwent comprehensive, multifaceted assessments consisting of the Ages and Stages Questionnaire (J. Squires, D. Bricker, & E. Twombly, 2003), interviews with caregivers based on the Preschool Age Psychiatric Assessment (H.L. Egger & A. Angold, 2006), Mullen Scales of Early Learning (E.M. Mullen, 1995), and systematic clinical observation. Of 58 eligible preschoolers, 43 completed the assessment. At least one mental health disorder was found in 26 (60.5%) participants, and at least one developmental disorder was found in 11 (25.6%). When mental health and/or developmental disorders were considered together, 30 (69.8%) preschoolers fulfilled criteria for at least one diagnosis, and 18 (41.9%) had two or more comorbid conditions. Whereas 36 (83.7%) of the preschoolers needed an intervention, only 3 of these had received adequate input. In conclusion, preschool CIC constitute a high-risk group for mental health and developmental disorders. Without age-appropriate assessments, their needs go undetected, and opportunities for early intervention are being missed.

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PREVIOUS RESEARCH

Significant numbers of children are removed from their families and placed in local authority care each year in England. Preschool children form a large proportion of this group; 35% of the 24,200 children entering care during 2005 to 2006 were 0 to 4 years of age (Department for Education, 2007). This figure equates to 82 per 10,000 preschool children in the general population who entered local authority care in 2005 to 2006. As society has particular responsibility for these children, gathering systematic information about their mental health and development is important. Children in care (CIC) have an increased likelihood of developing mental health disorders secondary to the adversities experienced prior to and after their entry into care (Tarren-Sweeney, 2008a). The reasons for children aged 0 to 4 years entering care in England include abuse and neglect (65%), family dysfunction (10%), acute family stress (9%), and parental illness or disability (9%). Once in care, they were often exposed to further adversity. Among preschoolers who ceased to be in care in 2005 to 2006, 53% had three or more placement changes, and 47% had been in care for 1 to 4 years (Department for Education, 2007).

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The preschool years constitute a period of particular vulnerability since children are at the highest risk for maltreatment during this critical stage of their development (Department for Education and Skills, 2006). At the same time, the preschool years offer unique opportunities for early and preventative intervention because of the high developmental plasticity during this period. Intervening within this critical time frame can prevent emerging mental health and developmental disorders from becoming persistent (Anderson et al., 2003; Durlak & Wells, 1997).

The epidemiology of mental health disorders in preschool children is still a relatively new and emerging field. Conversely, research that has examined the prevalence of mental health disorders in school-aged children is quite extensive. A review of 52 studies set within the general population has shown that prevalence rates tended to fall in the range of 10 to 15% (Roberts, Attkisson, & Rosenblatt, 1998). The few existing studies that have examined preschool children within the general population have found comparable prevalence rates (Egger & Angold, 2006; Skovgaard, et al., 2007). Despite this, preschoolers are often considered "too young" to warrant individual assessments, and they are far less likely than are school-aged children to receive professional help (Carter, Briggs-Gowan, & Davis, 2004; Kataoka, Zhang, & Wells, 2002). This suggests that opportunities for early intervention are being missed.

INFANT MENTAL HEALTH JOURNAL, Vol. 33(4), 411–420 (2012)

View this article online at wileyonlinelibrary.com.
DOI: 10.1002/imhj.21327

Among school-aged CIC, rates of mental health disorders have been well documented. A comprehensive survey in England found that 45% of CIC aged 5 to 17 years had a mental health disorder, which represented a fivefold increase compared to children living in private households (Meltzer, Corbin, Gatward, Goodman, & Ford, 2003). This disadvantage was maintained when the mental health of CIC was compared to the most socioeconomically disadvantaged children (Ford, Vostanis, Meltzer, & Goodman, 2007). These data are supportive of other studies, which have found similarly high levels of mental health disorders in school-aged CIC (Blower, Addo, Hodgson, Lamington, & Towlson, 2004; McMillen et al., 2005; Mount, Lister, & Bennun, 2004). Even though CIC have been identified as a high-risk group for mental health disorders, these often go undetected and remain untreated (McMillen et al., 2005; Mount et al., 2004).

In view of the limited number of studies that have addressed the mental health of preschoolers in the general population, it is not unexpected that there is a paucity of data concerning preschool CIC. The literature reviewed has suggested high rates of mental health disorders and corresponding high levels of (unmet) need. Indeed, the few studies completed so far have shown that between 23 to 61% of preschool CIC show mental health and developmental disorders (Chernoff, Combs-Orme, Risley-Curtiss, & Heisler, 1994; Klee, Kronstadt, & Zlotnick, 1997; Milburn, Lynch, & Jackson, 2008; Reams, 1999; Sempik, Ward, & Darker, 2008; Urquiza, Wirtz, Peterson, & Singer, 1994). However, the majority of these studies have employed methods for ascertaining mental health disorders that were limited and not in keeping with recommendations for the assessment of preschoolers (Thomas et al., 1997). Moreover, only two studies have provided data on the mental health needs of preschool CIC; they found that between 33 and 55% needed an intervention (Chernoff et al., 1994; Reams, 1999). In contrast, developmental disorders and needs were better identified by use of developmental scales with known psychometric properties (Chernoff, Combs-Orme, Risley-Curtiss, & Heisler, 1994; Klee, Kronstadt, & Zlotnick, 1997; Reams, 1999; Urquiza,Wirtz, Peterson, & Singer, 1994).

The present study was a cross-sectional survey aiming to examine the point-prevalence of mental health and developmental disorders and level of mental health need in a representative sample of preschool-aged children under the care of a single local authority in England. It employed comprehensive, multifaceted assessment protocols for both mental health and developmental difficulties, which resulted in recommendations for interventions for each participant.

METHOD

Design, Setting, and Participants

The study was set in an inner city borough with high levels of deprivation, ethnic diversity, and a transient population. The proportion of children placed in local authority care and the proportion of children remaining in care for at least 1 year in the study area were comparable to other inner city boroughs (Hayward & James, 2008). Social services in the borough had been under particular scrutiny because of serious safeguarding failures shortly before the start of the study. The ensuing Office for Standards in Education, Children's Services and Skills (Ofsted) inspection in 2008 was highly critical of the borough's child protection systems. However, the provision for children under the care of the local authority (i.e., the participants of this study) was deemed to be "good."

Participants of this study were identified by obtaining biographical details about all CIC under the age of 6 years on the local authority's database on May 12, 2008. Some of the children listed were ineligible for the present study due to predefined exclusion criteria. Children placed outside a 15-mile radius of the clinic were excluded for practical reasons. Children who were about to be adopted were excluded to minimize disruption of the adoption process. The researchers did not have permission to include a proportion of children because they had restricted case files; this applied to children who required additional measures to preserve both their anonymity and safety or those with high-profile cases involved in court proceedings.

An evaluation of mental health and developmental difficulties is part of the statutory health assessments offered to all children entering care in England. Participants of the present study were provided with a more systematic and comprehensive evaluation than that typically available in the borough. Ethical approval was obtained from the local research ethics committee on May 6, 2008 (Reference No. 08/H0723/29). Consent for participation in the study was obtained from those holding parental responsibility.

Measures and Data Collection

Information about the children's age, gender, ethnicity, age at entry into care, placement inside or outside the borough, and type of placement was obtained from social services records. The following measures were used for the purpose of the clinical assessment.

Ages and Stages Questionnaire: Social-Emotional (ASQ:SE; Squires, Bricker, & Twombly, 2003). The ASQ:SE is a caregiver-completed questionnaire for use with children from 3 to 66 months of age (). The ASQ:SE is a screening tool which aims to identify children with socioemotional difficulties. Parallel versions for different age bands are available to evaluate functioning across seven domains: self-regulation, compliance, communication, adaptive functioning, autonomy, affect, and interaction with people. Age-specific cutoffs for the different parallel versions have been given. The ASQ:SE has good reliability (Cronbach's $\alpha = 0.82$); test-retest reliability (94%), sensitivity (78%), and specificity (94.5%) (Squires et al., 2003).

Preschool Age Psychiatric Assessment (PAPA). The PAPA is an interviewer-based diagnostic measure which covers the full range of mental health problems. The clinician takes the child's caregiver through a highly structured interview with the aim of obtaining information about symptoms and impairment. The PAPA is a validated instrument and can be used in both research and clinical settings, and its reliability is comparable to interview schedules

commonly used with older children or adults (Egger & Angold, 2006). The PAPA consists of 25 modules in total. To arrive at the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10; World Health Organization, 1992) diagnoses for the most common disorders in this age group, paper versions of the following modules were used in this study: depression, conduct problems, attention deficit hyperactivity disorder, regulation/habit, eating and food-related behaviors, sleep, elimination, separation anxiety, anxious affect, worries, reactive attachment disorder symptoms, and posttraumatic stress. Modules relating to other diagnostic categories such as mania, psychosis, tics and tricottillomania, somatization, stereotypies and unusual speech, and rituals and repetitions were not employed due to time constraints. The modules relating to background information (e.g., parental psychopathology, life events) also were excluded because most foster caregivers were not privy to the child's family history.

The Parent–Infant Relationship Global Assessment Scale (PIR-GAS) . The PIR-GAS was used to measure the quality of the infant–caregiver relationship (ZERO TO THREE, 2005). It is based on three components of an infant–parent/caregiver relationship: behavioral quality of the interaction, affective tone, and psychological involvement. The scale provides a continuous distribution from *grossly impaired* (0) to *well-adapted* (100). Difficulties in the caregiver–child relationship were further classified using the Relationships Problems Checklist (RPCL) as overinvolvement, underinvolvement, anxiety/tension, anger/hostility, and verbal/physical/sexual abuse. The RPCL, as does the PIR-GAS, provides definitions for each of its categories using the components of characteristic behavioral quality, affective tone, and psychological involvement.

Mullen Scales of Early Learning. The Mullen Scales of Early Learning (AGS ed.) is a measure of cognitive functioning for infants and preschool children up to 68 months of age. The Mullen Scales provide normative scores for a child's abilities in five specific cognitive domains: gross motor, visual reception, fine motor, receptive language, and expressive language. The composite score is a summary score which can be calculated by totaling the latter four standardized scores. The Mullen Scales are based on extensive diagnostic observation and research, and are founded upon information processing and neurodevelopmental theories (Mullen, 1995).

The Placement Stability Rating Scale (PSRS). This self-report questionnaire was completed by foster caregivers and aimed at the identification of foster placements at risk of disruption or breakdown. The PSRS was developed by the mental health service for CIC in the study area and is being used for the identification of placements needing additional support. The PSRS consists of 30 items covering the following domains: external support, caregiver's relationship with social worker, coping in caregiver, problems with contact arrangements, impact on caregiver's family, foster child's behavior, denial of problems, and relationship between foster child and caregiver.

Clinical Observational Assessment

Qualitative information obtained during the face-to-face contacts with the children was systematically recorded. Observations about the caregiver and child interacting and the quality of their affective bond as well as the child's response to the clinician were documented. Children were observed regarding their general appearance, facial expression, eye contact, explorative behavior, response to transitions, motor activity, self-regulation, seeking and acceptance of comfort, compliance, enjoyment and sharing, approach–avoidance behavior, response to separation from and reunion with caregiver, mood and affect, play, and concentration (Thomas et al., 1997).

Procedure

All caregivers looking after children eligible for participation in this study were informed about the project and sent the ASQ:SE and the PSRS. Upon return of the questionnaires, appointments for the clinical assessments were made. Nonrespondents received three telephone reminders and were offered assistance with completion of the questionnaires. The clinical assessments were arranged to take place in a local health center or at the foster caregiver's home depending on their preferences and needs. The majority of clinical assessments took 90 to 120 min; when necessary, more than one appointment was offered to complete assessments. The clinical assessment consisted of a "warm-up" during which the assessment procedure was explained and the cooperation of the child and caregiver was gained. Following this, the aforementioned instruments were administered. The clinical findings derived from the assessments and the resulting recommendations for interventions were summarized in clinic letters, which were sent to the children's social workers and general practitioners.

Two clinicians working for a dedicated mental health service for CIC independently reviewed the data obtained for each individual child to attain an ICD-10 diagnosis. The clinicians were required to specify independently for each diagnostic category whether the disorder was "absent," "possible," or "probable." To obtain conservative estimates for the prevalence of mental health disorders, only "probable" ratings were included in the present analysis. Children with depression, anxiety disorders, or posttraumatic distress were assigned to the category of emotional disorders. Those with oppositional defiant disorder, conduct disorder, or hyperkinetic disorder were reported under the category of behavioral disorders. Disinhibited and reactive attachment difficulties were combined into the category of attachment disorders. The category of adaptive disorders included feeding disorders, sleep disorders, elimination disorders, and habit disorders.

Based on each child's diagnosis and symptom profile, clinicians determined, independently of each other, whether each child would benefit from any of a set of predefined interventions and recorded whether these were already in place. Accordingly, children were assigned to the categories of "no need," "watchful waiting" (further monitoring, but no intervention yet), "met need"

(adequate care provided), "partially met need," and "unmet need." These categories were employed in a previous study that had examined the mental health needs of older children (Kroll, Harrington, & Bailey, 2000).

The predefined interventions considered for each child, and the conservative assumptions about the number of appointments required to deliver them, are given later (Dozier et al., 2006; Golding, 2004). One appointment was assigned for consultation to the social worker or professional network. One appointment was deemed necessary to provide the foster caregiver with developmental advice. Three sessions were allocated for individual work with the foster caregiver to help him or her to better understand and support the child in the placement. It was thought that five sessions would be required when the child and foster caregiver needed to be seen together for infant–caregiver therapy. Children could potentially concurrently receive all interventions, except for the combination of three sessions of individual work for their caregiver and infant–caregiver therapy to avoid overlap and confusion.

The individual ratings regarding diagnosis and unmet need status were compared at a subsequent meeting, and a consensus was reached after discussion of each case. For the two cases where the clinicians disagreed, a third clinician was asked to determine how the case should be coded.

Statistical Analyses

The sample-size calculation was based on an assumption of a prevalence rate of 60% (Reams, 1999) and a national population size of 25,000 preschool CIC. The value for precision was set low at 15% since this was an exploratory study, and a resource intensive assessment protocol was employed (Naing, Winn, & Rusli, 2006). Using this value for precision, it was calculated that 41 children would need to be assessed.

The statistical analyses were performed using SPSS 14.0, and the following tests were used: chi-square test, t-test analysis, and Cohen's κ.

RESULTS

Sample Characteristics

There were 77 preschool children under the care of the Local Authority on May 12, 2008; of these, 19 children were ineligible for participation in the study for the following reasons: Six lived outside the 15-mile radius of the clinic, 3 were in the process of being adopted, and 10 had restricted case files. The two postal questionnaires, PSRS and ASQ:SE, were sent to the remaining 58 children, of which 52 were returned. Six caregivers refused cooperation with the study, and 9 children had left care by the time they could be offered a clinical appointment. Consequently, a total of 43 children completed the comprehensive clinical assessment. There was no statistically significant difference, $p = .91$, two-tailed, between the mean ASQ:SE summary scores for the 43 participants ($M = 47.6$, $SD = 43.2$) and the 9 children who had left care ($M = 49.4$, $SD = 54.3$).

TABLE 1. *Sample Characteristics*

	Participants ($n = 43$)	Nonparticipants ($n = 34$)	p
Gender			0.30
Female	14 (32.6)	15 (44.1)	
Male	29 (67.4)	19 (55.9)	
Age*			0.02
0–24 months	19 (44.2)	24 (70.6)	
25–72 months	24 (55.8)	10 (29.4)	
Ethnicity			0.36
White	10 (23.2)	13 (38.2)	
Black	20 (46.5)	13 (38.2)	
Other	13 (30.2)	8 (23.5)	
Length of time in care			0.35
<1 month	7 (16.3)	5 (14.7)	
1–24 months	29 (67.4)	26 (76.5)	
25–48 months	7 (16.3)	2 (5.9)	
49–60 months	0	1 (2.9)	
Age at entry into care			0.37
<1 month	13 (30.2)	15 (44.1)	
1–12 months	8 (18.6)	8 (23.5)	
13–24 months	6 (14.0)	5 (14.7)	
25–48 months	11 (25.6)	3 (8.8)	
49–75 months	5 (11.6)	3 (8.8)	
Location			0.02
Inside borough	29 (67.4)	14 (41.2)	
Outside borough	14 (32.6)	20 (58.8)	
Type of care			0.24
Local authority foster caregiver	31 (72.1)	18 (52.9)	
Kinship caregiver	2 (4.7)	4 (11.8)	
Agency foster caregiver	10 (23.3)	11 (32.4)	
Residential accommodation	0	1 (2.9)	

*Child's age at the time of enrolment in the study.

Table 1 provides sociodemographic data and allows comparisons between participants and nonparticipants of this study. There were statistically significant differences in relation to age and location between participants and nonparticipants, indicating that children aged 0 to 24 months and those placed outside the borough were underrepresented. This was to be expected since children living outside a 15-mile radius from the clinic were excluded from the study. Furthermore, a larger percentage (42%) of the younger children aged 0 to 24 months were involved in court proceedings or adoption plans than were children aged 25 to 72 months (30%).

Developmental Test Results

A comprehensive assessment was completed for 2 children prior to the study, which included cognitive testing. They had been diagnosed with pervasive developmental disorders and a severe learning disability. The Mullen Scales of Early Learning were administered to the remaining 41 study participants; the results are displayed in

TABLE 2. *Cognitive Test Results on Mullen's Scales of Early Learning*

	Visual Reception (39 tested) *n* (%)	Fine Motor (40 tested) *n* (%)	Receptive Language (40 tested) *n* (%)	Expressive Language (40 tested) *n* (%)	Early Learning Composite (39 tested) *n* (%)
Very low	4 (10.3)	3 (7.5)	8 (20)	7 (17.5)	4 (10.3)
Below average	9 (23.1)	6 (15)	9 (22.5)	6 (15)	9 (23.1)
Average	20 (51.3)	24 (60)	18 (45)	24 (60)	22 (56.4)
Above average	6 (15.4)	5 (12.5)	4 (10)	3 (7.5)	4 (10.3)
Very high	0	2 (5)	1 (2.5)	0	0

Table 2. Complete scores were available for only 39 children. It was not possible to complete the cognitive testing with the remaining 2 children due to their high levels of anxiety and behavioral disturbance. Of these, 1 child completed the Fine Motor scale only, and the other child completed the Expressive and Receptive Language scales.

Mental Health Disorders and Comorbidity

Interrater reliability regarding the diagnostic categories was high. The κ score for emotional disorder was 0.79, for behavioral disorder, $\kappa = 0.92$, for attachment disorder, $\kappa = 0.87$, and for adaptive disorder (feeding disorders, sleep disorders, elimination disorders, and habit disorders), $\kappa = 0.78$. The κ scores relating to cognitive functioning are not given because diagnoses were based on test results from the Mullen Scales of Early Learning.

Table 3 summarizes the prevalence of mental health disorders in the complete sample. Rates for all diagnostic categories, including global developmental delay and expressive and receptive language disorder, are given for all 43 participants. Children with incomplete cognitive test results were coded as "not disordered" for the relevant diagnostic categories. The category of "other disorders" comprised 1 child with Angelman syndrome and 2 children with autism, 1 of whom also suffered from epilepsy. There were no significant differences in prevalence rates regarding age and gender.

Information about comorbidity is shown in Table 4. The category of "developmental disorders" includes global developmental delay, language disorders, and pervasive developmental disorders. "Language disorder" was coded only once, even when a child presented with mixed receptive-expressive language disorder. The 3 children included in the category "other disorders" also had severe learning disabilities and were therefore classified as having two comorbid developmental disorders. Of the total sample, 11 children (25.6%; 95% CI 14.4–39.9%) fulfilled criteria for at least one developmental disorder. The category of "mental health disorders" comprises emotional, behavioral, attachment, and adaptive disorders. At least one mental health disorder was found in 26 children (60.5%; 95% CI 45.6–74.0%). When mental health and/or developmental disorders were combined, this proportion rose to 30 children (69.8%; 95% CI 55.1–81.9%). Among the 11 preschoolers with a developmental disorder, 7 also had a mental health disorder (63.6%; 95% CI 34.8–86.3%).

Mental Health and Developmental Need

The interrater reliability regarding the different interventions recommended for individual children was high, with κ scores ranging between 0.89 and 1.

Regarding the preschoolers' mental health and developmental needs, 3 children (7.0%; 95% CI 2.0–17.5) were categorized

TABLE 3. *Prevalence Rates of Mental Health and Developmental Disorders*

	Total sample ($n = 43$)		Males ($n = 29$)		Females ($n = 14$)		0–24 Months ($n = 14$)*		25–72 Months ($n = 29$)*	
	n	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)
Emotional	10	23.3 (12.6–37.3)	6	20.7 (9.1–37.8)	4	28.6 (10.5–54.5)	2	14.3 (3.1–38.5)	8	27.6 (14–45.4)
Behavioral	18	41.9 (28.0–56.7)	11	37.9 (22.1–56.1)	7	50 (25.9–74.1)	4	28.6 (10.5–54.5)	14	48.3 (40.0–65.9)
Attachment	14	32.6 (20.0–47.3)	9	31.0 (16.6–49.1)	5	35.7 (15.2–61.6)	2	14.3 (3.1–38.5)	12	41.4 (25.0–59.4)
Adaptive	6	14 (6.0–26.5)	3	10.3 (3.0–25.1)	3	21.4 (6.4–46.9)	1	7.1 (0.8–28.8)	5	17.2 (6.9–33.7)
Receptive Language	5	11.6 (4.6–23.6)	5	17.2 (6.9–33.7)	0	0 (0–16.2)	0	0 (0–16.2)	5	17.2 (6.9–33.7)
Expressive Language	4	9.3 (3.2–20.6)	4	13.8 (4.8–29.5)	0	0 (0–16.2)	1	7.1 (0.8–28.8)	3	10.3 (3–25.1)
Global Delay	5	11.6 (4.6–23.6)	5	17.2 (6.9–33.7)	0	0 (0–16.2)	0	0 (0–16.2)	5	17.2 (6.9–33.7)
Other	3	7 (2.0–17.5)	3	10.3 (3.0–25.1)	0	0 (0–16.2)	0	0 (0–16.2)	3	10.3 (3–25.1)

*Child's age at the time of the clinical assessment, which differed from their age at the time of enrolment in the study.

TABLE 4. *Prevalence of One or More Developmental Disorders, Mental Health Disorders, and Mental Health and/or Developmental Disorders Combined*

	Developmental Disorders Only		Mental Health Disorders Only		Mental Health and/or Developmental Disorders Combined	
	n	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)
No disorder	32	74.4 (60.1–85.6)	17	39.5 (26.0–54.4)	13	30.2 (18.1–44.9)
One disorder	8	18.6 (9.2–32.1)	14	32.6 (20.0–47.3)	12	27.9 (16.3–42.4)
Two disorders	3	7.0 (2.0–17.5)	6	14.0 (6.0–26.5)	9	20.9 (10.9–34.7)
Three disorders	0	0 (0–5.6)	2	4.7 (1.0–14.1)	5	11.6 (4.6–23.6)
Four or more disorders	–	–	4	9.3 (3.2–20.6)	4	9.3 (3.2–20.6)

as having "no need," and for 4 children (9.3%; 95% CI 3.2–20.6), "watchful waiting" was considered sufficient. Among the children who were identified as having mental health and developmental needs, 3 had their "needs met" (7.0%; 95% CI 2.0–17.5), 7 had their needs "partially met" (16.3%; 95% CI 7.6–29.3), and 26 children fell into the category of "unmet need;" that is, none of their existing needs were met (60.5%; 95% CI 45.6–74.0). For 6 children, an intervention was recommended even though they did not have a disorder; this applied mainly to children where there was a cause for concern regarding their care plan and how this might impact on their socioemotional development.

The types of interventions deemed necessary are given in Table 5. The category of "other" interventions includes one recommendation for a full neurodevelopmental assessment, one for music therapy, one for a special needs playgroup, and two for providing evidence to the court about preventing emotional harm. Only a very small proportion of children already were receiving the interventions that had been identified as necessary. Furthermore, it was of interest that the majority of interventions that already were in place were addressing delays in development (speech and language therapy, pediatric appointments). It was calculated that 307 appointments per 100 preschool CIC were required to fulfill their mental health and developmental needs.

DISCUSSION

This study highlights the poor mental health of CIC under the age of 6 years and the absence of adequate service provision for this group. Opportunities to implement effective and relatively inexpensive preventative interventions in this high-risk group are currently being missed.

High Prevalence Rates and Their Implications

The present study demonstrated that it is possible to reliably detect mental health disorders in preschool CIC. We found that 60.5% ($n = 26$) of preschool-aged CIC had at least one mental health disorder; this proportion increased to 69.8% ($n = 30$) when developmental delay, language disorders, and pervasive developmental disorders were included. Rates of comorbidity were high, with 41.9% ($n = 18$) of children meeting criteria for more than one diagnosis. The prevalence rates detected were consistent with previous studies that have reported a very high level of mental health disorders in preschool CIC (Klee et al., 1997; Reams, 1999; Urquiza et al., 1994).

The high level of distress observed in the study sample was in itself noteworthy. Moreover, the high prevalence of mental

TABLE 5. *Mental Health and Developmental Need*

	Total No. of Children in Need of Intervention		Already Receiving Intervention	Intervention Needed, But Not Yet Received	Appointments Needed to Deliver Short-Term Interventions (per 100 preschool CIC)
Type of Intervention	*n*	% (95% CI)	*n* (%)	*n* (%)	*n*
Consultation to social worker/network*	26	60.5 (50.7–69.7)	2 (4.7)	24 (55.8)	60.5
Developmental advice to foster caregiver*	19	44.2 (34.8–54.0)	1 (2.3)	18 (41.9)	44.2
Help caregiver to better understand and support child*	14	32.6 (27.4–38.0)	1 (2.3)	13 (30.2)	97.7
Joint sessions for infant–caregiver therapy*	9	20.9 (17.5–24.7)	0	9 (20.9)	104.7
Child psychotherapy supported by sessions with caregiver	2	4.7 (1.0–14.1)	0	2 (4.7)	–
Speech and language therapy, occupational therapy, pediatrician	11	25.6 (14.4–35.9)	8 (18.6)	3 (7)	–
Other/multiple intervention	5	11.6 (4.6–23.6)	2 (4.7)	3 (7.0)	–

*Short-term mental health or developmental intervention.

health disorders was of concern because of the link between early difficulties in the preschool years and poor long-term prognosis. Studies within the general population have shown that particularly severe mental health disorders in the preschool years, as found in the current study, tend to continue into the school-age years, adolescence, and adulthood (Caspi, Moffitt, Newman, & Silva, 1996; Pihlakoski et al., 2006). If problems are overlooked and not treated at this early stage, these children will be at acute risk of entering a negative developmental trajectory (McMillen et al., 2005). Research has shown that this is likely to consist of frequent placement breakdowns and school exclusions, eventually resulting in low educational attainment, unemployment, substance abuse, homelessness, criminality, relationship difficulties, and having their own children taken into care (Department for Education and Skills, 2006).

Need for Improved Mental Health Assessments

The present study highlights the disparity between high need and a low referral rate. Only 7% ($n = 3$) of the children requiring one or more interventions ($n = 36$) were receiving the full level of care recommended. This was particularly concerning considering that the study was conducted in a borough with a dedicated community-based mental health service for CIC. In addition, note that developmental needs were more readily addressed than were the needs arising from mental health disorders.

As in other countries, holistic health assessments are compulsory for all children entering care in England (Section 27 of the Children Act 1989; HR Government, 1989). Over 25,000 of these health assessments are carried out by registered medical practitioners every year, and they cover developmental, socioemotional, and behavioral difficulties, among others. An audit of the provision of statutory health assessments in the borough where the present study took place showed that 90% of preschoolers had been offered assessments in 2005/2006, which was higher than the national average, 83.2% (Hayward & James, 2008). Hence, it is important to better understand the obstacles that are impeding the identification and treatment of mental health disorders, and to a lesser degree, developmental delay in preschool CIC.

Preschool mental health is an emerging field, and guidelines for the assessment and diagnosis of very young children are still evolving (Thomas et al., 1997). The assessment process is complicated by several factors: the inability of young children to verbally express their feelings, the absence of a coherent history relating to most CIC, and the caregiver's anxiety about being held responsible for a child's lack of progress (Carter et al., 2004). Further explanations relating specifically to the underreporting of mental health disorders have been suggested, such as reluctance by caregivers due to the associated stigma and less knowledge of age-appropriate mental health norms in comparison to well-established developmental milestones (Horwitz, Gary, Briggs-Gowan, & Carter, 2003).

Mental health services for preschoolers in the general population are often underdeveloped. A similar situation has been described for preschoolers open to welfare agencies (Kataoka et al., 2002). Traumatized and severely neglected preschoolers often present with complex and confusing symptomatology, which is difficult to interpret for clinicians without specific training (Tarren-Sweeney, 2008b). Responsibility for the mental health needs of preschool CIC falls between the local authority and the National Health Service. The combination of these obstacles may serve to explain why the present study uncovered such high levels of undetected morbidity.

Opportunities for Early Intervention Are Being Missed

This study revealed high levels of need in the examined population and estimated that a total of 307 (95% CI 279–336) appointments would be required per 100 preschool CIC, if all recommended short-term interventions were to be implemented.

The rationale for assessing the mental health and development of preschool CIC lies in the resulting opportunity for more targeted early intervention and better placement planning. The importance of early intervention has been increasingly recognized, and considerable evidence has supported the effectiveness of preventative measures in preschoolers in the general population (Anderson et al., 2003). For instance, conduct disorder, which affects up to 37% of CIC during their teenage years, can be prevented through targeted measures during the preschool years (Meltzer et al., 2003; Sainsbury Centre for Mental Health, 2009). Preventative interventions for preschool CIC have been less well researched; however, a few promising studies have been published (Dozier et al., 2006; Horwitz, Owens, & Simms, 2000; Zeanah et al., 2001).

Most of the interventions recommended in the current study were short-term and aimed at supporting and stabilizing placements so that they were better suited to the needs of individual children. This could be achieved through consultations to the foster caregiver alone or seeing caregivers together with their foster child (Golding, 2004). Both types of intervention promote the foster caregiver's understanding and management of the foster child's difficulties and, furthermore, help foster caregivers to deal with the demands which arise from living with a traumatized child. Similarly, consultations to the child's social worker were suggested to enhance their understanding of individual children's needs and inform care planning.

It has been suggested that individualized support of this kind should be complimented by comprehensive training. Such training should include information pertaining to the emotional and developmental needs of babies and young children, attachment formation, and the impact of trauma and loss on child development and (National Institute for Clinical Excellence, 2010).

Strengths and Limitations

The present study employed a standardized multidimensional assessment protocol for the ascertainment of mental health and developmental disorders in preschool children to ensure diagnostic accuracy and avoid the under- or overreporting of pathology.

Assessments were informed by a developmental and relational perspective and included structured caregiver interviews, clinical observations, caregiver-completed instruments, and cognitive testing (Thomas et al., 1997). Previous studies have tended to rely solely on file reviews, postal questionnaires, or administration of instruments (Chernoff et al., 1994; Klee et al., 1997; Milburn et al., 2008; Sempik et al., 2008; Urquiza et al., 1994). There is no unitary and well-validated classification system available for children falling into the age range covered in the present study (Egger & Angold, 2006). Hence, diagnostic formulations for the present study were based on the ICD-10, which had satisfactory reliability in a previous survey of toddlers (Skovgaard, Houmann, Christiansen, & Andreasen, 2005). Due to time constraints, not all diagnostic categories covered in the PAPA could be included in the current study. To give conservative estimates of the prevalence of mental health disorders in the study sample, the diagnostic threshold was set high.

The assessment of mental health needs was based on individual treatment plans for all children and their capacity to benefit from an intervention. This approach is superior to the automatic assignment of participants with a disorder to an intervention (Kataoka et al., 2002; Stevens, 1998). Since there were no guidelines specifically for the treatment of preschool CIC, the recommendations for interventions in the present study were founded on the available evidence pertaining to the general and CIC population as well as clinical judgment (Anderson et al., 2003; Dozier et al., 2006; Durlak & Wells, 1997; Zeanah et al., 2001). Despite this uncertainty, there was high agreement between raters as to whether specific interventions were necessary.

Some limitations need to be considered before making inferences from the current study to the wider population of preschool CIC in England. Due to the relatively small sample size of the study, confidence intervals around the reported prevalence rates were relatively wide. The study was based in a single inner city borough with high levels of deprivation, ethnic diversity, and transience. Children's services in this borough have been severely criticized in an Ofsted report in 2008 while the provision for CIC was deemed to be "good." Nevertheless, the variable performance of children's services in the study area could have resulted in a higher level of mental health disorders.

The refusal rate was low at 8% ($n = 6$) and unlikely to have distorted the study's results. Nevertheless, it was concerning that some caregivers did not welcome the opportunity to have their foster child assessed, given the high level of mental health disorders found in preschool CIC. One fourth of preschool CIC ($n = 19$) were ineligible to participate in the present study because they had restricted case files or left care during the course of the study. Most of these children were in a more unsettled life situation than were study participants and thereby at an increased risk of having a mental health disorder. At the same time, children falling into the 0- to 2-year age group were underrepresented in the sample. Since these children tended to have a lower level of mental health disorders, some of the aforementioned bias will have been counterbalanced.

Conclusions and Clinical Implications: Preschool CIC at Risk of Inadequate Provision

The mental health needs of older CIC have been well recognized, and measures to address this problem have been undertaken (Department for Education and Skills, 2006; Meltzer et al., 2003). This study concentrated on the preschool age group, which has been found to benefit the most from early intervention. It highlights the high prevalence of mental health and developmental disorders and the lack of corresponding provision for preschool CIC in an inner city borough. A clearer understanding of preschool mental health in other local authorities in England is required to assess to what degree these findings apply elsewhere.

In the study area, the mental health needs of the majority of preschool CIC had gone unnoticed despite a high percentage of completed statutory health assessments. The present study raises the question of whether there currently are sufficient expertise and capacity within statutory services to address the mental health needs of these children. Specialized integrated multidisciplinary services for preschool CIC may be necessary to deal with the problem of low detection rates, low referral rates, and lack of targeted interventions (Urquiza et al., 1994; Zeanah et al., 2001). Filling these gaps may require better coordination of existing services as well as additional training and resources.

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