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ORIGINAL RESEARCH

Evaluation of a mental health drop-in centre offering brief transdiagnostic psychological assessment and treatment for children and adolescents with long-term physical conditions and their families: a single-arm, open, non-randomised trial

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ABSTRACT

Background Children and young people with long-term physical conditions have significantly elevated mental health needs. Transdiagnostic, brief psychological interventions have the potential to increase access to evidence-based psychological treatments for patients who attend health services primarily for physical health needs.

Objective A non-randomised study was conducted to assess the impact of brief, transdiagnostic psychological interventions in children and young people presenting at a drop-in mental health centre in the reception area of a paediatric hospital.

Methods 186 participants attending a transdiagnostic mental health drop-in centre were allocated to assessment and psychological intervention based on a clinical decision-making algorithm. Interventions included signposting, guided self-help based on a modular psychological treatment and referral to the hospital's paediatric psychology service. The primary transdiagnostic mental health outcome measure was the parent-reported Strengths and Difficulties Questionnaire (SDQ), which was given at baseline and 6 months post-baseline.

Findings There was a significant positive impact of attending the drop-in mental health centre on the SDQ (Cohen's d=0.22) and on the secondary outcome measure of Paediatric Quality of life (Cohen's d=0.55).

Conclusions A mental health drop-in centre offering brief, transdiagnostic assessment and treatment may reduce emotional and behavioural symptoms and improve quality of life in children and young people with mental health needs in the context of long-term physical conditions. A randomised controlled trial to investigate the specificity of any effects is warranted.

Clinical implications Drop-in centres for mental health needs may increase access and have beneficial effects for children and young people with physical conditions.

BACKGROUND

The primary impetus for this special issue is the increasing dissatisfaction with specific diagnosis-driven approaches to the treatment of mental health disorders and growing interest in alternative, more tailored interventions based on dimensional frameworks rooted in empirical science.[1 2] The recognised limitations of diagnosis-driven approaches include challenges in implementation of disorder-specific interventions and the 'rampant' comorbidity of mental health disorders.[3] Rates of mental health comorbidity are high in both adults and young people; 75% of adults with a lifetime anxiety disorder also had at least one other lifetime mental health disorder,[4] with an estimated 40% of adolescents with a mental health disorder also meeting diagnostic criteria from at least one additional class.[5] Despite the growing interest in transdiagnostic interventions and their potential advantages, it is important to note that such interventions still benefit from careful diagnostic assessment and use many techniques derived from disorder-specific approaches.

Children with long-term physical conditions are known to have among the greatest rates of comorbid mental health disorders, with up to 40% meeting diagnostic criteria for at least one mental health disorder.[6–8] Mental and physical ill health commonly coexist, and this increases functional impairment.[9] Data from 3.1 million hospitalisations in the US show that children with a physical comorbidity in addition to mental ill health account for 78% of hospitalisations for children with a psychiatric diagnosis.[10] In the USA, the estimated additional yearly insurance payments associated with co-existing mental health disorders were US$8.8 billion.[11]

The high prevalence of mental health disorders in children with long-term physical conditions and the associated impairment and costs mean that it is important to provide early, scalable interventions that can help prevent diagnostic overshadowing and optimise integration of physical and mental health services.[12–14]

A key strategy to increase access to evidence-based mental health interventions is the provision of brief,

transdiagnostic psychological treatments. Such interventions can comprise just a single session, for example, of psychoeducation, or six to eight sessions of an intervention such as transdiagnostic cognitive behavioural therapy that does not focus only on one specific disorder, delivered by health professionals or guided self-help.[15 16] In terms of guided self-help, meta-analyses indicate that such interventions have comparable efficacy to more traditional, face-to-face interventions for both adults and young people[17 18] and are effective in children and young people with long-term physical conditions.[14] These self-help interventions, appropriately embedded and supervised within existing mental health services, can supplement provision and ensure greater access to appropriate assessment and treatment.

Despite brief transdiagnostic psychological interventions having potential significant advantages, they have rarely been evaluated in children and young people with mental health needs in the context of long-term physical conditions. Existing reviews, case studies and qualitative evaluations suggest that such interventions could have an important role in reducing symptoms and improving quality of life,[14 19 20] but sample sizes have typically been small and well conducted, larger studies are needed to establish their potential utility.

OBJECTIVE

The overall objective of this research was to evaluate the impact of a transdiagnostic mental health centre offering brief psychological assessment and treatment for children and young people and/or their families with mental health needs in the context of long-term physical conditions. Specifically, we aimed to assess clinical outcomes after attending a highly accessible, drop-in mental health centre in a paediatric hospital that would accept self-referral and supplement existing provision by offering a suite of empirically grounded interventions, including single sessions, signposting or referral to appropriate services, a comprehensive diagnostic and/or supplementary neurodevelopmental assessment and brief modular transdiagnostic psychological treatment delivered in the form of guided self-help. Secondary objectives were to evaluate the centre's acceptability, using a satisfaction questionnaire and feasibility, by assessing overall recruitment and retention.

METHODS

Study design

This investigation was an uncontrolled trial of young people, their siblings and carers attending a national paediatric hospital. The research had an internal pilot phase (n=128 consented) prior to the post-pilot phase (n=186 consented). The purpose of the internal pilot was to estimate recruitment and attrition. That of the post-pilot phase was to gather evidence of acceptability and preliminary evidence of effectiveness.

Participants

For inclusion in the study, individuals had to have been a patient at the paediatric hospital for a physical health condition within the last 6 months or be a carer/family member/sibling of such a patient. They were required to have a common mental health need (anxiety, depression and/or behavioural difficulties) that was interfering with current functioning. Participants must not have been currently under the care of paediatric psychology services within the hospital and needed to possess a sufficient grasp of English to facilitate engagement with the assessment and treatment processes.

Recruitment

For the pilot phase, recruitment took place from March 2018 to December 2018. One hundred and twenty-eight of the 314 participants were consented during this phase. For the post-pilot phase, recruitment took place from January 2019 to December 2019. A 'drop-in' booth served both as a focus for recruitment and for raising awareness of the project. One volunteer/member of staff was present Monday–Friday (10:00–12:00 hours and 14:00–16:00 hours) with a clinical psychologist and/or psychiatrist on call at all times. At the start of the project, two midweek late nights were trialled (09:00–19:00 hours) as well as a Saturday morning (09:00–12:00 hours). As no participants were recruited during those hours, we decided not to open on weekends/evenings. The location of the booth was selected in order to maximise visibility, participant footfall and access. Participants were recruited via five routes: (1) the family/patient could approach a staff member at the booth ('physical drop-in'), (2) the family/patient could contact the team by email/telephone, (3) a staff member could approach a family/patient in other areas of the hospital with a leaflet about the project ('active recruitment'), (4) clinicians within the hospital could signpost and (5) clinicians could refer patients and/or families to the project.

Ethics

Written informed consent was taken for all participants (parents, siblings and index children aged 16 and above who had capacity to consent) included in the study by research assistants. In some instances, participants verbally consented over the phone, which was recorded and the responses were written up by the research assistants. In the case of children under the age of 16 years, assent was obtained from the relevant child (ie, sibling, index child or both) alongside parental consent.

Interventions

Once families had consented and completed baseline measures, an initial triage assessment, taking approximately 30 min, was carried out in accordance with a standardised protocol either over the telephone or face-to-face depending on participant preference. All participants were then discussed in a weekly meeting with a consultant child and adolescent psychiatrist and allocated to an intervention based on a clinical decision making algorithm that considered factors including clinical risk, relationship to physical health condition, participant preference, neurodevelopmental factors, family factors and symptom severity. At no point in the study was there a waiting list for the initial triage assessment. All participants waited a maximum of 7 days to being allocated as decisions were made at a weekly meeting.

Participants were allocated to (1) provision of/direction to self-help materials and/or online resources, (2) further assessment in the form of either a neurodevelopmental assessment or a computerised mental health diagnostic assessment (the Development and Well-being Assessment),[21] (3) signposting/referral to appropriate internal or external services (including mental health services for adults if the parent had significant symptoms of anxiety and depression), (4) a brief modular psychological intervention defined as up to six sessions (6 hours total) of either telephone or face-to-face guided self-help based on the Modular Approach to Therapy for Children with Anxiety, Depression, Trauma, or Conduct Problems (MATCH-ADTC)[22] provided by newly qualified clinical psychologists, trained psychological well-being practitioners (ie, individuals trained specifically in low-intensity therapies through a specific programme as part of UK Improving Access to Psychological Therapies initiative)

and/or a junior doctor with specific training in the intervention. MATCH-ADTC was chosen as it includes evidence-based strategies for anxiety, depression and disruptive behaviour problems within one manual. Adaptations were made for delivery in a brief format, in which the MATCH-ADTC worksheets were sent to participants prior to the session and support was provided through 6 weekly 60 min telephone calls delivered within the 6-month period. The worksheets were not modified to account for children with long-term physical conditions. The intervention was delivered to the parents and/or young person depending on presenting difficulty, age and intellectual ability.

Outcome measures

All measures were completed at baseline after consent and at 6 months from baseline. The Pediatric Quality of Life Inventory (PedsQL)[23] was added after the pilot phase. Parental mental health measures were taken and will be reported elsewhere.[24] Outcome measures were collected face-to-face or remotely by phone/email (depending on participant preference) by a researcher that was not involved in the delivery of the intervention. Only carer-reported child mental health measures were analysed as insufficient self-report (child/adolescent) measures were completed at baseline or follow-up for both the Strengths and Difficulties Questionnaire (SDQ[25]) and PedsQL, based in part due to the majority of children and young people presenting being chronologically or developmentally younger than 11 years.

Child measures

The carer-report SDQ,[25] a 25-item measure with robust psychometric properties, was used to measure common emotional and behavioural symptoms in children and young people. The SDQ has moderate test–retest reliability and good concurrent and discriminant validity.

Pediatric Quality of Life Inventory[23] is a 23-item measure with excellent validity and reliability.[26] In the post-pilot phase, a parent report form was completed at baseline and 6 months later. Parent-rated versions are available for children aged 2–4, 5–7, 8–12 and 13–18 years. The appropriate form was used depending on the age of the child. Higher scores indicate better quality of life.

Client Satisfaction Questionnaire (CSQ-8)

The CSQ-8 is a widely used measure of service satisfaction modified slightly for this study. Responses were on a five-point scale of 'not at all', 'only a little', 'somewhat', 'quite a bit' and 'totally' (0–4). Internal consistency of the scale was high (Cronbach's alpha=0.88).[27]

Statistical analyses

Descriptive statistics for total and subscale scores on each measure at baseline (time one) and 6 months (time two) are provided. Difference scores were based on the mean change in scores; these changes were tested using paired samples t-tests and converted into standardised effect sizes (Cohen's d; Cohen, 2013). Of the included participants, 86% had completed SDQs and 88% PedsQLs across the two time points. Little's Missing Completely at Random (MCAR) test was not significant ($p>0.05$). Missing data at baseline and 6 months were managed using multiple imputation. All subscales of the relevant scale at both time points and participant characteristics (gender, age and whether they received a brief psychological intervention) were included in the multiple imputation model and 10 datasets were imputed. As the amount of clustered data was small, for example, with only 11 families of those allocated to an intervention containing more than one participant—of these 10 had two participants per family (six patient-sibling, one sibling-parent and three patient-patient dyads) and 1 had three participants per family (a patient-sibling-parent triad), we accounted for clustering by removing additional family members (in the clusters) from the analysis. The index child, where applicable, was the family member from the cluster included in the analysis. If a cluster contained a parent and a sibling, the sibling was retained. Participants who dropped in more than once (n=11) were only included once in the analysis.

Participant demographics and symptom profiles were compared with those of the wider hospital (requested via clinical information services), routinely collected national child and adolescent mental health service (CAMHS) outcome data from the Child Outcomes Research Consortium (CORC) dataset and data from a national initiative to improve children's access to evidence-based psychological therapies (CYP IAPT) by running χ^2 tests of homogeneity for categorical variables and independent t-tests/Mann-Whitney U tests for numeric variables using R statistical software, V.3.6.3 (R Project for Statistical Computing). Post hoc analyses involving pairwise comparisons using multiple z-tests of two proportions with Bonferroni correction were applied where χ^2 tests were statistically significant ($p<0.05$). All descriptive statistics, handling of missing data and regression analyses were undertaken using SPSS statistical analysis software (V.25, IBM).

FINDINGS

Participant flow

Figure 1 illustrates the flow of participants through the study, with reasons for exclusion/attrition at each stage of the pathway. Three hundred and fourteen participants initially consented to take part. No children or young people came to seek the service without a carer/parent. One hundred and eighty-six participants were allocated to the intervention, of which 172 completed baseline measures. Of those 172, 16 were excluded from the analysis and were not imputed, leaving a sample of 156 with imputed data that form the basis of the statistical analyses relating to change with the intervention for all measures except the PedsQL, which was only given after the pilot phase; 97 participants provided imputed data to form the basis of those analyses. There were no statistically significant differences on key demographic variables between those who were allocated and those who were not (online supplemental material table 2S).

Baseline data

The majority of the 186 participants were white, primary-school aged, females, with no translational needs, a median Index of Multiple Deprivation (IMD) decile of 5 (where 1 is most deprived and 10 least deprived) and coming from an area within <50 miles of London. Ethnicity of participants, median IMD decile and translation requirements were highly representative of patients presenting to the hospital more generally (online supplemental material table 1S), though our sample was slightly older in age and with a higher proportion of females. However, when benchmarked against nationwide routinely collected CAMHS data from the Child Outcomes Research Consortium (CORC) dataset (online supplemental material table 1S), we saw a lower number of male and white participants, and children in our sample were younger. Most paediatric patients were outpatients from a number of specialties, with the five most common being Rheumatology (16%), Neurology (12%),

Figure 1: Adapted CONSORT diagram showing patient flow

(Pilot+Main)

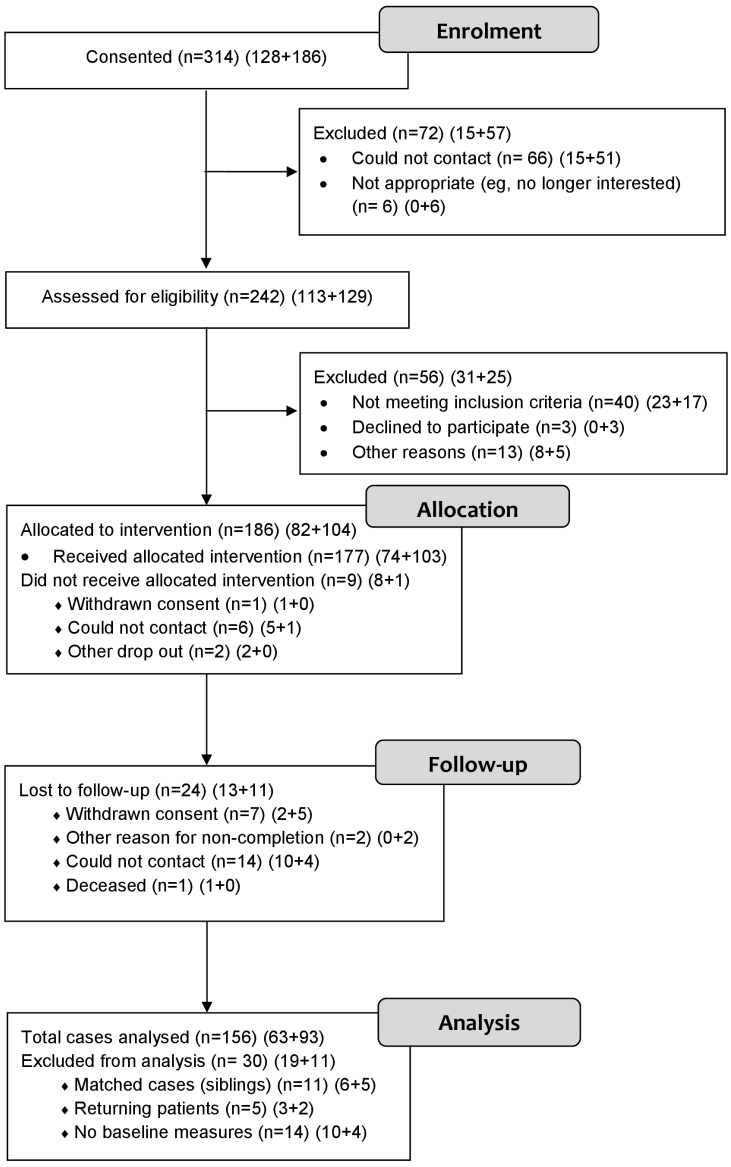

Figure 1 Adapted Consolidated Standards of Reporting Trial (CONSORT) diagram showing patient flow.

Ophthalmology (12%), Ear Nose and Throat (9%) and Cardiology (7%) and presenting with a number of medical conditions such as rare genetic disorders (12%), juvenile idiopathic arthritis (7%), congenital heart defects (3%), uveitis (3%) and aphakia (3%). In a proportion of participants, a primary medical diagnosis was not found (11%). Mental health symptom profiles are presented in table 1 and have been reported elsewhere along with further information.[28] The problems for which participants sought support included: anxiety (45%), challenging behaviour (38%), low mood (28%) and other difficulties (14%). Multiple mental health problems (eg, anxiety and challenging behaviour) at assessment were present in 32% of the participants.

Interventions provided

Some participants are represented more than once in these data since multiple outcomes/interventions were possible, for example, neurodevelopmental assessment and subsequent onwards referral. In table 1, a breakdown of the primary interventions to which participants were allocated is shown.

Following initial assessment, 32% of participants (n=59) were provided with a brief modified version of the modular psychological treatment MATCH-ADTC, 45% were referred onwards (n=83), 1% liaison work was carried out, 3% underwent a neurodevelopmental assessment and 19% were signposted to resources/services. Of those who received the modular treatment, the median number of treatment sessions delivered to participants was 6 (IQR: 3–6). The main modules delivered were anxiety (42%), conduct (45%) and depression (13%). In approximately half (47%) of participants, more than one module was used (ie, if the primary problem was anxiety, but conduct symptoms were interfering with treatment, a session might be spent working on the conduct symptoms before returning to the original module, in this case anxiety).

Of the 84 participants who were referred to established psychological services, 74 were accepted, 8 declined and 2 had an unknown outcome. Services included: internal paediatric psychology hospital services (62), family therapy (4), social services (2), other research projects (2), neurodevelopmental

Table 1 Participant demographics

	All participants (n=186)
Age of children and young people (≤18 years) at the hospital in years, mean (SD)	9 (4)
Age of parents, mean (SD)	39 (8)
IMD decile, median (IQR)	5 (3–9)
Gender, % (n)	
Female	62 (116/186)
Male	38 (70/186)
Primary recipient of the intervention, % (n/n total)	
Patient	75 (139/186)
Parent/carer	19 (36/186)
Sibling	10 (18/186)
Ethnicity, % (n/n total)	
White	62 (116/186)
Asian	11 (21/186)
Black	10 (19/186)
Any mixed background	7 (13/186)
Any other ethnicity	4 (8/186)
Not stated/prefer not to say	5 (9/186)
Parent relationship to child, % (n/n total)	
Mother	90 (167/186)
Father	10 (19/186)
Parent marital status, % (n/n total)	
Married	60 (62/104)
Single	16 (17/104)
Divorced/separated	12 (12/104)
Living with partner	9 (9/104)
Widowed	1 (1/104)
Not stated/prefer not to say	3 (3/104)
Parent employment status, % (n/n total)	
Employed (full time)	30 (31/104)
Employed (part time)	24 (25/104)
Other	18 (19/104)
Out of work	11 (11/104)
Self-employed	8 (8/104)
Unable to work	6 (6/104)
Retired	1 (1/104)
Not stated/prefer not to say	3 (3/104)
Parent disability, % (n/n total)	
Yes	11 (11/104)
No	89 (93/104)
Presenting problems, % (n/n total)	
Anxiety	45 (84/186)
Challenging behaviour	38 (70/186)
Low mood	28 (52/186)
Other	14 (26/186)
Known pre-existing neurodevelopmental diagnosis, % (n/n total)	
Autism Spectrum Disorder	15 (27/186)
Intellectual disability	21 (39/186)
None	62 (115/186)
Not stated/prefer not to say	4 (7/186)
Patient type, % (n/n total)	
Outpatient	96 (100/104)
Inpatient	4 (4/104)
Need for translator, % (n/n total)	
Yes	4 (8/186)
No	96 (178/186)
County of origin, % (n/n total)	
<50 miles of London	81 (151/186)
>50 miles of London	15 (27/186)
Not stated/prefer not to say	4 (8/186)
History of mental health input, % (n/n total)	
Yes	46 (86/186)
No	53 (98/186)
Not stated/prefer not to say	1 (2/186)
History of risk present, % (n/n total)	
Yes	18 (34/186)
No	81 (151/186)
Not stated/prefer not to say	1 (1/186)
Primary intervention allocated to, % (n/n total)	
MATCH	32 (59/186)
Referral	45 (84/186)
Neurodevelopmental assessment	3 (6/186)
Signposting to resources only	19 (35/186)
Other	1 (2/186)
Self-reported change in physical health (6 months post), % (n/n total)	
Improved	10 (10/104)
No change	40 (42/104)
Deteriorated	6 (6/104)
Not stated	44 (46/104)

Core participant demographics along with the mean and SD, median and IQR, number (n) and percent (%) of cases (where relevant) for all data. IMD decile=Index of multiple deprivation decile. NB: where total sample size is 104, this means data was only collected in the second year of the trial (post-pilot phase).

assessment services (1) or externally to community CAMHS (9) or other local services (4). For those participants referred and accepted for treatment, the average number of sessions (including assessment) was 6 (median: 5, range: 0–24).

Outcomes

Primary

Participants' parent-reported emotional and behavioural problems, as measured by the total score on the SDQ, demonstrated a statistically significant decrease from an estimated mean score of 17.54 (0.61) preintervention to 16.13 (0.61) at 6-month post-baseline, a mean decrease of 1.41, 95% CI (0.39 to 2.44), t(119) = 2.60, p=0.007, d=0.22. Statistically significant improvement was also noted on the Conduct and Peer subscales (p<0.05) as shown in table 2.

Secondary

Participants' parent-reported quality of life, as measured by the PedsQL total score, demonstrated an increase from an estimated mean score of 54.38 (2.31) at baseline to 61.88 (2.39) at 6 months foll0w-up, a statistically significant mean increase of 7.50, 95% CI (4.55 to 10.45, t(53) = 4.99, p<0.001, d=0.55. Statistically significant improvements were noted on all subscales of the PedsQL except for the Physical Health subscale (see table 2).

Client Satisfaction Questionnaire

One hundred and fourteen parents completed the Client Satisfaction Questionnaire. The median score was '4' ('Totally satisfied') for the questions about overall satisfaction and whether

Table 2 Comparison of SDQ and PedsQL parent-reported scores at baseline and 6 months follow-up

		Pre	Post				
Measure	**n**	**M (SE)**	**M (SE)**	**Mean difference (CI)**	**P value**	**d**	**df†**
SDQ total score	156	17.54 (0.61)	16.13 (0.61)	1.41 (0.39 to 2.44)	0.007**	0.22	119
Impact	156	3.58 (0.25)	3.17 (0.25)	0.41 (–0.17 to 0.99)	0.166	0.11	82
Emotional	156	5.31 (0.22)	4.93 (0.22)	0.37 (–0.06 to 0.81)	0.091	0.14	123
Conduct	156	3.03 (0.19)	2.57 (0.18)	0.45 (0.12 to 0.78)	0.007**	0.22	134
Hyperactivity	156	5.65 (0.25)	5.46 (0.26)	0.19 (–0.22 to 0.60)	0.358	0.08	102
Peer	156	3.56 (0.19)	3.17 (0.20)	0.40 (0.03 to 0.76)	0.035*	0.17	97
Prosocial	156	7.01 (0.22)	7.02 (0.24)	–0.01 (–0.53 to 0.51)	0.975	0.00	98
PedsQL total score	93	54.38 (2.31)	61.88 (2.39)	–7.50 (–10.45 to –4.55)	<0.001***	0.55	53
Physical Health	93	58.60 (3.24)	62.18 (3.06)	–3.58 (–7.51 to 0.34)	0.075	0.20	43
Psychosocial Health	93	51.98 (2.10)	59.81 (2.03)	–7.83 (–11.25 to –4.42)	<0.001***	0.47	90
Emotional Functioning	93	49.61 (2.46)	56.16 (2.53)	–6.54 (–12.21 to –0.87)	0.024*	0.23	89
Social Functioning	93	54.88 (3.04)	64.84 (2.73)	–9.96 (–15.58 to –4.33)	0.001***	0.36	89
School Functioning	93	51.45 (2.51)	58.44 (2.37)	–6.99 (–11.41 to –2.58)	0.002**	0.32	88

Multiple imputations by fully conditional specification was used to account for missing data and df were adjusted accordingly. Means (M), SEs, 95% CIs around the mean difference, p values for paired t-tests and effect sizes (d) are shown for all participants included in the analysis.
*p<0.05, **p<0.01, ***p<0.001.
†Adapted from Barnard and Rubin.[33]
PedsQL, Pediatric Quality of Life Inventory; SDQ, Strengths and Difficulties Questionnaire.

the participant would recommend the centre to a friend. The median response to all other items was '3' ('Quite a bit') with the exception of whether the information and support you received made any difference to you/your child's physical health, for which the median response was 0 ('Not at all'). χ^2 tests were run for baseline categorical variables (eg, ethnicity and gender) to test for differences between those who did and did not complete the CSQ (online supplemental material table 3S). Mann-Whitney U tests were conducted for clinical outcome measures (SDQ-P and PedsQL subscales) at baseline (Pre) and 6 months (Post) and for baseline numeric demographic variables (online supplemental material table 4S). Differences in the SDQ-P/PedsQL were not statistically significant (p>0.05). Differences in baseline demographic variables including age, index of multiple deprivation decile, gender and ethnicity were not statistically significant (p>0.05).

Harms

None of the participants reported any significant harms from being involved in the research.

DISCUSSION

This study found that in those attending a mental health drop-in centre in a paediatric hospital, a reduction in emotional/behavioural symptoms and an increase in quality of life were observed. However, due to the lack of a control group, this cannot be specifically attributed to attending the drop-in centre, as participants may have improved with time regardless. The centre served as a single point of access for patients and their families who were able to refer themselves for assessment and treatment and offered a range of interventions including signposting to resources, referrals and a guided self-help version of MATCH-ADTC.[22] Effect sizes ranged from small to moderate. Waiting times for treatment decisions were relatively short and at no time was there a waiting list. The majority of participants reported that they were totally satisfied with the centre and would recommend it to a friend.

This study can be considered within the UK Medical Research Council framework for developing complex interventions.[29] According to this framework, the first phase of intervention development is 'development' and involves identifying the evidence-base, modifying/developing theory and modelling processes and outcomes. For this study, the pre-existing evidence-base indicated that mental health problems in children and young people with long-term physical conditions are common,[12] brief psychological interventions are effective for children and young people with mental health needs in the context of long-term physical conditions[14] and that transdiagnostic, modular psychological treatment (MATCH-ADTC) is effective.[30] The second stage of the framework involves feasibility/piloting and the present study is best considered within this stage. The study tested procedures, provided an estimate for recruitment and retention, and provides data that can be used to determine sample size in a future randomised controlled trial (RCT). Overall, retention was excellent—86% of parents who completed measures at baseline also completed them 6 months after baseline, despite sometimes receiving only minimal intervention such as signposting to services. The high levels of acceptability also bode well for future research studies aiming to assess the effectiveness/cost-effectiveness of the intervention in an RCT.

The study indicates that it is possible to deliver brief transdiagnostic psychological interventions to patients in a paediatric hospital who are experiencing mental health needs alongside long-term physical conditions, as part of a stepped-care paediatric psychology health service. The modular psychological intervention (MATCH-ADTC) was typically delivered remotely, in the form of guided self-help. Training assistant psychologists and others to deliver such interventions is feasible[31] and promising for the scalability and integration of brief transdiagnostic psychological interventions with existing physical health services.

It is unlikely that the improvement in mental health symptoms and quality of life could be attributed to an improvement in physical health since the physical health subscale of the PedsQL showed no significant improvement and parental report on satisfaction measure indicated that they did not consider the intervention to have impacted on physical health. When moving to the next stage of evaluation, independent assessments of physical

health status should be conducted. Patients were able to access the intervention easily by self-referral to a drop-in centre that was prominently located within the hospital. In terms of demographic variables, the sample appeared generally to be representative of the broader population of paediatric patients and was not restricted to any particular medical specialty as over 20 medical specialities were represented. The age range was deliberately wide with the view that any mental health service delivering such interventions would want to be able to offer them to all those in need ranging from parents of infants to older adolescents. Although the sample was representative of the wider hospital, relatively few of the patients at GOSH received the intervention as a proportion of the total number of patients. This could be for a variety of reasons, including the strong existing psychological services. Having both a physical and a digital presence may optimise reach and uptake of such interventions in a future RCT.

While the changes in SDQ scores demonstrated statistical significance, the effect size was small and does not equate to clinically significant change.[32] In addition, it is not possible to draw conclusions with regard to the specificity of any effects due to lack of a control group. Similarly, it is not possible to compare the effects of those receiving one type of intervention such as the guided self-help version of MATCH-ADTC with those that received another type (eg, referral to hospital psychological services) due to the lack of randomisation and small sample size receiving each form of intervention. The majority of the sample were English-speaking, from London and attending a specialist paediatric hospital that provides a gold-standard paediatric psychology service with highly experienced clinicians; this may influence the generalisability of the findings to other settings. Importantly, the measures taken were parent-reported rather than child-reported. Although such limitations are to be expected at this stage of development of an intervention, they mean that it is difficult to draw firm conclusions about the specific impact of a brief, transdiagnostic intervention for mental health in this population at present. Nevertheless, the study as a whole points to the feasibility of delivering brief transdiagnostic interventions via a mental health drop-in centre and indicates that they may have potential benefits. We suggest that a fully powered RCT is conducted to investigate the clinical and cost-effectiveness of brief transdiagnostic interventions for mental health problems in children and young people with long-term physical conditions delivered via an accessible drop-in centre.

CLINICAL IMPLICATIONS

A mental health drop-in centre offering brief, transdiagnostic assessment and treatment has the potential to reduce emotional and behavioural symptoms and improve quality of life in children and young people with mental health needs in the context of long-term physical conditions as part of a paediatric psychology service.

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