Abstract

Objectives: The primary aim of this qualitative study was to explore the views of health professionals, with little previous clinical mental health training, of an adapted modular cognitive-behavioural intervention (MATCH-ADTC) for common mental health problems in children and young people with epilepsy.

Methods: Health Care Professionals (HCPs) and their supervisors were interviewed at the start (*n*=23) and end (*n*=15) of the six-month training period. The interviews were transcribed verbatim and analysed using thematic analysis.

Results: Three higher order themes with sub-themes were identified: (1) strengths of the MATCH-ADTC content and manual; (2) expectations of the treatment; and (3) improving practice with MATCH-ADTC. Overall impressions of the training and treatment were largely positive, with HCPs viewing MATCH-ADTC as an acceptable treatment for the families that they worked with. HCPs highlighted some challenges in delivering an integrated service, particularly relating to the time commitment involved and their own confidence in delivering the intervention, as many participants did not have a mental health background.

Conclusions: The findings suggested that the intervention and training was acceptable to HCPs working in paediatric epilepsy services, and confidence grew over the six-month training period. Further research is needed to understand how to best train, supervise and support HCPs in paediatric epilepsy services to deliver mental health treatments.

Keywords: cognitive-behavioural therapy; paediatric epilepsy; qualitative; supervision and training.

"A greatest hits compilation of mental health support": A qualitative study of health professionals' perceptions of modular CBT in paediatric epilepsy services

1. Introduction

Children and young people with epilepsy are more likely to experience common mental health difficulties such as anxiety, depression and behavioural problems than children without physical health problems [1-3]. Despite the availability of effective psychological interventions for children and young people, and international research and policy guidelines emphasising the importance of identifying and addressing the mental health needs of young people with epilepsy [4], mental health difficulties in this population continue to be undetected and undertreated [5, 6]. Our previous development work suggested that one obstacle to successful implementation of effective psychological treatments for these children is that mental health and epilepsy services are typically not integrated and clinicians do not have knowledge, skills and expertise in both mental health problems and epilepsy [7]. In the UK, paediatric epilepsy services typically include paediatric neurologists in specialist services, paediatricians with expertise in epilepsy and epilepsy specialist nurses. Some paediatric epilepsy teams have embedded psychology provision, however this is not mandated and many have neither psychologists nor mental health professionals within the team. A recent survey by the ILAE highlighted a lack of trained mental health specialists as a significant barrier to care [8] and Epilepsy12 Youth Advocates selected 'support for worries and anxieties' as one of their top three priority areas for service development [9].

Furthermore, children and young people typically present with multiple mental health comorbidities, making a singular treatment strategy challenging [2].

One solution is to train Health Care Professionals (HCPs) working in paediatric epilepsy clinics to deliver evidence-based psychological interventions suitable for the variety of mental health problems typically seen in children and young people with epilepsy [8]. This would ensure that this population had timely access to appropriate treatment, and also facilitate integration of services. The 'Mental Health Interventions for Children with Epilepsy (MICE)' trial is the first randomised controlled trial of a cognitive-behavioural intervention for anxiety, depression and behavioural difficulties in the context of epilepsy [7]. In this trial, health professionals working within epilepsy services who do not typically have experience in mental health interventions are trained to deliver an effective psychological treatment for common mental health disorders. The treatment is an evidence based modular cognitive behavioural therapy (CBT) intervention (the Modular Approach to Treatment for Children with Anxiety, Depression, Trauma or Conduct Problems -MATCH-ADTC [10]) expanded for delivery within paediatric epilepsy services at multiple NHS sites across England. Modular treatments use the same evidence-based techniques and strategies as standard CBT treatments. Typically, CBT manuals combine these strategies sequentially in the same way for all patients, usually for one problem area, for example anxiety. Conversely, in modular treatments, the modules contain practices that can be combined in ways that are explicitly matched to the child's individual strengths and needs [11]. In the case of MATCH-ADTC, modules for anxiety, depression, trauma and behavioural difficulties are combined into one manual, which means that comorbidities can be treated together. The modules and practices are combined with an algorithm (flow-chart) and therapists use this algorithm together with measures of mental health symptoms to decide which module or practice to use next. When symptoms are improving, the therapist continues to use the modules and practices in sequence, for example the anxiety module

and practices within. However, if there is 'interference', such that another problem area is getting in the way, the therapist may switch to a module or practice to treat the interference. For example, CBT for anxiety includes practicing putting themselves in anxiety provoking situations in a step-by-step way. For some children, a lack of motivation may get in the way (i.e. 'interfere'), meaning they do not practice. The algorithm suggests using the rewards practice from the behavioural difficulties module at this point to overcome this interference.

Previous trials of MATCH in young people without chronic physical illnesses have demonstrated significantly steeper trajectories of improvement in mental health in those treated with MATCH compared to usual care [12, 13]. As the existing MATCH-ADTC intervention is modular and flexible, modifications to facilitate implementation in children with epilepsy focused on expansion to provide supplementary content to address the relationship between epilepsy and mental health, stigma, parental mental health and transition to adulthood, without changing the fundamental underlying treatment structure [7].

Health professionals were trained to deliver the expanded MATCH-ADTC intervention over six months, beginning with a consecutive five full-day training week which included multi-method learning with a focus on developing practical skills through skills practices and observations. Topics comprised knowledge of evidence-based psychological techniques, skills in assessment, goal setting and formulation (understanding what causes and maintains the problem/s), use of routine outcome measures, engagement and therapeutic style, SMART goals (i.e. those that are specific, measurable, achievable, realistic and time-limited) and how to handle interference. All HCPs then completed at least one training case of the expanded telephone delivered treatment, supported by weekly clinical

consultation by a qualified clinical psychologist from the research team. A further half-day workshop at the end of the six months was held to address specific learning needs identified by the HCPs and supervisors across the training period.

In order to ensure sustained use of modular CBT, it is important to understand health professionals' perspectives on the suitability and acceptability of the intervention, and to understand their training and ongoing development needs. Previous research in children and young people without chronic physical health conditions has demonstrated that therapists with training in psychological interventions thought the original MATCH-ADTC protocol was acceptable and feasible [14]. A qualitative study of the therapists involved in the Child System and Treatment Enhancement Projects (Child STEPs) multisite effectiveness trial [12] which compared modular CBT with standard treatment manuals and usual care, found that therapists continued to incorporate aspects of MATCH-ADTC into their everyday work at the conclusion of the STEPS trial [15]. Furthermore, the mental health professionals reported using modular CBT with 55% of their caseloads seven years after training to be therapists in a clinical trial [16]. However, to our knowledge, previous research has not examined HCPs' views on the suitability of modular CBT for use in children and young people with epilepsy, nor its use by HCPs embedded in paediatric clinicals with limited previous mental health treatment experience, such as paediatric epilepsy nurses and paediatricians.

The aim of this current qualitative study was to explore in depth the views of health professionals on a) the expanded mental health treatment and b) the training process before their first training case and after the 6 month training phase of the programme, in order to consider ways in which the treatment and training processes could be developed so

that it can be implemented in other services should the trial demonstrate that the treatment is efficacious and cost-effective.

Specifically, the study aimed to determine:

- Do health professionals think modular CBT is acceptable as a treatment for children and young people with epilepsy?
- How can modular CBT be improved?
- What are the views of health professionals on the training process?

2. Materials and Methods

2.1. Participants

Twenty-seven HCPs from six different NHS trusts across England attended the first five days of training workshops and were invited to be interviewed. Of these, 23 (85.19%; 5 males and 18 females) consented to participate in the research. They comprised five paediatricians, five specialist epilepsy nurses, three paediatric nurses, two mental health workers, one educational psychologist and four assistant psychologists. 14 of these had prior experience of working in epilepsy and seven had a mental health/therapeutic background. All HCPs worked in the public sector in National Health Service or equivalent settings. Twelve participants attended a second training workshop at the end of the six-month training period and all consented to take part in the second interview; an additional three participants agreed to be interviewed despite being unable to attend this second training session. Therefore 15 of the 23 participants (65%) were interviewed at the second time point.

2.2. Procedure

The study received ethical approval from the South Central – Oxford Research Ethics Committee (reference 18/8C/0250). Written consent was obtained by all participants and additional oral consent was given and recorded at the beginning of each interview, where HCPs were asked to describe their experiences in training and implementation of MATCH-ADTC. Semi-structured interviews were conducted face-to-face by 13 members of the research team, who have experience in working with MATCH-ADTC. Interviewers familiarised themselves with the topic guide questions. Those with less experience in qualitative analysis attended a one-hour training led by AS on how to conduct non-leading semi-structured interviews. Interviews were conducted both immediately after the initial five-day training programme (i.e. before HCPs first training cases) (Time 1) and at the end of the six-month training period (Time 2). Further details of the MATCH-ADTC treatment are provided in Table 1 and details of the training are provided in Table 2. The clinical outcomes of participants in the 6-month training phase are considered in a separate paper [17].

---INSERT TABLES 1 AND 2 HERE---

The interview schedules were developed specifically for this study and included open-ended questions and non-directive prompts (See Appendix 1). The schedules were used as a guide and mapped on the four constructs of Normalisation Process Theory [18] to explore in-depth the different processes of implementing MATCH-ADTC within epilepsy services. Topics were similar at both time points and covered participants views of the MATCH-ADTC treatment and the impact it would have on the families they worked with, their thoughts about delivering the treatment, their feedback on the training, and any changes they would make to the treatment or training. Throughout the interviews, participants were explicitly encouraged to discuss both the positive and negative aspects of MATCH-ADTC and the training. Interview schedules are available on request.

Interviews were digitally recorded and transcribed verbatim by a professional transcription company. All identifiable information was removed from transcripts before starting the analysis. The length of the interviews ranged from 7-42 minutes (*M* = 13.35, *SD* = 7.22) at time point one and from 10-23 minutes (*M* = 16.61, *SD* = 4.35) at time point two.

2.3. Data Analysis

All transcripts were analysed using inductive thematic analysis following the guidelines developed by Braun and Clarke [19]. This type of approach aims to identify and analyse patterned meanings in the data related to the research questions. After familiarisation with the data (by reading transcripts several times), the initial codes were produced and applied to the transcripts, and refined by the first coder. These codes were then reviewed by the research team and a list of codes was created where the codes were finalised and organised into potential higher-order themes and sub-themes. Thematic maps of the preliminary themes and sub-themes were created.

The preliminary themes and raw data were then compared in an iterative process. The first coder checked (1) if all the codes within each theme and sub-theme represented a coherent pattern; and (2) if each theme was linked by a central organising idea. Next, the first coder re-read all the transcripts to make sure that the themes did not overlap and that each one had a distinct identity within the overall story. Minor amendments were then made to the structure and labels of the themes and anonymised quotes were selected to illustrate each theme.

The transcripts of interviews at the two time points were initially considered separately but were judged to share broadly similar ideas. Therefore, they were analysed together as no clear distinctions could be made. Outcomes are reported in accordance with the Standards for Reporting Qualitative Research (SPQR) [20].

To increase the transparency of the findings, the first coder used memo-writings to regularly log the development of themes and also kept a short reflexive diary to reflect on how personal characteristics were potentially impacting on the ongoing analysis of the data. The replicability of the themes was established by a second coder who re-coded all transcripts with an excellent interrater reliability (K = 0.75).

3. Results

Three higher order themes with sub-themes were identified: (1) strengths of the MATCH-ADTC content and manual; (2) expectations of the treatment; and (3) improving practice with MATCH-ADTC, see Table 3. Overall impressions of the training and treatment were largely positive and health professionals could see the benefit the treatment would have both for the families that they worked with, and on their own professional development. HCPs' main concerns were about their lack of confidence in using psychological treatments and the time required to deliver the treatment to competence and with fidelity. There were some differences according to HCP background; specifically whether HCPs had background in psychology, mental health and therapy prior to the training (Table 3).

---INSERT TABLE 3 HERE---

3.1. Theme 1: Strengths of the MATCH-ADTC Content and Manual

This theme encapsulated five sub-themes focused on the positive views' participants shared in relation to the treatment content: (1) It is desperately needed; (2) evidence-based approach; (3) "structured flexibility"; (4) accessible and clear language; and (5) practical delivery mode.

3.1.1. It is Desperately Needed

Participants frequently expressed that a psychosocial intervention like MATCH-ADTC had been needed for a long time and that it would fill a gap present in current epilepsy services. The key need identified by interviewees was the lack of an existent treatment that allows health professionals to address the complex emotional and behavioural difficulties experienced by some children and young people with epilepsy. This need was highlighted by those with epilepsy experience and those with mental health experience.

> *"It's an absolute desperate crying out need…You know, it's been the grief in every epilepsy service. I would say that every child should have access to psychology and mental health." (Participant 8, paediatric nurse, Time 1)*

> *"I think it's really, really exciting. For the first time, there seems to be something available for these children and their parents and their families […] This is what we've been looking for. This is the solution to the problem." (Participant 10, educational psychologist, Time 1)*

Furthermore, long waiting lists in psychological services was identified as a significant barrier that prevented families from accessing treatment.

> *"So, I would say probably about 60% of my patients have some level of anxiety or behavioural disorder, I think this is going to be of great benefit, because our usual practice is to refer into psychology or to CAMHS. That usually takes six to eight months to get any response." (Participant 16, specialist epilepsy nurse, Time 1)*

The need for such a treatment was highlighted equally after the six-month training period (Table 2). At Time 2, participants were more able to comment on which parts of the therapy covered which gaps in services.

> *"I think some psycho-education… around anyone's own condition is so helpful, because, actually, you do find young people and parents have these myths in their*

mind, and, however much you try to dispel them by talking to them, you're not going to stop someone who's been living in a particular culture of that for maybe … ten years, by one visit". (Participant 15, specialist epilepsy nurse, Time 2)

"It's really relevant, if it was up to me, all our patients would have, at least it'd be part of the process that they'd have an initial assessment and just try to identify their needs. So, having something like this is brilliant." (Participant 18, specialist epilepsy nurse, Time 2)

3.1.2. Evidence Based Approach

Interviewees considered it important to be able to deliver an evidence-based treatment, which was perceived as one of the biggest strengths of MATCH-ADTC. It was apparent from the interviews that this characteristic increased the credibility of the intervention.

"I think it's a really good, obviously high-quality, well researched giftbox, almost. It's like a greatest hits compilation of mental health support and psychological therapies which can be used interchangeably. So yes, it's like having your favourite CD in your car." (Participant 15, specialist epilepsy nurse, Time 1)

None of the HCPs with a mental health background discussed this theme at Time 1, perhaps as the use of evidence-based mental health interventions was more familiar to them and therefore not something that particularly stood out as being different. Only one HCP commented on this at the Time 2 point, perhaps again as they were able to focus more on the practicalities rather than theory of the intervention once they had started to deliver it.

"I think as I'm going through it and understanding a little more about it, I think it's absolutely brilliant. The theories from it are really good. I like that way it doesn't look

at the causes of the problem, but looks at how to fix it." (Participant 10, specialist epilepsy nurse, Time 2)

3.1.3. Structured Flexibility

Interviewees tended to like the "structured flexibility" of MATCH-ADTC, which they believed allowed HCPs to follow a defined protocol that included different paths, making it possible to tailor the treatment to the needs of each child and family. Most of the HCPs with prior mental health experience discussed this aspect, perhaps as it was a point of difference compared to previous interventions they had worked with.

"I think the manual is really good. I think the way it works, the flexibility and the pragmatism that's inherent in the intervention. It's so important that you're not bound by a particular approach, that there is good structure in it, but at the same time, it's adaptable. So, if something turns up, most of these children will have more than one problem, so that you can adapt, and you can prioritise. In many ways, it's patient or family-led, and I think that's important." (Participant 10, educational psychologist, Time 1)"I like the idea of interference modules because it helps, kind of-, or the idea that you can switch from one to another really helps personalise the treatment to be specific to that child and what they're struggling with." (Participant 23, assistant psychologist, Time 2)

Several participants reported that they had already been implementing some of the strategies in their day-to-day practice, but in much less structured or systematic way. Thus, it became clear throughout the training that MATCH-ADTC reinforced their knowledge by providing structure and rigour to the advice and guidance they already provided to patients.

"I love that it's all stuff that we would already have probably done anyway. It's taking it the one step further. It's, kind of, structuring something that you've realised you were already using." (Participant 16, specialist epilepsy nurse, Time 1)

However, the flexibility also produced some challenges. Some participants said they were not sure about when to change modules to address different areas or concerns (i.e. sequencing of the modules and practices was difficult). This issue arose both after the initial training (Time 1) and at Time 2, for those with and without prior mental health experience.

"The MATCH flowcharts of you start here and then because of this you go here or you can go back here – that was quite confusing. I think that's my least favourite part." (Participant 23, assistant psychologist, Time 1)"I think sometimes there where you need to adjust modules maybe to the specific problems is higher skill level than what is included in the manual." (Participant 11, non mental-health epilepsy practitioner, Time 2)

3.1.4. Accessible and Clear Language

Most participants found that the language used throughout the MATCH-ADTC manual was extremely clear and accessible to different types of health professionals, as well as the families who received the treatment. This was noted at both Time 1 and Time 2.

"I think the epilepsy-specific modules were really good. I think it stays quite simple. I think that's really important... For people who aren't epilepsy nurses or epilepsy professionals, I think it's a really great way of giving them that knowledge." (Participant 15, specialist epilepsy nurse, Time 1)

"It seems pretty straightforward, the script is, you know, clear and prescriptive, so you know what to say in sessions." (Participant 21, assistant psychologist, Time 2)

3.1.5. Practical Delivery Mode

Participants, regardless of their professional background, had a clear idea of how telephone sessions could provide flexibility and reduce patient burden. However, some participants also talked about the challenges of building rapport with families over the telephone. At Time 1, these were discussed as hypothetical concerns but at Time 2, HCPs were able to reflect on their experiences of delivering the therapy.

> *"I think it will be interesting to be involved in delivering an intervention over the telephone…I can see the strengths and it's not something that initially feels to me like oh…this is going to be challenging. Like I think it's easier to build a rapport if you're with the person but equally I can see the advantages in terms of flexibility especially for families and stuff and reducing the burden." (Participant 3, mental health practitioner, Time 1)"You can be really flexible, you know. When the parents want to rearrange sessions, it's really easy because it's, you know, just about finding a room and having a phone call with them." (Participant 22, assistant psychologist, Time 2)*
>
> *"I just feel like it would be more interactive, and you could sort of, build up more of a rapport easily if you could show them things. If you can gauge by their non-verbal communication, how they're feeling, and sometimes that's difficult to do over the phone." (Participant 13, specialist epilepsy nurse, Time 2)*

3.2. Theme 2: Expectations of the MATCH-ADTC treatment

All participants shared positive expectations of the potential benefits of the expanded MATCH-ADTC intervention for children and families, as well as positive effects on the way they perform their professional role. Five different sub-themes encompassed their most common experiences: (1) MATCH-ADTC will work; (2) long-term transferability of MATCH-ADTC; (3) MATCH-ADTC will empower both the HCP and the family; (4) impact on current role; and (5) a time-consuming intervention.

3.2.1. MATCH-ADTC Will Work

Participants believed that MATCH-ADTC would be an effective treatment for children with epilepsy through the following pathways: positive changes on the physical health of the child and positive impact on the mental health of both children and parents. A greater proportion of HCPs without a mental health background commented on this at Time 1, perhaps because they had greater knowledge of the needs of children and young people with epilepsy and could see how the therapy would be applied in practice. Whilst those with a mental health background were hopeful it would work, they were less definite in their statements. This changed at Time 2, when they were more certain that it would work.

> *"I think it will have a fantastic- you know a really positive impact…it will make a massive impact on their physical and mental health… actually I think even their very specific physical symptoms will improve. I have no doubt actually I think that's exactly what's going to happen." (Participant 5, paediatrician, Time 1)*
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> *"You don't work in neurology to send kids out the door fixed. You work with people with neurological problems to improve their quality of life. This [MATCH-ADTC] is going to improve quality of life. This is a CBT tool in my toolbox." (Participant 15, specialist epilepsy nurse, Time 1)*
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> *"So just basing it on my patients, they seem to be finding it useful, so I think so far, it's, you know, had a good impact." (Participant 22, assistant psychologist, Time 2)*
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> *"One of my other patients, we're quite far through now, I think we've had about nine sessions, and her goals are, you know, nines and eights out of ten and she's really happy and has said that her child looks like a different boy, and it's just amazing and she's really, really positive about the treatment and says it should be*

given, you know, at the point of diagnosis, and the thinks everyone should have access to this treatment." (Participant 20, assistant psychologist, Time 2)

3.2.2. Long-Term Transferability of MATCH-ADTC

At Time 1, some participants talked about the possibility of using the intervention with children with long-term conditions other than epilepsy.

"It has been really exciting for me to learn a bit more about it particularly because some of the work I am doing separate to this at the moment is like particularly about why kids with brain injuries are particularly vulnerable to mood disorders and I was listening to this thinking this is exactly the kind of thing that would be helpful." (Participant 3, mental health worker, Time 1)

"but I think that they would apply to any other developmental conditions because sort of… I sort of immediately saw a bigger possibility of using the methods and the tool to support other patients as well." (Participant 1, paediatrician, Time 1)

3.2.3. MATCH-ADTC will Empower Both the HCP and the Family

At both time points, participants' accounts highlighted that MATCH-ADTC empowered them as professionals by providing them with tools and a structured intervention to support families with problems. It also empowered families through the collaborative nature of the intervention.

"I just think that it gives the HCP a sense of agency that I actually can respond on my feet. I can think on my feet. I can adapt this for the family and the child." (Participant 10, educational psychologist, Time 1)

"I think it's really empowering and encouraging and, if you go from the stance of, you know, 'You're the expert. I'm really here just to coach you and we're going to try these things... It's led by the parent and there's lots of opportunity for praise and

encouragement, you know, when they try out the activities at home and finding out, you know, what didn't work so well." (Participant 23, assistant psychologist, Time 2)

A small number of participants reported that MATCH-ADTC will empower families by encouraging them to not allow epilepsy to define them, both as individuals and as a family.

I think it, hopefully, would put epilepsy into some perspective within the family unit. I think it's just giving them some extra tools to be able to not let the epilepsy define them, even as an individual and then as a family as a whole. I think they'll be really beneficial." (Participant 9, paediatric nurse, Time 1)

3.2.4. Impact on Current Role

A number of participants highlighted how learning MATCH-ADTC would enrich their current role and enhance the way they communicate particular concepts to parents. This was theme was seen particularly in interviews with those without prior mental health experience, who were not already using similar strategies in their daily work. This change in practice was described to start immediately following the initial training at Time 1, and was seen to continue after the six-month training period at Time 2.

"It's already changed the way I think about myself as a parent and how I talk to parents already." (Participant 17, paediatrician, Time 1).

"…it's kind of enriched my day job, if you like, because it's kind of, a bit more freedom to kind of explore some different things" (Participant 9, paediatric nurse, Time 2)

I think they're really good transferable skills, as well, for, like, the job I do as an Epilepsy Nurse". (Participant 15, specialist epilepsy nurse, Time 2).

3.2.5. A Time-Consuming Intervention

For most participants the potential benefits of MATCH-ADTC were clear, but many without prior mental health experience also expressed concerns about the considerable amount of time and commitment required to implement the treatment successfully. The main barrier discussed was their high workload.

> *"I mean, for me, it's a time factor generally, because we haven't got any time between the two of us to do it. It's a 50-minute call, but I like to be really, really well-prepared. So, I keep thinking it's going to be actually quite a lot more than 50 minutes, because you're going to need to prepare. You're going to want to think through it, you know." (Participant 8, non-mental health epilepsy practitioner, Time 1)*
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> *"It's not what I dislike about it, but what I have concerns about is being able to implement it within my current job role and provision of time and service at the moment… Every week for 10 to 22 weeks is time-heavy." (Participant 14, specialist epilepsy nurse, Time 1)*

At Time 2, HCPs were able to reflect on the time commitment associated with flexibility, as well as the practical nature of the intervention requiring sending out measures and handouts before and after sessions.

> *"So, the challenge, really, is that this was the best time for the mum, which is always the case, so I've had to move my time to make that happen." (Participant 15, specialist epilepsy nurse, Time 2)*
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> *"I think it's taken me longer per session than an hour. I think the preparation has been longer, which has added so to my workload, which I knew it would do anyway, but probably more so than I thought it would. Whether, as I get more proficient, that will be better, I'll have to wait and see. I would hope it would get better." (Participant 16, specialist epilepsy nurse, Time 2)*

A few interviewees highlighted the fact that

implementing the MATCH-ADTC strategies will require time and perseverance from parents and carers. Thus, the outcomes of treatment will be associated with the amount of time and work that parents invest in the treatment.

"My concern would be more is whether they would stick to completing the sheets and then implementing it all because you know we all have busy day-to-day lives and it's what people prioritise as important as well." (Participant 6, specialist epilepsy nurse, Time 1).

"You know, parents are really busy and that's understandable and, kind of, treading the fine balance between not pushing but, kind of, reminding them that, you know, they're on this because they want to work at it and stuff like that, but also being accommodating of the ten million other things they have to do as well." (Participant 22, Assistant Psychologist, Time 2)

3.3. Theme 3: Improving Practice with MATCH-ADTC

This theme encompassed participants' views on their experience of the six months of MATCH-ADTC training. Overall, HCPs were mostly positive about their experiences, describing it as "amazing but overwhelming". Three sub-themes were identified: (1) 'a mountain to climb'; (2) learning by doing; and (3) consultation is valued.

3.3.1. 'A Mountain to Climb'

Participants expressed feeling nervous, anxious or apprehensive about delivering the MATCH-ADTC intervention, particularly those with little or no psychological background.Their confidence grew over the six-month training period although they still reported moments in which they felt unsure

"I feel pretty unconfident to deliver it…I think I have got an idea but I need to go away and assimilate it…to be able to deliver it […] It will be fine but I think there's a mountain to climb before it is…fine." (Participant 6, specialist epilepsy nurse, Time 1).

"I do feel quite nervous about getting it started. I think it's just going to make such an impact on the patients and the carers and the clientele's life that we're going to be such a support to them. I, kind of, don't want to mess this up." (Participant 12, paediatrician, Time 1).

"[I feel] a little apprehensive because I'm doing my first assessment soon and when I go back to the manual there's so much there" (Participant 21, assistant psychologist, Time 2)

"Some patients I feel more comfortable delivering it with, other patients less so. I think, generally, my confidence has grown." (Participant 6, specialist epilepsy nurse, Time 2)

"Well, I feel much more confident. I still do have moments when I'm like, 'Ee', which is probably why it's good that I'm on the telephone to people, with my facial expressions, but you know, I think it's, kind of, going quite positively, yes." (Participant 9, paediatric nurse, Time 2)

One participant suggested that providing the manual in stages in the training may make it less overwhelming,

"I think when you're presenting that big amount of information, it's not necessary to present it all at once…. so you can build up to the huge flowchart rather than seeing it all at once so you're not like "where do I even start, how is it all connected, where does it all fit". (Participant 23, assistant psychologist, Time 1)

3.3.2. Learning by Doing

Many participants valued the training cases as helping them "learning by doing".

"It's like dancing, right? Anyone can dance, but when you have to start dancing to steps, that's when you realise whether you're good or you're bad. So, it's kind of like that, it's like I'm learning the steps still so I'm aware that I don't know what I don't know, whereas when you just dance on your own you can dance however you like". (Participant 15, specialist epilepsy nurse, Time 2)

"I think you need to actually just get stuck in, that's the best way of learning really. Because, you can read the script and it's nothing like actually delivering it." (Participant 23, assistant psychologist, Time 2)

Some participants suggested that more role-play and practical experiences including shadowing more experienced clinicians and listening to pre-recorded therapy sessions would have enhanced the learning process.

"I would have liked more videos or examples of either parents putting the practice into place…also examples of the therapists explaining it because I think when you see it being done well you have got something to model your style on." (Participant 4, paediatrician, Time 1)

"Maybe listening to someone, say delivering as session, shadowing someone before you do it, that might be helpful." (Participant 21, assistant psychologist, Time 2).

"I think what would be useful would've been maybe some tape-recorded roleplay sessions that we could've just clicked into maybe prior to going and doing a session, just to remind us how somebody else might've put that into play." (Participant 16, specialist epilepsy nurse, Time 2)

3.3.3. Consultation is Valued

The research team members were perceived as both knowledgeable and approachable. Participants valued the fact that there was supportive and informed advice readily available.

"It was really, really great, lots of expertise in the room. There were some really amazing neurologists and even more importantly, more consistently, amazing psychology team." (Participant 15, specialist epilepsy nurse, Time 1)

"The consultations we've had have been brilliant. So, when I've come away thinking I've not achieved anything and I don't know where I'm going with this person, she's able to cut through it and work out exactly where I'm going and get me some suggestions." (Participant 16, specialist epilepsy nurse, Time 2)

"When I really don't know what to say and talking things through with [name] and everything I've taken to her, the way she's explained things and how timely her responses are. In terms of helping with the next call and whether there's been emails in between our actual supervision calls and things, it's been really good." (Participant 18, specialist epilepsy nurse, Time 2)

4. Discussion

The main aim of this qualitative study was to examine the views of health professionals working within paediatric epilepsy services who had been trained to deliver an expanded version of a modular CBT intervention for children and young people with epilepsy. Overall, participants experiences were positive, both in terms of their views of the acceptability and impact of the treatment for the children and families that they worked with, and of the training and support they received during the six-month training period.

Overall participants held positive expectations for an expanded version of MATCH-ADTC for use in children and young people with epilepsy, replicating previous research which

has demonstrated that trial HCPs were satisfied with the original MATCH-ADTC protocol [14]. Many referred to the unmet need in this population [5, 6], and could see the benefit in implementing a modular CBT intervention like MATCH-ADTC from within epilepsy services to address the current challenges in ensuring that children and young people with epilepsy have timely access to effective mental health interventions. Given that local Child and Adolescent Mental Health Services (CAMHS) are overstretched [21] and often inexperienced in dealing with mental ill-health in the context of a long-term condition [22], training health professionals embedded in paediatric epilepsy clinics to deliver evidence-based mental health interventions was seen as an acceptable and pragmatic solution to the challenges young people with epilepsy currently face in accessing psychological treatments [23]. This finding, along with the view that telephone delivery allowed for practical flexibility, is particularly relevant given the current COVID-19 pandemic.

Participants valued the flexibility of the treatment and the ability to address multiple issues due to the modular design of the treatment which is particularly relevant for children with epilepsy who are likely to present with multiple mental health disorders [3]. Clinicians working in paediatric epilepsy settings are likely to see children and young people with a wide variety of problems, and health professionals in this study valued the opportunity to have access to a single "giftbox" which could be tailored to clinical needs of the families that they work with. This finding is similar to those in other long-term conditions, for example in young people with cancer and low mood where qualitative evaluations of staff views has shown that 'one size does not fit all' for psychological therapies [24]. The modular design of the expanded MATCH-ADTC protocol was perceived to be helpful in ensuring that the needs of young people with multiple mental health disorders along with the unique challenges faced as consequence of epilepsy would be met, in contrast to the protocol for the majority

of psychological interventions for children and young people which address only single, specific disorder [25]. However, this flexibility also resulted in some challenges for HCPs, most of whom had no or limited prior mental health experience, who sometimes struggled to know when to switch modules. This research indicates that less experienced HCPs may require extra training and ongoing skilled supervision and support with the 'sequencing' aspect of modular treatments through regular consultation with an experienced professional. It may be preferable to have less of a focus on this in the initial training, so as not to overwhelm HCPs, but instead to introduce these aspects over time in consultation.

Health professionals highlighted a number of challenges in delivering modular CBT within paediatric epilepsy services, particularly emphasising the time commitment required both to deliver the treatment effectively and with fidelity, for example ensuring they had time to sufficiently prepare for sessions, and to review weekly measures and handouts sent back from parents between treatment appointments. From health professionals' perspectives, whilst this intervention shows promise in integrating epilepsy and mental health services, there is clearly a need to ensure that sufficient time is allocated to mental health at a service level, along with appropriate consultation to support the development and maintenance of skills. HCP self-reported confidence in their own abilities to deliver the treatment increased over the training period and they valued the training cases which helped them put the training into practice. HCPs were all offered weekly consultation sessions with an experienced clinical psychologist and all participants highlighted the value of ongoing support, particularly as many of them had no prior formal training in mental health. This is important given that previous research has shown that in complex circumstances consultation recommendations that supplement modular psychological treatments may benefit clinical decision making [26].

Health professionals in this current study talked about 'getting stuck in', practical experience and learning from more experienced HCPs when learning how to implement MATCH-ADTC, mirroring theories of experiential learning [27] and creating desirable difficulties to facilitate development and consolidation of skills [28]. Previous work has shown that filtering and pacing the learning burden is preferable to simplification and information removal when training practitioners in complex psychological interventions [29]. Further research should examine the best way to train, supervise and support health professionals deliver mental health treatments with competence within epilepsy services.

This study has provided preliminary information regarding multidisciplinary health professionals' views of an expanded modular CBT intervention for children and young people with epilepsy and common mental health difficulties. Whilst the sample size is sufficient for data adequacy for qualitative research and data saturation was reached [30], not all participants were interviewed at the end of the training period. Therefore, the findings reported here may not be representative of clinicians' views across the National Health Service, and it is possible that further themes may have emerged had a larger number of participants been interviewed at the end of the six-month training period. In addition, the views of other health professionals such as neurologists, were not represented in this research; future research should seek to capture the views of all health professionals involved in providing care to young people with epilepsy. It is possible that participants felt obligated to focus on the positive aspects of the treatment and training during the interviews. To minimise this, the interview schedule included open questions and explicitly asked participants about the challenges and limitations of the intervention and the training and most participants discussed both the positive and negative aspects of their experiences. Future research

should consider interviewing HCPs after a longer follow-up period to allow consolidation of training and experience. Quantitative measures of credibility, acceptability and confidence to delivery therapy may also provide further information regarding the effectiveness of the training programme. Whilst the transcripts from both time points were analysed together as they shared broadly similar ideas, further qualitative analysis is needed to explore the impact of HCP experience over time on views of the intervention, and the impact of the training on themselves both professionally and personally. Whilst participants were positive at both time points, at the end of the training they perhaps expressed a deeper gratitude for their experiences and there was a greater impression of personal benefit which would be interesting to investigate further.

The experiences of the participants interviewed in this study suggested that health professionals perceived the expanded version of MATCH-ADTC to be a single working intervention system, rather than separate epilepsy modules that had been added to an existing mental health programme. This positive HCP responsive has implications for future developments of extensible psychological treatment architecture in other areas of paediatric health. These findings are particularly relevant given the international drive on integrating physical and mental health care for clinical, organisational, patient and professional satisfaction, and health economic reasons [31].

The findings of this study suggest that an expanded version of modular CBT for children and young people with epilepsy is acceptable and valued by health professionals. Flexible, modular interventions that can be delivered by telephone by professionals within paediatric epilepsy services may be a potential way of addressing

the gap between epilepsy and mental health services, but the effectiveness of this intervention requires quantitative evaluation. The ability to develop and implement a multi-developer content system that appeals to health professionals is important for the future of evidence based psychological treatments more broadly. Future research is needed to understand the most efficient and effective way to train health professionals to deliver modular CBT for children and young people with long-term health conditions.

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6. Competing interests

Bruce Chorpita, Ph.D., is the President of PracticeWise, LLC. PracticeWise, LLC was founded in 2004 with a mission to advance how evidence and information are used to improve the lives of children and families. It publishes MATCH-ADTC. MATCH-ADTC is available to purchase in two formats: an online, interactive format (including electronic

access to all modules, reproducible handouts and worksheets, a downloadable PDF of the complete manual) or as a paperback book.

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Table 1. Structure, content and characteristics of the intervention

Details of the modified version of the MATCH-ADTC	
Modular	Combines modules for the treatment of anxiety, depression, and behaviour problems, taken from known evidence-based protocols, with an empirically derived algorithm for making decisions regarding which module should be used and when.
Key content for depression	Includes cognitive and problem-solving strategies and scheduling pleasurable activities.
Key content for anxiety	Exposure techniques.
Key content for disruptive behaviour and conduct disorders	Delivered through parents and include one-on-one time, praise, effective instruction-giving, rewards, and ignoring unwanted behaviour.
Trauma component	Addressed through developing a trauma narrative, exposure, and safety planning.
Additional epilepsy-focused components	
Psychoeducation about mental health difficulties in the context of epilepsy	The addition of a core epilepsy practice module (i.e., required for everyone meeting epilepsy criteria) that provides education about mental health difficulties and their relationship with epilepsy, enables a formulation of the maintenance of mental health disorders within epilepsy, separates the child from the disorder, and provides links to additional resources such as website links for charities with information about paediatric epilepsy.
Stigma*	The addition of an optional epilepsy practice module that covers techniques to address stigma associated with mental health difficulties and epilepsy-related stigma [32].
Parental mental health*	The addition of an optional epilepsy practice module that addressed parental mental health based from findings of focus groups, PDSA cycles, interviews and the literature highlighting that parenting a child with epilepsy and mental health difficulties can be stressful [33] and parental anxiety and depression were recognised as potential barriers for some families that

	needed to be addressed for successful implementation of the intervention.
Transition to adulthood*	The addition of an optional epilepsy practice module that addressed transition-related issues that were considered as potential barriers to the implementation of the mental health intervention in this population and therefore necessary to address within the modified intervention when they arose.
Time-limited	Patients were offered weekly therapy sessions over six-months.
Session length	Therapy sessions are up to an hour.
Recipient of intervention	The intervention was delivered either to the parent/carer, young person, or both, depending on the child's presenting difficulty, age (patients ranged from 3-18 years old), and intellectual ability.
Flexible and collaborative	The number of sessions offered was flexible and collaboratively decided between the therapist and family. The minimum number of sessions was 10 and the maximum number was 22. Two booster sessions may be offered in addition outside of the six-months. Some patients may be offered fewer than 10 sessions if there was mutual agreement that their goals have been reached.
Delivery format	The intervention was delivered through remote telephone or online video calls. Face-to-face therapy sessions were only permitted if clinically indicated or strongly preferred by the family.

*****Available, but not required for everyone meeting epilepsy criteria, in keeping with the structure of MATCH-ADTC.

Table 2. Structure of the training for HCPs to deliver MATCH-ADTC

Details of the training	
Access and costs of training	The training was provided to epilepsy services for no cost, as services were participating in a trial. All epilepsy services in the England were invited to take part and 5 representative sites were selected. The epilepsy services could choose which staff in their service were trained. The full costs of training are being considering in a health economic analysis, which is currently ongoing as part of the main trial.
Length	The training took place over six-months and included a five-day intensive training and a half-day booster training.
Trainers	Training were led by experts in the field of epilepsy and mental health, including members of the MATCH-ADTC team, epilepsy experts, and mental health professionals with extensive experience in working with children, young people and families.
Training aim	The five and a half face-to-face training days included multi-method learning with a focus on developing practical skills through skills practices and observations. The training did not provide a professional qualification but counted towards HCPs' professional development and included a training certificate.
Five-day intensive training	Topics comprised knowledge of evidence-based psychological techniques, skills in assessment, goal setting and formulation, use of routine outcome measures, and engagement and therapeutic style. The training included information about tailoring information to meet the needs of children with cognitive limitations.
Half-day booster training	The booster training was delivered at the end of the six-month period with topics tailored to their individual training needs and included developing SMART goals, how to handle interference, and agenda setting.
Clinical supervision/consultation	HCPs were offered weekly telephone clinical supervision with a qualified clinical psychologist, which included review of

	weekly routine outcome measures, progress toward patient goals, review of sections of audio-recordings of therapeutic sessions, and role-play. Clinical supervision was delivered over the telephone to match the therapeutic mode of delivery and to maximize accessibility to HCPs who were based at multiple sites in England. HCPs received between 4 and 12 telephone supervision sessions ranging between 12 and 63 minutes in length (M= 41.18 min SD = 10.30). HCPs also had regular email contact with their clinical supervisor.
Treatment fidelity and competence in intervention delivery	All treatment sessions were recorded. HCPs followed a treatment protocol and completed an adherence checklist for each session. HCPs competence in intervention delivery was assessed in a two-stage process; firstly HCPs were considered competent in delivering the intervention when they achieved a pass mark of at least 50% on the adapted Cognitive Therapy Rating Scale Revised (CTSR) with all items scoring at least two [34]. In the second stage, the completed CTSR, weekly measures, and adherence checklist were sent to a MATCH-ADTC consultant, who reviewed the materials to confirm the HCP as competent in delivery of the therapy.

Table 3. Higher order themes and sub-themes

Themes		Number of participants endorsing at T1 (n with mental health background)	Number of participants endorsing at T2 (n with mental health background)
Strengths of the MATCH-ADTC content and manual			
	It is desperately needed	9 (3)	9 (3)
	Evidence-based approach	11 (0)	1 (0)
	"Structured flexibility"	14 (6)	10 (3)
	Accessible and clear language	13 (3)	7 (4)
	Practical delivery mode	7 (2)	7 (4)
Expectations of the MATCH-ADTC treatment			
	MATCH-ADTC will work	11 (3)	15 (5)
	Long-term transferability of MATCH-ADTC	5 (1)	0 (0)
	MATCH-ADTC will empower both the therapist and the family	17 (5)	10 (2)
	Impact on current role	9 (1)	5 (0)
	A time-consuming intervention	9 (0)	11 (3)
Improving practice with MATCH-ADTC			
	'A mountain to climb'	15 (3)	7 (3)
	Learning by doing	15 (3)	6 (2)
	Consultation is valued	8 (4)	10 (4)

Appendix 1: Interview schedules for Time 1 and Time 2

Time 1 Schedule

1. What are your thoughts on the MATCH treatment?

   Prompts:
   a. What do you think about the epilepsy-specific materials?
   b. What did you like/dislike about MATCH?

2. What type of impact do you think the treatment will have on the individuals it is aimed at helping?

   Prompts:
   a. Explore also in relation to the epilepsy-specific materials, if relevant.

3. If you had the opportunity to make suggestions or modifications to the treatment, what would you do?

4. How do you feel about delivering this treatment?

5. What did you think about the workshop provided?

   Exploration of both positive and negative aspects.

Prompts:

   a. What did you like and dislike about the workshop?

6. Is there any other feedback that we have not asked you about that you would like to provide (including any improvements)?

Time 2 schedule

1. What are your thoughts on the MATCH treatment?

   Prompts:
   a. What do you think about the epilepsy-specific materials?

b. What did you like/dislike about MATCH?

2. How did you find delivering this treatment?

Explore both positive and negative aspects/challenges.

3. How did you find giving the treatment over Skype/telephone?

Prompts:

a. What did you like/dislike, if anything, about having the treatment over Skype/ telephone?
b. What are the benefits and disadvantages of this delivery mode?

4. What type of impact do you think the treatment had on the individuals it is aimed at helping?

5. How relevant do you think the topics/areas covered in the treatment were to families?

Prompts:

a. What issues do you feel were relevant and why?
b. What issues do you feel were not relevant and why?

6. Are there any topics/areas that were not covered in the treatment that you wish were addressed?

Prompts:

a. What specifically would have been helpful to cover with regard to these topics?

7. How did you find the tasks that had to be completed at home by the families?

Prompts:

a. What did you like/dislike about these tasks?
b. Do you think the families received enough support to complete them? If not, what could we do differently?

8. If you had the opportunity to make suggestions or modifications to the treatment, what would you do?