South London and Maudsley NHS Foundation Trust

CUES Ed

# CUES-Ed: a universal early intervention CBT programme for primary school children designed to promote wellbeing, resilience, and a non-stigmatising approach to mental distress.

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## Introduction

***Early detection & intervention***

- Rates of mental illness amongst children and adolescents are increasing, with around 10% of children having a diagnosed mental health problem (Fink et al., 2015; Green et al., 2005), alongside diminished capacity to address need in community mental health services (Children's Society, 2008).
- Health and education services are being encouraged to work together to develop early intervention programmes to improve current wellbeing and future resilience, as well as to promote adaptive understanding of mental distress (United Kingdom Department of Health, 2015).
- School-based approaches alleviate common barriers to treatment in the community such as young people and families finding the time and resources to attend a mental health base (Neil & Christensen, 2009).
- Universal approaches, working with entire classes of children, imply that anybody may be, or may in the future become, vulnerable, and are therefore less stigmatising (Stallard et al., 2005).
- Classroom-based interventions can also reach large groups of children, are relatively inexpensive, reduce labelling (Gieson, Searle & Sawyer, 2007), and provide opportunities for peer support and modelling (Lowry-Webster et al., 2001).

***Development of CUES-Ed***

- The CUES-Ed project was developed as a result of direct feedback gathered over many years from children we have worked with in our Child and Adolescent Mental Health Services (CAMHS).
- CUES-Ed is a universal clinician-led, classroom-based programme for primary school children. It is rooted in cognitive behavioural models of mental distress and the development of mental illness.
- The central theme of the CUES-Ed programme is 'keeping our brains amazing', by looking after our physical wellbeing (eating, sleeping and exercising well), learning to recognise our own cues for when things may not be right, and identifying helpful ways of responding to our cues.
- Uniquely, CUES-Ed also includes a focus on unusual perceptual experiences (UEs, such as hearing, seeing or believing something that other people cannot hear). UEs are associated with a range of adverse mental health outcomes, including severity of future mental illness (Lin et al., 2011; Linscott & van Os, 2013).

## Aims

We wished to evaluate our routine delivery using both qualitative and quantitative analysis to address three broad questions of acceptability and potential helpfulness.

1. How do children and teachers find the package? Do they think things change? If so, how?
2. Does wellbeing and behavior change from before to after CUES-Ed, a) for all children and b) for those children who need it the most?
3. Are the changes greater than those in children awaiting the intervention?

## Method

***Intervention***

- CUES-Ed is an eight-session manualised intervention delivered by mental health clinicians (clinical psychologists and CBT therapists) to whole classes of primary school children (ages 7-10 years).
- The package uses engaging characters, high-specification graphics and teaches through a combination of games, videos, workbook and discussion.
- CUES-Ed aims to teach children how to manage their own current and future wellbeing, by recognising, understanding and problem solving the transdiagnostic cognitive, social, physiological, perceptual, emotional and behavioural vulnerabilities implicated in a range of future mental health problems.
- All language used in the sessions is developmentally tailored with repetition, summaries and links to real-life situations to promote children's retention of the core messages.
- The learning is reinforced through in-between session tasks, classroom posters, teachers embedding the language and linking the techniques in the classroom, and use of the interactive website.

***Evaluation Design***

- A mixed methods service-based evaluation, using qualitative feedback from children and teachers, and quantitative questionnaire scores to measure change from before to after CUES-Ed, and from before to after a comparable waiting time, for a smaller group of children. Questionnaire scores were examined for all children and those scoring in the clinical range of the chosen measures. Pre-post effect sizes were calculated. Between group effect sizes were calculated for children completing questionnaires before and after CUES-Ed compared to before and after a waiting period leading up to receiving CUES-Ed. Pre-post CUES-Ed data for these children was not included in the analysis.

***Service recipients***

- Whole classes of year 3 and year 4 school children across 15 primary schools in the London Borough of Southwark.
- A total of 27 teachers and teaching assistants answered teacher feedback questionnaires.
- Missing data was accounted for by some incomplete data sets, school absence and school changes, including new starters and leavers.

***Measures***

- Children and teachers provide feedback and complete service questionnaires, before the first session and after the final session. Children complete two standardised self-report measures.
- Overall wellbeing was measured using the Children's Outcome Rating Scale (CORS; Duncan, Miller & Sparks, 2003), which has a clinical cut-off of 32. The scale is composed of 4 questions, measuring the domains of 'me', 'family', 'school', and 'everything'. Higher scores indicate better wellbeing.
- Emotional and behavioural difficulties were measured by Me and My Feelings (M&MF; Deighton et al., 2013). The scale has good internal consistency and convergent validity (Deighton et al., 2013) and can be used with children aged 8 and above. The self-report questionnaire is 16 items long, 10 comprise the emotional difficulties subscale and 6 the behavioural difficulties subscale (>10-11 borderline difficulties, >12 emotional difficulties subscale; >6 borderline difficulties , >7 behavioural difficulties subscale).
- Outcomes were collected as part of routine service evaluation, with approval granted by the SLaM CAMHS audit committee, and permission given by the individual school.

| Outcome measure | Subscale | Group | N | Pre Mean (SD) | Post Mean (SD) | Effect size, *d* | Effect size interaction , *d* |
|---|---|---|---|---|---|---|---|
| M&MF | Behavioural (cut-off >6) | CUES-Ed | 87 | 7.41 (1.44) | 5.94 (2.47) | -.61 | -.24 |
| | | Waiting | 13 | 8.23 (1.83) | 7.39 (3.66) | -.23 | |
| | Emotional (cut-off >10) | CUES-Ed | 119 | 11.83 (2.11) | 10.08 (3.20) | -.59 | -.30 |
| | | Waiting | 14 | 11.14 (1.10) | 10.29 (3.36) | -.27 | |
| CORS (cut-off < 32) | | CUES-Ed | 227 | 22.98 (6.68) | 26.56 (8.64) | .40 | .21 |
| | | Waiting | 26 | 25.42 (5.52) | 27.15 (9.32) | .20 | |

*Table 1: Effect sizes for CUES-Ed and waiting groups, for those who need it most (M&MF, CORS)*

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## Results

***How do children and teachers find the package?***

- 84% of children reported that they thought CUES-Ed helped 'quite a bit' or 'lots'.
- 100% of teachers said that the children gained something from CUES-Ed and would continue to use learning from the sessions.

***How do things change?***

A thematic analysis was carried out on children's qualitative feedback (Table 2). Several themes emerged, including an increased repertoire of coping strategies, knowledge about general wellbeing and confusing or difficult experiences, improved emotion regulation and increased use of cognitive strategies.

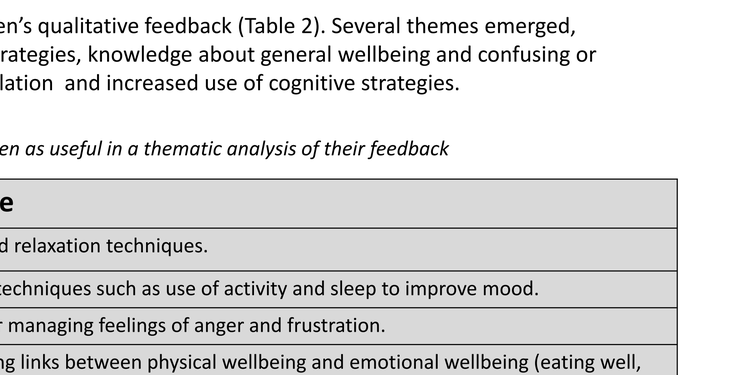
*Table 2: Themes and subthemes identified by children as useful in a thematic analysis of their feedback*

| Theme | Subtheme |
|---|---|
| **Increased repertoire of coping strategies** | Breathing and relaxation techniques. |
| | Behavioural techniques such as use of activity and sleep to improve mood. |
| | Strategies for managing feelings of anger and frustration. |
| **Increased knowledge** | Understanding links between physical wellbeing and emotional wellbeing (eating well, sleeping well, relaxing and being active). |
| | Understanding that sometimes 'brains play tricks on you' as an explanation for confusing or difficult (unusual) experiences. |
| **Increased use of cognitive strategies to manage emotions** | Use of positive self-talk. |
| | Noticing thinking traps. |
| | 'Catching thoughts'. |
| **Improved emotional regulation** | Improvements in feelings of sadness, anger and worry. |
| | Reported improvements in behavior. |
| | Reported improvements in concentration. |

***Does wellbeing and behaviour improve in those who need it the most after CUES-Ed?***

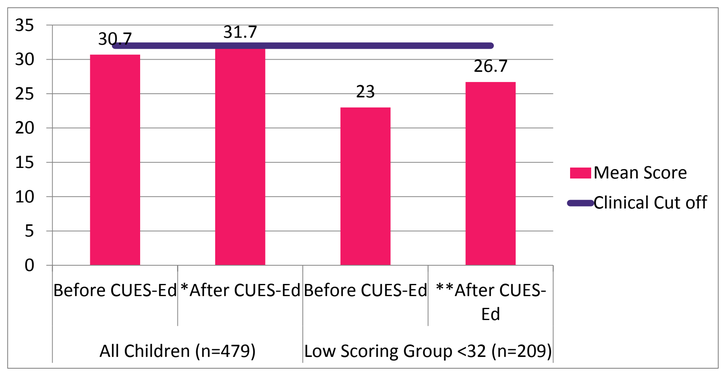
- Children who scored within the range for emotional difficulties on the M&MF before CUES-Ed (*n*=119), show significant improvements following the intervention, with the group mean shifting from 'clinical' to 'borderline' (Pre M= 11.83, SD= 2.11, Post M= 10.08, SD= 3.20, *p*<.001).
- Children who score within the range for behavioural difficulties on the M&MF before CUES-Ed (n=87), show significant improvements following the intervention, with the group mean shifting from 'clinical' to 'borderline' (Pre M= 7.41, SD= 1.44, Post M= 5.94, SD:=2.47, *p*<.001) (Figure 1).

*Figure 1: M&MF mean scores before and after CUES-Ed for children who reported difficulties before CUES-Ed*




- The whole sample of children's average CORS scores significantly improved from before (M=30.68, SD=8.39) to after receiving (M=31.67, SD=8.24) CUES-Ed (**p*=.001).
- A total of 209 children reported a score indicating lower levels of wellbeing before CUES-Ed (<32). We found significant improvement in their scores from before (M=23.00, SD=6.82) compared to after (M=26.67, SD=8.53) CUES-Ed (***p*<0.001) (Figure 2).

*Figure 2: CORS overall emotional wellbeing mean scores before and after CUES-Ed*




***Do children receiving CUES-Ed improve compared to children awaiting the intervention?***

Changes in wellbeing were two to three times greater from before to after CUES-Ed, than before and after a waiting period. Pre-post effects were small to medium for CUES-Ed (0.4 to 0.6) and small for the waiting period (0.2 to 0.3). Comparing children receiving CUES-Ed to the waiting period, small between group effects were found (0.2 to 0.3). (Table 1).

## Conclusion

- CUES-Ed offers an innovative, interactive and engaging package of early mental health intervention to primary school children.
- Routine service evaluation has yielded promising findings of the potential benefit of the package to those who need it most (emotional and behavioural difficulties). The results suggest that CUES-Ed may improve general wellbeing, improve emotional literacy, increase children's repertoire of coping strategies, improve emotional and behavioural wellbeing in those who are reporting difficulties, and increase knowledge about normalising emotional responses to confusing or difficult experiences.
- Effect sizes are small, and controlled evaluation is needed.
- There are notable limitations to this service evaluation. Firstly, although all young people rated the intervention and gave qualitative feedback, only just over half completed the standardised questionnaire measures. Strategies to improve completion, such as electronic administration that prompts for missing responses, should be prioritised for future evaluation. The waitlist group in this service evaluation arose from convenience, is very small and, although from a comparable school, was not formally matched. Further controlled evaluation is now indicated.

## References

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