NICE National Institute for Health and Care Excellence

Surveillance report (exceptional review) 2018 – Antisocial behaviour and conduct disorders in children and young people: recognition and management (2013) NICE guideline CG158

Surveillance report

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Surveillance decision

We will plan a partial update of antisocial behaviour and conduct disorders in children and young people: recognition and management. This update will focus on the role of multisystemic therapy (MST), as part of a mutimodal intervention for the treatment of antisocial behaviour and conduct disorder in children and young people.

Reason for the decision

Assessing the evidence

The purpose of this exceptional review was to examine any impact on NICE's guideline on antisocial behaviour and conduct disorders in children and young people following the publication of the START study (Systemic Therapy for At Risk Teens). No additional evidence published since the publication of the guideline in March 2013 was considered by the exceptional review.

Methods

The START study is a multicentre randomised controlled superiority trial conducted in the UK that compared the effectiveness of MST to usual care in adolescents (11–17 years old) with moderate or severe antisocial behaviour. People were excluded if they have a diagnosis of psychosis, generalised learning problems, high risk of suicide or injury or harm to the researchers, and committed serious offences that could bring a custodial sentence or situations in which MST has not been validated.

Families were randomly allocated to 3–5 months of MST followed by usual care; or usual care alone. In the MST group, a tailored programme was developed to respond to the young person and family's needs. A therapist was assigned to the family. The therapist had regular meetings with the family (3 times per week) and was available 24/7. Adherence to programme structure (programme fidelity) was guaranteed by experts in MTS.

Usual care was provided by youth offending teams, child and adolescent mental health services or social and education services and included multicomponent interventions adapted to the person's needs (behavioural difficulties and mental health needs). The

usual care received by the participants was not standardised.

The main outcome was out-of-home placement at 18 months (including local authority care, incarceration, long-term hospitalisation and residential schooling). Outcomes for offending behaviour, antisocial behaviour, parenting skills and family functioning were also assessed. Data were collected from questionnaires and national databases at baseline, 6 months, 12 months and 18 months. The main questionnaires and scores used to assess antisocial behaviour and attitudes were the Strengths and Difficulties Questionnaire (SDQ) and the Inventory of Callous and Unemotional Traits (ICUT). These questionnaires were reported by young people and parents. The Self-Reported Delinquency Measure and Antisocial Beliefs and Attitudes Scale (ABAS) were also used and reported only by young people. The Conners attention deficit hyperactivity disorder rating scale (Conners ADHD rating scale) was reported by teachers and parents. A number of different questionnaires and scores were also used to assess parenting skills, family functioning and the development of psychiatric disorders.

Participants were not masked to the intervention received but key study personnel were blinded to the interventions. Results were adjusted by sex, age, centre, number of past convictions, and age of criminal onset. Therapist effect was also considered in the analysis of the data. Only data available were analysed. For the primary outcome, authors did not expect to have high levels of missing data. For the other outcomes, the impact of the data missed on the results was assessed and imputation analyses were undertaken if needed.

Cost-effectiveness

A cost-effectiveness analysis was performed using a societal perspective. The primary economic outcome was the incremental cost-effectiveness ratio with effects measured in terms of the main outcome (out-of-home placement at 18 months). The time-horizon was 18 months and the second year costs were discounted by 3.5%. Sensitivity analyses assessing the impact of missing data were also performed.

Results

A total of 684 families were included (342 MST, 342 usual care). At 18 months, 491 families (257 MST, 234 usual care group) were available for the final assessment. There were more young people with attention deficit hyperactivity disorder in the MST than in the usual care group. No other differences were identified in the baseline characteristics between the groups. Most of the children had a conduct disorder not responding to

treatment (78%), had a persistent and enduring violent and aggressive interpersonal behaviour (65%) and a low average Wechsler Abbreviated Scale of Intelligence Test score.

No differences were identified in the out-of-home placement at 18 months between the groups compared (odds ratio [OR] 1.25, 95% confidence interval [CI] 0.77 to 2.05).

Outcomes assessing offending behaviour showed no differences in the time to the first offence between the groups (hazard ratio [HR] 1.06, CI 95% 0.84 to 1.33) but an increased number of offences including violent and non-violent crimes at 18 months in the MST group compared with usual care (mean difference [MD] 0.65, 95% CI 0.28 to 1.02).

Antisocial behaviour and attitudes

MST improved antisocial behaviour reported by parents and young people at 6 months but no differences were identified at 12 months between the groups. Parents' reports on SDQ conduct problems subscale and ICUT showed better results in the MST group than in the usual care group at 6 months but not at 12 or 18 months. Young people's reports on the same questionnaires showed no differences at any time point except in ICUT at 18 months where MST group had lower callous and unemotional traits compared with the usual care group. Results from the self-reported delinquency measure questionnaire showed a reduction in the variety and volume of substance misuse reported by young people at 6 months but not at any other time point assessed. No differences were identified in the variety and volume of delinquent acts, peer delinquency, or in the ABAS and the young materialist scale results between the groups. In addition, no differences were identified in terms of exclusion from school at 6, 12 or 18 months between the groups assessed. Differences were identified in the parent-reported scores on Conners ADHD rating scale favouring the MST over usual care at 6 months. However, no differences were identified at 12 or 18 months as well as in the teachers' reported scores on this scale at any time point between the groups.

Parenting skills and family functioning

Parenting skills and family functioning assessed with the Alabama Parenting Questionnaire (APQ) monitoring and supervision subscale (reported by parents) and the Loeber parental support score were better in the MST group than in the usual care group at 6 months but no differences were identified at 18 months. Results in the Family Adaptability and Cohesion Evaluation Scale IV (FACES IV) followed a similar trend: the MST group obtained better results in the family satisfaction, cohesion and family communications subscales

than the usual care group at 6 months. However, no differences were identified at any other time point, except at 12 months in which the results of the FACES IV family satisfaction subscale favoured the MST group over the usual care group. No differences were identified in the Conflict Tactics Scale between the groups.

The results reported by parents on parenting skills and family functioning contrast with those obtained from young people in which no differences were identified in the APQ monitoring and supervision subscale and the level of expressed emotion between the groups at any time point assessed.

Wellbeing and adjustment

Young people in the MST group reported better scores in the mood and feelings questionnaire than in the usual care group at 6 and 12 months but not at 18 months. Parents' assessment of young wellbeing using the SDQ showed similar results. However, young self-assessment using the SDQ was only significantly different at 12 months (favouring MST) but no differences were identified at 6 or 18 months. The wellbeing of the parents was better in the MST group than in the usual care group at any time point assessed.

Other outcomes

No differences were identified in the development of psychiatric disorders between the groups.

Authors explored different potential moderators of the results of the main outcome and found that MST was detrimental for younger people with an early onset of conduct disorder; with low scores of callous and unemotional traits at baseline; and with few delinquent peers (3 or less).

Cost-effectiveness

The total costs over 18 months for the MST were £30,928 (SD 36,106) and £28,678 (SD 34,175) for usual care (adjusted difference –£1,623, 95% CI –7,684 to 4,439). The probability that the MST was a cost-effective option at any of the cost-effectiveness thresholds assessed (£20,000; £40,000; £60,000) was less than 18%. Sensitivity analysis performed supported these results.

From the parent's perspective, MST provides some benefits in the medium-term in some of the outcomes assessed, especially those linked to antisocial behaviour. However, these benefits were diluted in the long-term. The authors concluded that in adolescents with a moderate or severe antisocial behaviour, MST is not superior to usual care in improving in the long-term any of the outcomes assessed, and implies a higher cost.

2017 surveillance review

A recent surveillance review of NICE guideline CG158 did not identify new evidence assessing the use of MST for children and young people with a conduct disorder.

Guideline development

The current guideline includes the following recommendations:

- 1.5.13 Offer multimodal interventions, for example, multisystemic therapy, to children and young people aged between 11 and 17 years for the treatment of conduct disorder.
- 1.5.14 Multimodal interventions should involve the child or young person and their parents and carers and should:
  - have an explicit and supportive family focus
  - be based on a social learning model with interventions provided at individual, family, school, criminal justice and community levels
  - be provided by specially trained case managers
  - typically consist of 3 to 4 meetings per week over a 3- to 5-month period
  - adhere to a developer's manual and employ all of the necessary materials to ensure consistent implementation of the programme.

A total of 14 studies assessing MST were included during guideline development, all of them comparing MST with treatment as usual. Most of the studies were conducted in the US (10/14) and all of them included children and young people over 11 years. Three main outcomes were included: researcher-/clinician-rated offending behaviour (any valid rating scale/any measure of offending behaviour), parent-rated antisocial behaviour (any valid rating scale), and researcher-/clinician-rated drug and/or alcohol use (urine screen or drug

screen). The results of these outcomes were presented as continuous (MD) or dichotomous and at different time points (post-treatment or follow-up). The MST intervention was superior to treatment as usual in the researcher -/clinician-rated antisocial/offending behaviour post-treatment (MD 0.47, 95% CI −0.74 to −0.21) but not in any of the other outcomes assessed. The quality of the evidence was considered high for researcher-/clinician-rated offending behaviour, but low for most of the other outcomes assessed due to the inconsistency and imprecision of the results. A cost-effectiveness analysis adopting the NHS and personal social services (PSS) perspective in the main analysis and a wider perspective including education and crime costs in the secondary analysis was performed and concluded that MST was a cost-effective option compared with treatment as usual.

Views of topic experts

In this exceptional review, we engaged with topic experts, most of them were also members of the guideline committee involved in the development of NICE guideline CG158. All the topic experts considered that the results of the START study are relevant for NICE guideline CG158. They noted that the study assessed a similar population as well as interventions included in the guideline. They also highlighted that the study was conducted in the UK, so the results are directly applicable to this context. They mentioned that the standard care in the US may differ from that received in the UK in terms of quality and care coordination. It was suggested that even though the main outcome of the START study was not considered in the development of the guideline, other relevant outcomes were assessed and most of them were considered critical or important in NICE guideline CG158. Another aspect highlighted by one of the topic experts was the risk of harm associated with MST. During the guideline development, the risk of harm associated with psychological interventions was considered negligible. However, results from the START trial shows that MST could be detrimental for some populations (for example for younger people with an early onset of conduct disorder).

Impact

Recommendation 1.5.13 currently states to offer multimodal interventions such as MST to children and young people for the treatment of conduct disorder. Recommendation 1.5.14 describes the characteristics that a multimodal interventions should have.

The new evidence identified showed that the MST does not provide any long-term benefits in terms of clinical and cost-effectiveness compared to usual care in children and

young people with moderate-to-severe antisocial behaviour.

Regarding the strengths and limitations of the START study, all the families that were initially recruited (1,076) were assessed by a multi-agency panel as a way to standardise the referral process. Twenty-six percent of the families (287) were considered ineligible, most of them for causes not directly related to the eligibility criteria of the study (for example referrals advised but incomplete, not followed up, not taken because of limited capacity in the centres, among others). From the 789 eligible families, 13% (105) were not randomised: 41 refused to take part of the study and 64 refused the interventions offered. It is unclear if their characteristics differed from those of the families included in the study. The sample size calculation did not cover the loss of follow-up. Authors supported this approach given the methods they used to collect the data of the primary outcome (data not collected directly from participants). The missing data for the main outcome of the study were negligible (1% of missing data). For the secondary outcomes, missing data were imputed using appropriate methods, and the findings showed similar results. Authors did not mention any cross-over between the interventions. Main critical and important outcomes were considered in the study. The usual care varied between the different centres involved in the study. However, they are a reflection of current clinical practice in the UK. The main outcome, out-of-home placement, was not assessed in NICE guideline CG158 but agency contact, antisocial and offending behaviour, drug/alcohol use, educational attainment or school exclusion due to antisocial behaviour were all considered critical outcomes in the guideline and were included in the START study.

The cost-effectiveness analysis conducted in the START study showed that the MST was not a cost-effective option at different cost-effectiveness thresholds assessed. The sensitivity analysis supported these findings. They followed a societal perspective also used in the secondary analysis of the cost-effective study conducted in NICE guideline CG158. The cost-effectiveness analysis conducted in the START study is considered directly applicable to the UK context and methods followed were considered to have some minor limitations, with no evidence of any potential conflict of interest. The time-horizon was 18 month, shorter than that used in the cost-effectiveness analysis conducted in NICE guideline CG158 (8 years, covering 10 to 18 years of age). So long-term benefits or cost cannot be assessed. Out-of-pocket expenses and EQ-5D were not included given the poor reporting of these outcomes.

Topic experts noted that the results of the START trial are directly applicable to the UK context and may provide stronger evidence in this area than the evidence previously available.

The recommendations included in the guideline were based on studies conducted mostly in the US. The quality of the body of the evidence was considered low due to the inconsistency and imprecision of the results.

Following consideration of the results published in the START trial including cost-effectiveness evidence (and impact on long-term benefits and costs), as well as topic expert feedback, the new evidence may have an impact on the current recommendation to offer MST for the treatment of conduct disorder in children and young people.

Other clinical areas

This exceptional surveillance review did not search for new evidence relating to other clinical areas in the guideline.

Equalities

No equalities issues were identified during the surveillance process.

Overall decision

See how we made the decision for further information.

How we made the decision

Exceptionally, significant new evidence may mean an update of a guideline is agreed before the next scheduled check of the need for an update. The evidence might be a single piece of evidence, an accumulation of evidence or other published NICE guidance.

For details of the process and update decisions that are available, see ensuring that published guidelines are current and accurate in developing NICE guidelines: the manual.

Evidence

This exceptional review provides an overview of 1 study published since the end of the search period for the surveillance review (November 2016). The results of this study were considered in detail to determine if there is an impact on guideline recommendations.

No additional evidence published since the surveillance review of the guideline in April 2017 was considered.

Views of topic experts

We considered the views of topic experts, including those who helped to develop the guideline.

Views of stakeholders

Because this was an exceptional surveillance review we did not consult on the decision.

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