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EDITORIAL

We need better long-term intervention programs in mental health care for children and young people with chronic vulnerabilities

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This issue of *European Child and Adolescent Psychiatry* contains an interesting study by Del Giudice and colleagues from the Cologne School of Child and Adolescent Cognitive Behavior Therapy, which describes longer-term effects of a social competence training program for 6–12-year-old boys with oppositional defiant disorder and/or conduct disorder [1]. Their Treatment Program for Children with Aggressive Behavior (THAV) consists of a 24-week child-focused cognitive–behavioral intervention, combined with parent management interventions and teacher- and peer-focused interventions according to the individual needs of the child. In a randomized controlled study, THAV had moderate effects immediately after the intervention on parent ratings of aggressive behavior, comorbid symptoms, psychosocial impairment, quality of life, parental stress, and negative expressed emotions of parents toward their child, as compared to an active control condition (i.e., group play) [2]. In the current article, the authors investigated the stability of these initial effects 10 months after the intervention had ended. Their findings indicate that the effects of THAV remained stable and even partially improved over the follow-up period, with differences in treatment effects compared to the group of children who had received group play mostly remaining in place after 10 months.

We have previously advocated that demonstrating lasting effects of an intervention after it has ended is of utmost clinical relevance [3]. Unfortunately, however, from a methodological point of view, it is virtually impossible to unequivocally demonstrate long-term effects of psychosocial interventions in mental health care. The gold standard design to deduce long-term effectiveness of an intervention would be a randomized controlled trial that strictly controls for a lengthy time which interventions may or may not be offered to the study participants. This is impossible to conduct for obvious ethical reasons. Adding to that, the huge challenge of recruiting sufficient participants into such a trial makes the execution of this endeavor virtually impossible. Notwithstanding the many strengths of the study of Del Giudice and colleagues, the article does not mention whether or not participants in both treatment arms were allowed to receive follow-up interventions after the trial had ended, and the extent to which this may have occurred. We therefore do not know if the long-term results may have been confounded by such subsequent interventions. Unfortunately, the far majority of studies that report longer-term outcomes of randomized controlled trials do not report whether there have been follow-up treatments after the end of the controlled treatment [4].

An alternative to randomized controlled trials involving lengthy treatment arms is to examine the long-term outcomes of interventions using observational data from clinical practice. However, such an approach is suffering from confounding by indication, where those with more severe complaints get offered more intensive treatment. In an attempt to mitigate confounding by indication, one recent study carefully used propensity score matching (a technique that results in groups that are comparable on important potentially confounding variables), to compare the long-term

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effects of community mental health services in children with a childhood psychiatric disorder with those with a childhood disorder who had not used such services. They analyzed data covering psychiatric status and mental health services use from a prospective, population-based study of children followed up at various times during childhood and adulthood [5]. Risk for adult psychopathology was chosen as long-term outcome measure, to investigate the 'intervention as prevention' hypothesis. The results of this study may initially appear sobering: whether or not children with a psychiatric disorder had used mental health services in childhood was not related to the risk for adult emotional disorders. Children who had received treatment were even at higher risk for adult substance disorders compared to those with a childhood disorder who had not used services. The authors concluded that while community services use may reduce psychopathology in the short run within childhood, they do not necessarily prevent adult psychiatric problems. However, despite the carefully applied propensity score matching, the defining difference between the two groups of children, i.e., whether or not children had sought treatment, remains as the perhaps single most important source of confounding. One may argue that children who seek treatment are more severely impaired than children who never sought treatment, even if they are otherwise comparable to the non-treatment group. The fact that the long-term outcomes of both groups were nevertheless largely similar might still point to long-term effects of the treatments that were offered in childhood, as otherwise one would expect that more impaired children would fare worse as adults. Thus, while advanced statistical approaches can help us give indications of the long-term effects of interventions in our field, we cannot know for certain whether or not there are long-term treatment effects without a randomized controlled design.

Studying the long-term effects of medication may seem somewhat easier, given the availability of randomized placebo-controlled discontinuation designs that compare ongoing medication treatment with withdrawal to a placebo. This type of design showed the ongoing effectiveness of methylphenidate in children with attention-deficit/hyperactivity disorder who had been treated with the medication for two years or longer [6]. However, also here, a discontinuation study does not provide the same long-term evidence as studies would provide in which children are randomized to treatment with methylphenidate either for an extended period of several years or to lengthy treatment with a placebo. It would not be ethical, however, to conduct studies involving long-term placebo treatment.

We thus have to accept a considerable level of uncertainty with regard to long-term outcomes of interventions that are applied in mental health care for children and young people. What should be the clinical consequences of this uncertainty? One group of authors has recently advocated that in light of the uncertain long-term effects of interventions, 'watchful waiting' may be the best choice in some cases [7]. Watchful waiting is a well-known approach in patients with prostate cancer, with the goal of making sure a patient can sustain a good health and quality of life, without a potentially harmful cancer treatment, as long as such treatment is not warranted. However, how to apply watchful waiting in mental health care for children is currently not well defined. There are many unanswered questions regarding this approach. Which children should undergo watchful waiting? How frequently should children who are under watchful waiting be monitored? How should this monitoring be conducted in clinical practice? Could watchful waiting be stigmatizing? How should the decision be taken when to propose interventions during the course of watchful waiting? Above all, however, why should uncertainty about long-term effects make one refrain from offering interventions that have a reasonable evidence base in terms of short- to medium-term effectiveness? While we currently do not know, and might never know, whether our interventions truly have long-term effects, we do know that benefits of an intervention that are persisting for at least some time after the intervention has ended can still be considered very valuable from the perspective of a child and their family [8].

In addition to investigating long-term effects of interventions, it is also important to invest more in the development of follow-up intervention programs for those children and families who worsen again after initially having responded favorably to an intervention or to invest in programs aimed at preventing such worsening. While many families may benefit from interventions in the longer run, for some families this is not the case. Just like with lifestyle changes, which we know can be challenging to sustain in the long term (e.g., adhering to a diet in patients with obesity [9]), families may also struggle with maintaining to apply the principles of cognitive–behavioral treatment months or years after the intervention has ended. What is more, the vulnerabilities of children using mental health care services may be chronic (perhaps due to genetic factors), which may imply that longer-term engagement with some children is warranted. Child mental health care can learn from well-developed long-term programs that exist for patients with chronic conditions such as diabetes [10]. Several of such programs already exist in child mental healthcare, including the Family Check-Up in which families get yearly assessments to guide joint decision making about the types of support that may be needed [11]. In the current landscape, however, they are a small minority of the available treatment programs. Developing and investigating the effects of longer-term, flexible treatment programs, or at least easy-access to booster interventions for those with re-emerging problems seems like a promising first step for developing better long-term treatment programs for vulnerable children in child mental health care [12].

To conclude, understanding the long-term effects of treatment is difficult not only because of the challenges of obtaining longer-term funding and retaining families in trials for multiple years, but also because we currently do not have designs that rule out potentially confounding treatments received after the initial randomized trial. In addition, the most promising avenue for long-term effects might not be to develop interventions with a set number of sessions that should lead to sustained effects for years to come. The most promising approach might be to develop interventions that more flexibly offer sessions and booster sessions when families need additional support to maintain positive change.

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