

# **Disruptive Behavior and Emotional Problems in Children from the General Population: Need and Effectiveness of Indicated Child-Centered Prevention**

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## **Summary**

**Background.** Different studies demonstrated the high prevalence of disruptive behavior and emotional problems, their frequent co-occurrence and their typically early onset during childhood or early adolescence. Both were shown to be associated with distress and impairments in everyday life, a negative impact on the quality of life, and an elevated risk for further progression into (homo- or heterotypic) full-blown mental disorders. Thus, based on the symptom progression model, it is essential to identify populations at risk and counteract this adverse course of symptom escalation. Indicated prevention measures seem promising to reduce symptomatology and prevent the incidence of threshold mental disorders. However, research on the efficacy and effectiveness of different indicated prevention programs implemented in routine health care as well as regarding the potential impact of co-occurring disruptive behavior and emotional problems on program effectiveness is scarce.

**Aims and Objectives.** The aim of this thesis is to expand the knowledge on the need and effectiveness of indicated prevention of disruptive behavior and emotional problems in children of the general population. Study 1 examined the prevalence of disruptive behavior and emotional problems, the association of these problems with quality of life as well as the effectiveness of two indicated prevention programs aiming at disruptive behavior or emotional problems on symptomatology and quality of life. Study 2 compared the effectiveness of the indicated prevention program aiming at disruptive behavior between children with and without co-occurring emotional problems and examined the effectiveness of the program on co-occurring emotional problem symptomatology.

**Methods.** Both studies used data from the PROMPt project, which is a prospective screening and indicated prevention implementation study conducted in Dresden, Germany, from 10/2018 to 09/2022. It assessed a novel care chain for early identification of children at risk for disruptive behavior or emotional problems to allocate them to indicated prevention programs. N = 3231 children aged 3-11 years were screened with the Strengths and

Difficulties Questionnaire (SDQ) during regular pediatric health check-ups and, if indicated, received a recommendation for further actions from their pediatrician. Children with subthreshold symptomatology of disruptive behavior or emotional problems were indicated to participate in the “Baghira training” (indicated prevention program for disruptive behavior problems) or the “Tiger training” (indicated prevention program for emotional problems), respectively. Measurement time points were before and after training, and at six months post training for participating children and at equivalent intervals for non-participating children. Study 1 provides estimates of current prevalence of disruptive behavior and emotional problems based on the SDQ screening results and associations with quality of life were examined using regression analyses. Mixed effect models assessed training effectiveness by comparing symptom and quality of life scores up to 12 months after screening between children who participated in either prevention program, children screened as normal, non-participating children despite an indication, and children with potentially clinically relevant symptom levels that were advised to seek further diagnostics and, if necessary, treatment. In study 2, mixed effect models were used to compare the Baghira training effectiveness between participating children with and without co-occurring emotional problems regarding the symptom reduction in disruptive behavior and emotional problems.

**Results.** Six-month prevalence estimates for disruptive behavior problems in study 1 revealed borderline scores for 13.0% and abnormal scores for 14.2% of the children. Regarding emotional problems, 7.2% showed borderline scores and 10.8% abnormal scores. Overall, 37.0% of the screened children exhibited borderline or abnormal disruptive behavior and/or emotional problems. Sex differences were evident with higher prevalence of borderline and abnormal disruptive behavior problems in males whereas borderline emotional problems without co-occurring disruptive behavior problems were more frequent in females. Furthermore, disruptive behavior problems only were more often found in younger children; emotional problems only and co-occurring disruptive behavior and emotional problems were more frequent in older children. Quality of life was reduced in children with disruptive behavior and/or emotional problems with lowest scores in children with co-occurring problems or abnormal scores. Participation in the prevention program reduced respective symptomatology and increased quality of life. Children who participated in the Tiger training showed improvements compared to deterioration in non-participating children. Regarding the Baghira training, participating and non-participating children mostly showed similar improvement. Study 2 revealed mainly similar symptom reduction in disruptive behavior following the Baghira training between children with and without co-occurring emotional

problems. Furthermore, overall the Baghira training had little to no effect on emotional problems symptomatology.

**Conclusion.** The findings demonstrate and verify the high prevalence of disruptive behavior and emotional problems in children from the general population and affirm the negative impact of such mental health problems on quality of life. Thus, the results emphasize the high need of effective indicated prevention programs to avert symptom progression and to improve quality of life. For this, screening and allocation to indicated prevention programs in routine health care seems appropriate. In fact, the Tiger training evidenced as effective indicated prevention program for emotional problems, suggesting large-scale dissemination. However, considerably more research is needed regarding the Baghira training effectiveness, as well as the general comparison of a range of different indicated prevention programs, the examination of the long-term effects, in particular the prevention of progression to full-threshold mental disorders, the effects on quality of life, and the role of co-occurring mental health problems on the effectiveness of indicated prevention. For the latter, the results of the thesis suggest that co-occurring emotional problems do not impair disruptive behavior symptom reduction following the Baghira training and indicate that emotional problems do not simultaneously improve when applying a prevention program aiming at disruptive behavior. Thus, children with co-occurring disruptive behavior and emotional problems need to be allocated to matching (transdiagnostic) or potentially multiple specific prevention programs to adequately target both problem areas. Overall, the screening for disruptive behavior and emotional problems in children as well as respective indicated prevention measures should be further disseminated to counteract further symptom progression and reduce the incidence and thus prevalence of mental disorders in the long-term.