



# Conceptual Approaches in the Prevention of Child Overweight in Germany: Project SkAP

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## Abstract

Childhood overweight and obesity together with related diseases are one of the most serious public health challenges of the 21st century. Since the prevention of overweight and obesity is given a high priority, there is a complex landscape of interventions with multiple subjects, targets groups, and approaches for different settings in Germany. In order to provide a systematic overview, the research project Systematization of Conceptual Approaches for the Prevention of Child Overweight in Settings (SkAP) developed as a first step a catalogue of descriptive indicators to analyze the conceptual approaches of interventions on overweight and obesity prevention in childhood and adolescence. In sum, all indicators can be assigned to five global dimensions: (1) setting, (2) conceptual approach, (3) target group, (4) quality requirements for the conception of universal prevention (in generic and setting-specific), and (5) determinants of childhood and adolescent overweight and obesity. These dimensions were used in the second project step to analyze overweight prevention programs in four settings in order to systemize the applied conceptual approaches. This in turn was the basis for the third step of the research project, which entailed identifying gaps, improvement potential, and recommendations for action.

This project contributes to the improvement of childhood overweight and obesity prevention measures by focusing on setting-specific approaches to health promotion and prevention. First of all, it provides a systematic overview of the approaches in three settings and a field, which allows an in-depth overview at both a generic and setting-specific level. Recommendations focused on gaps in the scientific evidence concerning the implementation and transparency of these prevention measures and include increasing coordination, developing checklists, and creating an intervention database. The results of the SkAP project can be used in the quality-oriented development of intervention measures, which could make it valuable for the implementation of the new German Preventive Health Care Act.

**Keywords:** Overweight and obesity prevention, Health promotion,

Conceptual approaches, Settings, Family health promotion.

## Background and German context

Overweight and obesity are considered one of the new morbidities, which can be regarded as a shift from infectious and acute diseases to chronic and lifestyle associated diseases [1]. Current epidemiological data indicate that while the increase in prevalence rates in Germany has been slowed down, it has stabilized at a high level [2-4]. According to the WHO [4], worldwide around 41 million children under the age of 5 were overweight or obese, with the highest prevalence in the European region.

## Overweight and obesity prevention in Germany

According to the results of the KiGGS Wave 1, in Germany the prevalence rates for 4 to 10-year-old children are 7% for those overweight and 4% for those obese, compared to the prevalence data of the KiGGS baseline survey with 8% overweight and 5.5% obesity levels. With increasing age (11 to 17 years of age), overweight and obesity rises to 19%, indicating no further increase compared to the KiGGS 2007 baseline [2]. While there are hardly any significant gender differences, children and adolescents with low social status are significantly more often affected by overweight and obesity. Accordingly, there is still a need for action to be taken in establishing successful preventative and curative measures.

At the center of the behavioral prevention of overweight and obesity in childhood and adolescence are interventions with a focus on individual level determinants such as nutrition and exercise. There are also interventions in the context of a setting approach to develop healthy social contexts. In sum, there is no shortage of interventions in Germany in this area. On the contrary, the landscape is so complex and diverse that no systematic quantitative or qualitative overview is available—or even possible. As a consequence, it is difficult to provide a summary and assessment of the intervention field, the approaches being used, or the initiation and development of targeted activities.

In general, findings assessing behavioral-modification interventions to prevent overweight in childhood and adolescence show positive effects for physical activity, sedentary lifestyles, and dietary habits [5]. For many other factors, however, the results are inconsistent or not yet adequately documented [6,7]. Furthermore, there is only weak evidence for the positive effects of setting-oriented factors. Moreover, there are few findings evaluating complex and relationship-related interventions, and those that do exist provide even weaker evidence of a positive effect. This can be attributed not only to methodological challenges, but also to a lack of resources for research into non-behavioral interventions.

### The SkAP project

As part of the project Systematization of Conceptual Approaches for the Prevention of Child Overweight in Settings (SkAP), conceptual approaches underlying interventions on overweight prevention in three different settings (preschool, school, and municipality/community) as well as in the field of family health promotion were identified and systematized using a newly developed set of criteria. This enabled the development of an overview of the use of the intervention approaches in four different areas. The analysis is the first of its kind in Germany to provide a systematic setting-specific and comprehensive overview of the conceptual approaches used in the prevention of child overweight. On this basis, gaps and potential for improvement are systematically identified, and recommendations for action are formulated.

The project was initiated and supported by the German Federal Ministry of Health within the framework of the priority area "Prevention of overweight and obesity in children and adolescents" and coordinated by the German Federal Center for Health Education (BZgA). In the period between July 2015 and December 2016, the project was realized by a consortium of the following seven German universities: Coburg University of Applied Sciences, University Medical Center Hamburg-Eppendorf, Hannover Medical School, Leuphana University Lüneburg, Magdeburg-Stendal University of Applied Sciences, Osnabrück University, and RheinMain University of Applied Sciences, Wiesbaden.

### Project aims

#### The SkAP project targets three major areas:

1. Development of a criteria catalogue for the systematization of conceptual approaches of child overweight.
2. Identification of German interventions aiming at the prevention of childhood and adolescence overweight in three settings as well as in the area of family health promotion.
3. Systematization of the conceptual approaches using the criteria catalogue and identification of gaps, improvement potential, and recommendations for action.

### Methodological approach

For the development of the criteria catalogue, a systematic literature search was conducted to identify relevant criteria catalogues in the field of health promotion/prevention and prevention of child overweight across different settings. The comprehensive criteria catalogue developed in this project comprises the following categories: interventions, conceptual approaches, central guiding principles of health promotion and prevention, as well as descriptive criteria derived from existing quality requirements. In the latter case, reference was made to the quality criteria for health promotion and primary prevention measures against overweight in children and adolescents of the BZgA [8]. These descriptive criteria were complemented by findings from the literature research. In addition, evidence on determinants of overweight in childhood and adolescence was included using and updating the NICE evidence report [7]. The list of criteria was developed with the aim of including, where possible, generic indicators, and where necessary,

setting-specific indicators. Experts evaluated the criteria catalogue as long but adequate and valuable and its use as feasible.

The second part of the SkAP project identified interventions for the prevention of child overweight in the settings preschool, school and municipality/community as well as in the field of family health promotion. A total of 439 interventions were identified based on a priori defined inclusion criteria. Of these, based on publicly available materials, 233 interventions were included in the in-depth qualitative analysis. The assessment of these interventions proved to be difficult due to the lack of information provided in the available materials. Therefore, the qualitative assessment was extended by an online survey of all intervention providers. Based on criteria from the criteria catalogue, a method was developed to classify the applied conceptual approaches in a typology. A cluster analysis was conducted (including number of methods, topics, and settings) to identify specific types of conceptual approaches. The results indicate seven different types, each representing different levels of intervention complexity. The respective ends of the continuum are two types that are designated as "singular interventions" (representing interventions that use few methods and address specific determinants and settings) and "complex coordinated interventions" (representing interventions that use a wide range of methods and address different determinants and/or settings). Results show that only a small percentage (7%) represent the complex-coordinated intervention type whereas about one third (32.6%) is complex with regard to methods used and determinants addressed but operates in a single specific setting.

Finally the GAP analysis approach was used to identify existing gaps between the expectations specified in the criteria catalog and the current implementation of overweight prevention measures [9,10]. This allowed for a very detailed analysis of gaps and potential for improvement, which has been transferred into a comprehensive list of generic and setting-specific recommendations for action. As was done with the criteria catalog, wherever possible generic recommendations for action were given. A fundamental problem in the evaluation was that the literature research yielded heterogeneous and often simplified representation of the conceptual approaches on which the interventions were based. This made it difficult to compare the interventions as well as to systematically evaluate them.

### Lessons learned/ results

During the course of the project it became obvious how challenging it was to develop a systematization of overweight prevention measures for children and adolescents across different settings. The structured and systematic approach of the SkAP project was a key component enabling the summary and identification of general and specific requirements, potential, and gaps. Furthermore, it was possible to identify different levels of progress in the three settings and a field. The identified gaps and improvement potential were formulated as recommendations in the following categories: findings/research, development, quality, and implementation. For instance, a recommendation is to improve transparency by coordination, uniform checklists, and an intervention database (possibly integrated into other databases). Another example is to compensate the lack of support given actors implementing theory- and evidence-based interventions in the four settings by offering them workshops and advisory services.

The results of the SkAP project can be used in a variety of ways to ensure the continuity and quality-oriented development of settings-based overweight prevention in childhood. It is also useful for the implementation of the new German Preventive Health Care Act, which was adopted in 2015 and came into force in 2016. On the methodological level, this could involve establishing search, evaluation, and assessment strategies as well as multidimensional criteria catalogues. The latter can be adapted for different fields of application and used, for example, in a short form for documentation

and quality development in professional practice. With the concurrent and methodologically coordinated study in a joint project of three settings (preschool, school, and municipality/community) and the field of family health promotion, SkAP contributes to moving beyond “setting boundaries” and integrating action approaches. Correspondingly, there are specific indications as to which intervention cultures have been established in the settings, where differences and similarities exist, and how these can be developed and specifically addressed and developed in a broader context. For this purpose, the recommendations for action provide concrete impetus for further development, implementation, evaluation, and evaluative reviews of childhood overweight and obesity prevention measures.

## References

1. RKI - Robert Koch-Institut, Bundeszentrale fuer gesundheitliche Aufklaerung (2008). Erkennen – Bewerten – Handeln: Zur Gesundheit von Kindern und Jugendlichen in Deutschland. Berlin.
2. Brettschneider, A.K., Rosario, A.S., Kuhnert, R., Schmidt, S., & Wiegand, S., et al. (2015). Updated prevalence rates of overweight and obesity in 11-to 17-year-old adolescents in Germany. Results from the telephone-based KiGGS Wave 1 after correction for bias in self-reports. *BMC public health* 15: 1101.
3. Skinner, A.C., Perrin, E.M., & Skelton, J.A. (2016). Prevalence of obesity and severe obesity in US children, 1999-2014. *Obesity* 24: 1116-1123.
4. WHO - World Health Organization (2016). Report of the commission on ending childhood obesity. Geneva.
5. Kamath, C.C., Vickers, K.S., Ehrlich, A., McGovern, L., & Johnson, J., et al. (2008). Behavioral interventions to prevent childhood obesity: a systematic review and meta analyses of randomized trials. *J Clin Endocrinol Metab* 93: 4606-4615.
6. Waters, E., de Silva, S.A., Hall, B.J., Felice, N.J., Steven, A., et al. (2011). Interventions for preventing obesity in children.
7. NICE - National Institute for Health and Care Excellence (2014). Maintaining a healthy weight and preventing excess weight gain in children and adults –partial update of CG43.
8. BZgA - Bundeszentrale fuer gesundheitliche Aufklaerung (2010). Qualitätskriterien fuer Massnahmen der Gesundheitsfoerderung und Primaerpraevention von Uebergewicht bei Kindern und Jugendlichen. Gesundheitsfoerderung Konkret, Band 13, Cologne: BZgA.
9. Paul, H., & Wollny, V. (2014). Instrumente des strategischen Managements. Grundlagen und Anwendungen. Munich: Oldenbourg.
10. Horváth, P., Gleich, R., & Seiter, M. (2015). Controlling. Munich: Vahlen.