Summary
Introduction

Non-communicable diseases (NCDs) are the leading causes of death worldwide. Risk factors commonly associated with NCDs are related to lifestyle behaviours such as diet, physical activity, excessive alcohol consumption and smoking. The main NCD risk factors are largely preventable. However, prevention is very difficult, as NCD risk factors and related unhealthy lifestyles are highly influenced by upstream, social determinants related to distribution of power, money and resources. Obesity is one of the major preventable causes of NCDs, while the prevalence of childhood overweight and obesity has escalated over the past decades. Childhood overweight and obesity not only have become important risk factors for developing numerous serious metabolic diseases and psychosocial disorders, but they have also been major causes of comorbidities responsible for developing cardiovascular diseases and diabetes during adulthood. Childhood obesity is a complex issue as it is determined by numerous – micro as well as macro – environmental, individual and socio-economic factors. Therefore, to tackle the obesity epidemic, a socio-ecological approach is strongly recommended, and that is the basis on which the integrated community-based approaches (ICBAs) have been developed. An ICBA that showed promising effects with regards to reducing childhood obesity prevalence in France, the Fleurbaix-Laventie study, gave rise to the EPODE (which stands for ‘Ensemble Prévenons l’Obésité Des Enfants’ and translates to ‘Together let’s prevent childhood obesity’) model.
Contents and main findings of the thesis

In chapter 2, we analyse the EPODE approach at the level of programmes. We investigate whether it is possible to identify strengths and weaknesses of integrated community-based approaches targeting childhood obesity prevention, through systematic appraisal of these approaches. The systematic appraisal includes specifically structured in-person interviews assessing elements of the EPODE pillars (OPEN tool) and an open-ended questionnaire, which assesses information related to the quality of the programmes in order to identify best practices (Good Practice Appraisal Tool or GPAT). Conducting a systematic appraisal through these tools offers the ability to detect strong and weak elements related to the following components: political involvement and engagement; stakeholder involvement and public-private partnerships; implementation of interventions and campaigns; communication; scientific support, evaluation and dissemination. These components constitute key capacity-building factors for the implementation of ICBAs.

In chapters 3-5, we analyse the EPODE approach at the level of populations. The methodology of the EPHE evaluation study, a 3-year longitudinal design comprising measurements in 2013 (pre-intervention), 2014 (post-intervention) and 2015 (sustainability), is presented in Chapter 3. In seven European countries, a medium-sized city (or municipality, in the case of big cities) with a wide range of socio-economic statuses is selected to recruit children in the age group of 6-8 years. After that, four energy-balance related behaviours of children and associated family-environmental determinants are assessed by means of a parental questionnaire.
Summary

In chapter 4, the identified differences in behaviours and determinants (inequality gaps), between low and high socio-economic status groups per community site, are illustrated. We observe differences in favour of the high socio-economic status groups in fruit, vegetable and sugary beverages consumption as well as in screen time, especially with regard to television viewing. Similarly, home availability and parenting practices favouring unhealthier lifestyle habits are more prevalent in the low than in the high socio-economic status groups, in most cases of all samples. However, though statistically significant, these differences in behaviours and determinants between the low and high socio-economic status groups are rather small and vary among the seven populations. These inequality gaps are recommended as targets for reducing the corresponding socio-economic differences.

Following that, chapter 5 presents the changes in inequality gaps (as identified at baseline) illustrated in chapter 4, after interventions aiming to reduce them. The results indicate improvement of three behaviours among the low, whereas none among the high, socio-economic status groups. Similar improvements within the low socio-economic status groups – and less within the high ones – are observed in parenting rules and practices related to soft drinks and/or fruit juices as well as TV exposure in almost all EPHE sites. However, only one of the decreased differences is sustained a year after the interventions, namely the half hour decrease of TV time on weekdays, in the Belgian low socio-economic status group.

In chapter 6, we present an analysis carried out at the level of individuals. The research question is whether there is an association between individual parenting practices towards fruit juices as well as soft drinks and the children's water consumption. The parenting
practices towards soft drinks (for example, absence of strict rules and inadequate parenting practices) are strongly associated with a decreased frequency of the children’s water intake. The respective associations between parenting practices towards fruit juices and water consumption are fewer and weaker. Moreover, an inverse association between consumption of soft drinks – and not of fruit juices – and consumption of water is observed. Interestingly, the socio-economic status does not influence the aforementioned associations.

Finally, the general discussion (chapter 7) includes a presentation of the main findings of this thesis, followed by critical reflection upon them, in which the strengths and weaknesses of the study designs come under consideration. In addition, we make research recommendations and discuss the implications for policy and practice.

Conclusions

The EPODE analysis at the level of programmes yielded useful information that can lead to further improvement of each specific programme that was assessed. Integrated community-based approaches seem to be suitable for the prevention of the obesity epidemic. EPODE is one of these promising approaches, although there is a clear need to optimise its implementation so as to respond to each specific local context. We detected three elements which, in all probability, can help us to overcome the challenges arising during the adaptation of the approach to a specific local context: 1. the difficulties encountered should be dealt with through a circular process of monitoring, reflecting and adapting the methods used; 2. multi-stakeholder engagement and collaboration should be fostered; 3. the target groups should be involved in a way that develops a sense of
Summary

ownership. These three elements seem to increase the chances to effectively tackle not only childhood overweight and obesity, but also the related socio-economic inequalities.