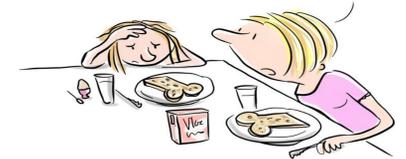


The development of a healthy sleep intervention for children aged 6-9 years

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Why did you not sleep well last night?



Aim

To develop an intervention that promotes healthy sleep behavior in children aged 6-9 years living in disadvantaged neighborhoods in Amsterdam.



Background & scope

Inadequate sleep behavior among children is linked to obesity, and lower emotional regulation, academic achievements and quality of life. Although the consequences of inadequate sleep are known, the prevalence of sleep problems is increasing. Therefore, we need to develop healthy sleep promoting interventions.

We focus on families with a low socioeconomic position in disadvantaged neighborhoods, because previous research indicates that those children generally have a higher risk for unhealthy sleep. This focus may contribute to reducing health inequalities between low and high SES families.

We focus on children aged 6-9 years, because 1) we want to promote healthy sleep habits before unhealthy habits appear; 2) we expect more parental involvement among this age group; and 3) there is limited healthy sleep information available for this age group.

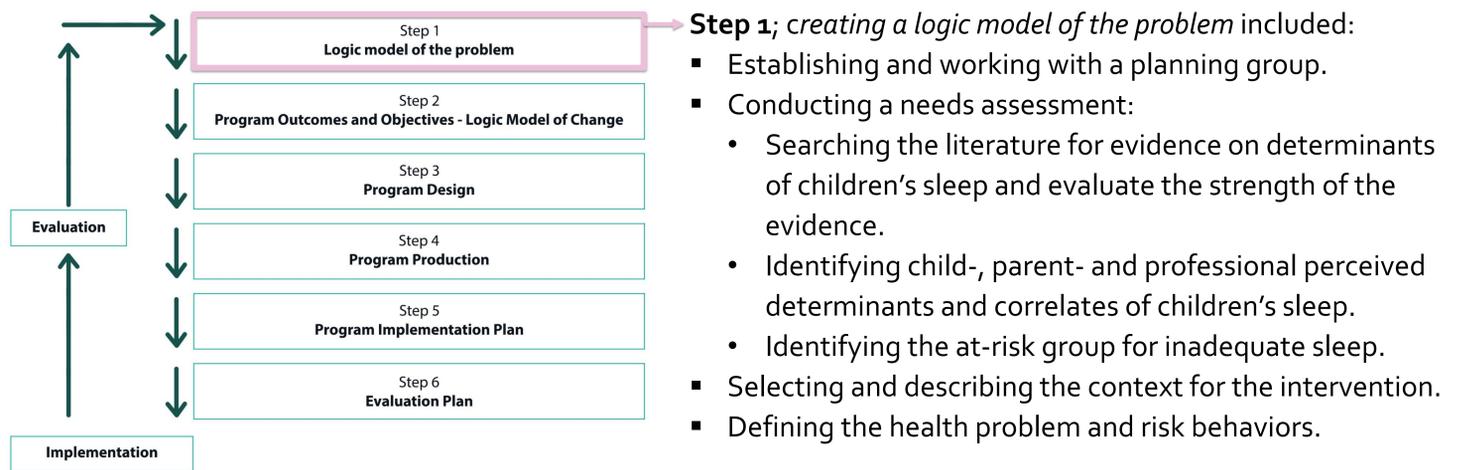
The intervention incorporates an *ecological approach* to select the most effective points to address the problem, and a *community approach* to develop a commitment and long-term process to improve children's sleep.

Illustrations: Suus van den Akker

Intervention development process

Intervention Mapping

We use the Intervention Mapping framework (Bartholomew et al. 2016) to systematically develop the intervention.



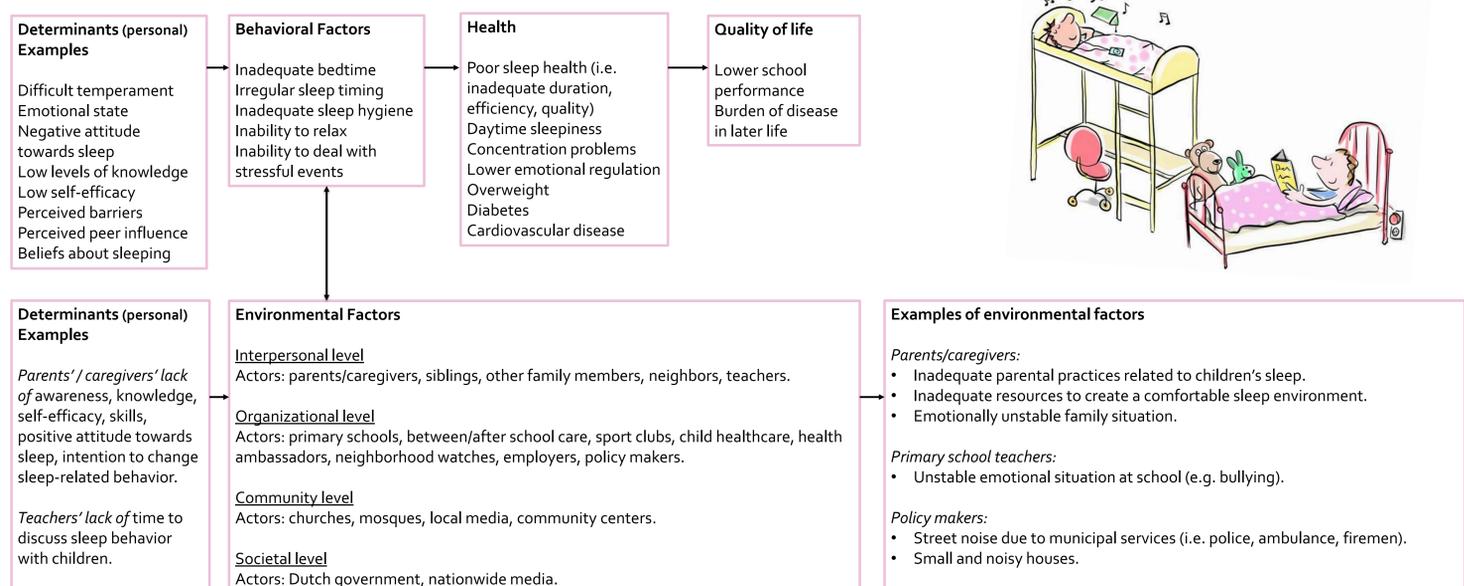
Methods used in step 1

- Systematic review of longitudinal studies, best evidence synthesis.
- Concept mapping with children, parents, child healthcare professionals and sleep experts.
- Cross-sectional study including a questionnaire and a daily sleep diary for one week.
- Interviews with parents.

Insights from step 1

- At-risk group for inadequate sleep: children aged 6-9 years from disadvantaged neighborhoods in Amsterdam.
- Context for the intervention: neighborhood, integral approach.
- The risk behavior consists of different dimensions of sleep; duration, quality, efficiency, and timing.
- Multiple environmental factors are related to children's sleep and these exist on different levels of the socio ecological model.
- Important and modifiable determinants of sleep are e.g. screen time, irregular bedtimes, inadequate sleep hygiene practices.

Preliminary logic model of the problem



Next in the intervention development process

- Create a *logic model of change*: determine what needs to change in order to improve children's sleep health.
- Use the *systems theory*, 'health in all policies', as a framework for the intervention to address all levels of the environment as interrelated social systems.