

# EARLY DETECTION AND PREVENTION OF CHILDHOOD OBESITY BY SCHOOL NURSES

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## Background

Increasing prevalence of overweight among children constitutes a significant public health challenge and the evidence on effective interventions is scarce. Following several years of child growth monitoring, a Danish municipality has introduced an obesity prevention intervention where the school nurses offer counselling sessions to children and their parents. The intended target groups, detected by BMI screening, are overweight but not obese children, and children at risk of overweight. Obese children should be referred to a specialized centre.

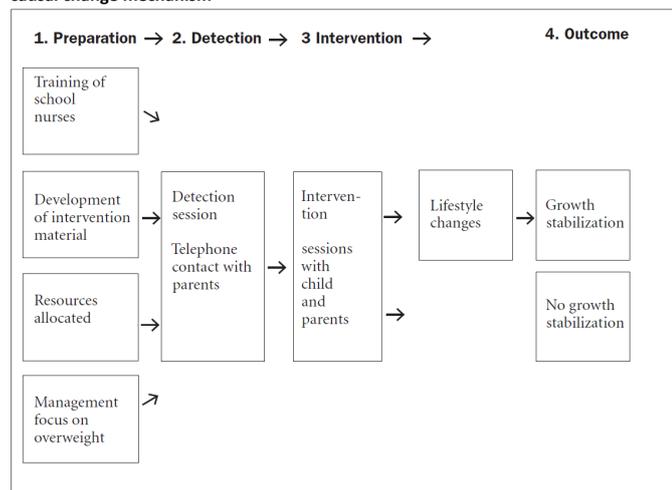
## Objective

The objective of the study was to investigate how the intervention theory was translated into practice by the school nurses.

## Methods

The "Realistic evaluation" framework was employed to design the study. The hypothesis of the causal change mechanism, also called the "intervention theory", was put forward as shown in Figure 1. A mixed methods approach was chosen for data collection. Registration forms were collected from 44 nurses, involving 253 children identified during the one year pilot period of the intervention. In addition to this, a convenience sample of nine nurses participated in semi-structured interviews about the counselling sessions.

Figure 1. The intervention theory with 4 steps in the hypothesis of the causal change mechanism



## Results

Less than half of the 253 identified children (42%) were from the intended target group of overweight children and children at risk of overweight. The others (58%) were obese and thus not in the target group of this intervention. (Table 1).

Table 1. Classification of the detected children by BMI according to Nysom 2001\*

No. of children	Number	Percent
Under the 90 percentile (in risk of overweight)	10	5%
90-99 percentile (overweight)	76	37%
Over the 99 percentile (obese)	120	58%
Sum	206	100%
Missing	47	

\*) Nysom et al. (2001). International Journal of Obesity, Vol. 25, 177-84.

There are several explanations for this, the most important being (i) unclear written material about the target groups and (ii) obese children or parents who would not accept the intervention at the specialized centre.

154 children had at the time of the study participated in one, two or three intervention sessions. The children participated alone in almost a third of the sessions (29%) although the intended intervention was a "family intervention". (Table 2).

Table 2. Counselling sessions with parents & child present and with child alone

No. of sessions	Grade 0-1*	Grade 2-5	Grade 6-9	Total
Parent(s) & child present	31	41	13	85
Child alone	6	21	7	34
Sum	37	62	20	119
Percent child alone	16%	34%	35%	29%

\*) Grade 0 = preschool. Grade 1-9 = Compulsory school in Denmark, children age 6-16.

Explanations for the lack of parental participation included parents not being available and children not wanting their parents to be involved. Telephone contact replaced face to face counselling in some cases to address the availability issue.

## Conclusion

This study revealed deviations in practice from the intervention theory, in terms of identifying the target group and delivery of the intervention as a face to face counselling session for children and their parents.