



## Original Article

# Characteristics of child health care practitioners in overweight prevention of children



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## ABSTRACT

**Objectives:** To identify behavioral and personal characteristics of child health care (CHC) practitioners that influences the effect of early overweight prevention in children.

**Methods:** In total 216 questionnaires were filled out by CHC practitioners from four organizations in the Netherlands. **Results:** There is a gap between awareness of the problem overweight in early childhood and actually discussing this with parents, as well as a gap between the existing recommendations and the perceived importance of early overweight prevention. Despite the fact that nurses have a more central task in life-style support than physicians, they reported to have less knowledge and skills than physicians.

**Conclusions:** While both CHC physicians and nurses need support in improving their knowledge and skills, it is the nurses who need more support. A more structured and tailored implementation strategy with more emphasis on the needs of the nurses and physicians may improve early overweight management.

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## 1. Introduction

Overweight in children is recognized as a major public health problem (WHO, 2000). In the Netherlands, the prevalence of overweight in children almost tripled between 1980 and 2010, and currently 14% of all children are overweight (Schönbeck & Buuren, 2010). The problem of overweight in childhood is that an overweight child is prone to become an overweight adult (Reilly & Kelly, 2011). Overweight is associated with a higher risk of chronic diseases such as cardiovascular disorders or psycho-social problems (L'Allemand-Jander, 2010; Freedman, Khan, Dietz, Srinivasan, & Berenson, 2001). The challenge is to start overweight prevention in childhood, but existing intervention programs have shown disappointing results as regards long-term effects (Haynos & O' Donohue, 2012). The programs mostly focus on older children and often fail to support young children from becoming overweight. It is especially for these younger children that the parents are important role models, as they lay the foundations for a healthy lifestyle for their child

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(Scaglioni, Arriza, Vecchi, & Tedeschi, 2011). Food preferences and habits established in childhood tend to be maintained in adulthood. In addition, several studies suggest that parents are indeed capable of changing their children's behavior and lifestyle in a healthy direction (Boere-Boonekamp et al., 2008). Hence, prevention of overweight among children should start as early as possible, and parents must be involved in this process.

In the Netherlands, physicians and nurses working for the child health care (CHC) organization are the main professionals delivering preventive care to children. Each CHC service is facilitated and financed by the local government. It monitors the growth and development of almost every child by means of a nation-wide program of examinations administered at predetermined ages. The CHC practitioner knows the medical and family history and the current living conditions of both family and child. The fact that over 95% of Dutch children between 0 and 19 years of age participate in the CHC program means that the CHC practitioners can play an essential role in detecting infants at risk for overweight and in motivating parents regarding the development of a healthy behavior lifestyle for their child (Dunnink & Ljls-Spek, 2008).

However, both the relevant literature and practical experience suggest that the overweight prevention protocols that the CHC has developed so far are not effectively administered (Fleuren & De Jong, 2006). There are various factors, 'determinants' or 'characteristics', that can create a gap between the process of developing preventive programs and their actual use (Fleuren, Wiefferink, & Paulussen, 2004). According to the literature, behavioral characteristics of CHC practitioners have the most direct influence on this process, but limited information is available to show which

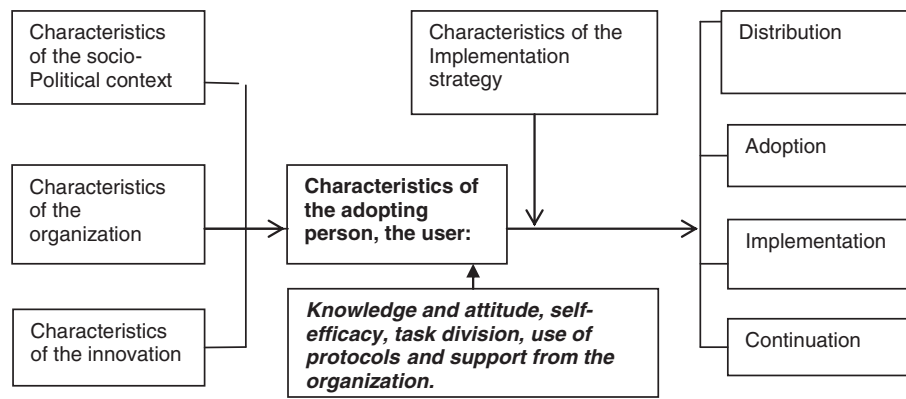


Fig. 1. Model determinants of innovation processes (Fleuren et al., 2004; Paulussen et al., 2007).

characteristics of CHC practitioners are important (Cheater et al., 2005; Paulussen, Wiefferink, & Mesters, 2007). For our theoretical perspective the model of Fleuren et al. (2004) is combined with the developed model by Paulussen et al. (2007) (Fig. 1). This model is also used, because of its focus on the characteristics of the CHC practitioners. Paulussen's model distinguishes five main themes in the process of behavior change: knowledge and attitude, self-efficacy, task division, willingness to use and actual use of protocols and related educational materials, and support from the organization. In addition, we used the ASE (attitude, social norms and influence and self-efficacy) model (De Vries & Mudde, 1998) to further explain the behavior of the CHC practitioner.

The aim of the present study was to identify particularly the practitioner-related behavioral and personal characteristics that influence overweight prevention management. Specifically, the study addressed on the following two research questions and four sub-questions:

1. What are the behavioral characteristics relating to CHC practitioners and their organization that influence the performance regarding overweight prevention management in daily practice?
  - a. To what extent are CHC practitioners aware of the importance of early overweight prevention?
  - b. What factors determine whether and how they discuss overweight with parents?
  - c. What characteristics affect a systematic approach to and the application of the overweight protocol?
  - d. Does organizational support affect the CHC practitioners' performance regarding overweight prevention?
2. To what extent do personal characteristics of CHC practitioners (profession, working in an area with low or high socio-economic status [SES], work experience, age, the practitioner's own body mass index [BMI] and organizational aspects) affect the issues of awareness, discussing overweight, systematic approach and implementing the protocol?

## 2. Methods

A quantitative study was conducted among practitioners from four CHC organizations: three organizations in the southern part of the Netherlands and one organization covering the central and northern parts of the country. The catchment area of the northern organization is divided into six different regions. All CHC practitioners (both physicians and nurses) work with children in the age category from birth until 4 years old.

From a total of 320 CHC practitioners from these four organizations 232 CHC practitioners participated in this study. All 105 CHC practitioners from the southern organizations were included, while a random sample of 127 CHC practitioners from the organizations in the center and north of the Netherlands were included.

Data collection took place in the period from February to April 2009. The participating practitioners completed a questionnaire during a

meeting within their organization. Practitioners who were not present at this meeting were invited to complete the questionnaire afterwards, and return it by e-mail or post.

### 2.1. Questionnaire

A self-report questionnaire was developed for this study, based on the literature and results of in-depth interviews with CHC practitioners (De Vries & Mudde, 1998; Dera- De Bie, Jansen, & Gerver, 2012; Harmsen, Peters, & Wensing, 2005; Paulussen et al., 2007).

The questionnaire consisted of 105 items divided into five main categories: (1) awareness of the importance of prevention; (2) discussing overweight with parents; (3) adherence to a systematic approach to implement the overweight protocol; (4) supportive factors within the organization and (5) personal characteristics. The first four of these main categories give an answer to the first research question, while the final category gives an answer to the second research question. The first four main categories used a 5-point Likert scale, with options ranging from 'strongly disagree' (code 1) to 'strongly agree' (code 5) and from 'absolutely unimportant' (code 1) to 'very important' (code 5). Item response indicated that the questionnaire had a good fit, with Cronbach's alpha 0.88. The questionnaire was pilot-tested by 9 experts in the field of CHC or experts on overweight, and was designed to be completed in 20 minutes.

### 2.2. Data analysis

The questionnaire was inspected for completeness, and incorrect data input was checked on a random sample of 10 questionnaires ( $n = 10$ , incorrect input < 1%). Data were analyzed using SPSS (Statistical Package for the Social Sciences) version 19.0 (Field, 2009). The first four main categories of the questionnaire were analyzed descriptively (mean), and items were clustered into the main categories (Table 1), with the scores 1 and 2 and 4 and 5 of the 5-point Likert scale collapsed. We used this division in scores instead of the mean and standard deviation to make the differences in extreme scores more visible. This descriptive analysis was used to answer the first research question. In order to answer the second research question two different statistical tests were used to identify relations with the first four main categories. First, a Mann-Whitney test for two independent samples was used to assess whether there was a difference between the first four main categories of the questionnaire and the types of profession (e.g. physician or nurse) and practitioners working in a low- or high-SES area. Also, a Mann-Whitney test was used to check if there were differences between the CHC organizations in the southern part of the Netherlands and the organizations that cover the central and northern part of the country.

Finally, Spearman's Rho was calculated to see if there was a correlation between the first four main categories and the personal characteristics of the CHC practitioners (working experience, age and the practitioner's own BMI).

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