

# The Danish preventive child health examination should expand on mental health and the well-being of the family

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## ABSTRACT

**INTRODUCTION:** In Denmark, around one in six children has significant somatic, psychological or social health problems, often in combination. The preventive child health examinations have a high participation rate; and they produce significant findings, predominantly concerning the child's physical health. The aim of this study was to explore how the child's physical, cognitive and psychosocial health are examined and assessed at the health examinations of children aged 0-5 years in general practice.

**METHODS:** Our study employed observations of the consultations as well as individual interviews. A total of nine doctors from seven clinics participated. We included 21 cases in our study, each consisting of a consultation and subsequent interviews with the child's parents and with the doctor.

**RESULTS:** The examination of the child's physical health and development is an important feature of the health examination. Motor, cognitive, social skills and mental health are assessed globally through observation and communication with the child, and, to a lesser degree, through conversation with the parents. The child health examination rarely has a family perspective, unless the doctor is already aware of problems in the family.

**CONCLUSION:** The preventive child health examination is an important platform for examination and dialogue concerning a child's health. The physical aspect works well, but there is a need for development of the assessment of the child's mental health and the well-being of the family.

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Most Danish toddlers are well, but studies show that around every sixth child has significant somatic, psychological or social health problems, often in combination [1-3]. Even children with severe psychosocial problems are not always identified in primary care [4-7].

In Denmark, there are seven preventive child health examinations, known as "forebyggende børneundersøgelser" (BU). There are three BUs during the first year of life, and one each year until the age of five. According to guidance from the Danish Health and

Medicines Authority, the BU should be an assessment of the child's: "physical, psychological, and social development and well-being" [8]. The general practitioner (GP) has a central role in the: "early discovery of children and families with special needs, including the identification of socially vulnerable and marginalised families" [8]. The guidance provided for the BU is clear regarding the physical examination; and there are suggestions for a dialogue with parents about their child and the family, but there is no specific guidance on how to implement this dialogue [8].

BUs have a high participation rate [9]. They have been evaluated twice since their introduction in 1946 [9, 10]. The 2007-evaluation stated that significant findings are made at every seventh BU, predominantly concerning the child's physical health. Psychosocial findings are made at 5% of BUs. GPs in the 2007-evaluation stated that the BU gave them a very good/good impression of the child's motor skills and the child's psychological and social well-being [9]. However, the evaluation provides no information to specify how the GPs obtained this impression.

The aim of this study was to explore how the child's physical, cognitive and psychosocial health is examined and assessed by GPs at the BUs of children aged 0-5 years.

## METHODS

### Design

We used observations of BUs and interviews with parents and with GPs. The participating GPs were chosen to reflect a range of clinical experience and diverse practice populations (see **Table 1**). Nine GPs from 7 clinics in Zealand participated, each with one to four consultations. A total of 21 cases were included, each consisting of a BU and a subsequent interview with the child's parents and with the GP.

### Recruitment and data collection

GPs were contacted by e-mail with a project description and a copy of the approval of the Committee of Multi-practice Studies in General Practice. The first author (KL) attended meetings with doctors and relevant clinic staff

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at which the objectives and the practical execution of the project were discussed. The clinics then contacted eligible families and gave them a written introduction to the project. Families were advised that their participation was anonymous and that they could withdraw at any time, whereupon all data would be deleted. Nobody used this option and all parents signed a declaration of consent. Six of the BUs were selected because the families had particular problems. Five families were unknown to the GPs beforehand.

KL conducted video and audio recordings of each BU, which lasted from 12 to 35 minutes. Interviews with parents took place immediately after the BU, and GPs were interviewed later the same day. Interviews lasted from 15 to 45 minutes, were structured according to an interview guide (Table 2), and audio was recorded by KL. We transcribed all recordings for our analysis. KL observed the videos with a focus on contents and process before adding notes to the transcribed text.

There was wide variation in the BUs because of the children's ages, parental background, the GPs' familiarity with the families, and their experience of BUs. In this paper, we focus on themes and trends that could be identified in almost all the observed consultations. When the sample was sufficiently large and varied to elucidate our aim, we terminated data collection.

### Analysis

The transcripts were coded using a descriptive and deductive method based on the themes identified in the guidance from the Danish Health and Medicines Authority (Table 3). We coded inductively within each theme and our analysis is based on Malterud's text condensation [11]. Our main findings are derived from the observations and transcriptions of the BUs, and these are supplemented by interviews with parents and GPs. We applied a developmental psychological perspective, viewing each child as an independently acting, competent individual.

From this perspective, the child's development is shaped by interactions with his or her environment and conditions, and it cannot be assessed in isolation from them [12].

KL managed the coding, and the co-authors read around half of the cases. All authors repeatedly discussed the cases, the coding principles, the selection of themes and the article design.

### Ethics

The Danish Data Protection Agency has approved the study.

*Trial registration:* not relevant.



TABLE 1

Overview of the 21 child examinations.

No.	The child's age	The doctor, name (gender), age (practice population) <sup>a</sup>	The child was accompanied by	Doctor knew about particular problems in the family
1	5 wks	René (m), 39 yrs (C)	Mother	
2	5 wks	Hanne (f), 57 yrs (P)	Mother and father	
3	5 m	Svend (m), 41 yrs (C)	Mother	X
4	5 m	Frida (f), 39 yrs (P)	Mother	
5	1 yr	Frede (m), 41 yrs (P)	Mother and father	
6	1 yr	Olga (f), 55 yrs (P)	Mother	X
7	1 yr	Hanne	Mother and father	
8	1 yr	René	Mother	
9	2 yrs	Hanne	Mother and sister	
10	2 yrs	Olga	Mother	X
11	3 yrs	Anne (f), 59 yrs (city)	Mother and brother	X
12	3 yrs, twins	Alba (f), 63 yrs (city)	Mother and father	X
13	4 yrs	Svend	Mother	
14	4 yrs	Alba	Mother	X
15	4 yrs	Anne	Mother	
16	4 yrs	Hanne	Mother	
17	5 yrs	Alba	Mother	
18	5 yrs	Frede	Mother and stepfather	
19	5 yrs	Anne	Mother	
20	5 yrs, twins	René	Mother and father	
21	5 yrs	Signe (f), 33 yrs (P)	Mother	

C = countryside; f = female; m = male; P = provincial town.

a) All the participating doctors were from Region Zealand.

## RESULTS

### The main findings

GPs based their assessments of child development and well-being on the physical examination, the child's behaviour during the consultation, and communication with the child more than on the conversation with the parents. The BU rarely had a family perspective, unless the doctor was already aware of problems.

### Examination of the child's physical health and development

In all BUs, the child's weight and height were assessed on the basis of established growth curves. The GPs made a point of the fact that each child follows its own curve; this was given particular emphasis if the child was small for its age (Quote 1, **Table 4**). The GPs rarely asked about the child's diet.

All children were examined with a stethoscope, and all boys had their testicles examined. Infant examinations at five weeks and five months included a general physical examination on the couch. Children aged 3-5 years had their hearing and vision examined. The motor functions of older children were assessed by observing each child's spontaneous movements. One doctor assessed gross motor skills by asking a four-year-old child to jump and to hop on one leg. Some five-year-olds were asked to draw letters or other figures (Quote 2). Most children moved around a lot, but some sat on a parent's lap during most of the examination.

### Examination of the child's cognitive development

GPs assessed cognitive development through age-adjusted communication with each child, including infants. Some children remained silent, but the videos show clearly that there was communication between the child and the doctor. The GPs did not use systematic tests with toddlers and older children; instead, they used a situation that arose during the BU as a starting point for dialogue. For example, the doctor might pick up on the child's interest in a picture in a book and use this as a basis for a talk about body parts, colours, numbers and letters.

While some doctors asked parents about the child's language development, none of them asked parents about their thoughts on the child's cognitive or motor skills.

### Examination of the child's psychosocial health and development

Some doctors asked about the child's psychosocial health in general terms such as: "How is he doing?" or "What is her temper like?" They talked with the mothers of infants about breastfeeding, sleeping patterns and the child's routine. Apart from that, the doctors rarely



TABLE 2

The topics of the study interview guide for parents and doctors, respectively. Only parts of the interviews are included as data in this article.

#### The parents

Introduction, information, and consent  
The relationship of the family to the doctor  
The parents' expectations for the consultation  
The experience with the consultation  
The parents' understanding of the child's strengths and of any difficulties  
The parents' expectations to the doctor  
Trust – confidence

#### The doctor

Introduction  
"Why have you chosen this consultation?"  
"What can you tell me about the child and the family?"  
"Did you look through the journal before the consultation?"

The doctor's expectations to the consultation  
The doctor's ideas, thoughts and experience regarding the parents' expectations, ideas and feelings before, during, and after  
The doctor's understanding of the child's strengths and of any difficulties  
General thoughts about the BU  
Trust – confidence

BU = "forebyggende børneundersøgelser".



TABLE 3

Overall topics identified in the guidance from The Danish Health and Medicines Authority.

#### Diseases since the last visit

#### The child's development and health

Physically  
Cognitively, including language  
Psychosocially

Diet, eating habits  
Sleep, circadian rhythm

#### The family

Mother  
Father  
Siblings  
Parental roles  
Care  
Network  
Health care

asked about specific worries, phenomena or symptoms, unless they were already aware of difficulties in the family. Quote 3 is from a consultation where the doctor is more specific in his questions about the child's development (Table 4). More doctors asked about how things were going in the kindergarten, but in three consultations with children with known psychosocial problems, the GP did not ask about their kindergarten.



TABLE 4

Quotes.

*Quote 1, case 17*

D: I thought I'd just check her numbers, height and age. She's not the tallest girl in the classroom, but she's quite stable here ...

M: No, but now she's on a curve ...

D: And the weight, she's down there, and when we put weight and height together, she's there, too ...

M: Yes, right, but at least she's on the curve now!

D: That she is!

*Quote 2, case 18*

D: Do you know your name, Mads – do you know what “Mads” begins with? Which letter does your name begin with?

C: M

D: M, right, and do you know any of the other letters, then?

C: Eer, M-A-D-S

D: Alright, that's good, you actually know how to spell your own name. I think that's really well done

C: And I can write it, too!

D: And you can write it? Can I see?

C: On what?

D: On a piece of paper – I'll just give you a piece of paper. Here you are, and a pen

*Quote 3, case 13*

D: Soo ..., and what ..., it must be some kindergarten?

M: Yes

D: How is it going, is it going well there?

M: He goes there, and it's going really, really well

D: He's ..., well, he's able to keep up with the others, and ...?

M: Yes, but I was told that, eer ... I was told that his language was very, very good

*Quote 4, case 7*

R: Do the doctors know that the two of you don't live together?

M: They know!

F: Actually, I don't think they know

M: Yes, because I've told them. So yes, yes!

R: But apart from the fact that she knows that you do not live together, then have you been talking to the doctor about [the problems mentioned]?

M: No. No. Er, I've just told her that we don't live together

[During this interview, several family problems emerged that were neither brought up during the child examination nor known to the GP. When interviewed, the GP did not know that the parents had separated]

*Quote 5, case 16*

D: I know the family, I know the mother, she brings in the children. I actually don't know the father. Not particularly well. I can't picture him. I thought about that, you see

I: Yes, no

D: I mainly know the mother. She brings in the children, and of course she's been in quite a lot, because there are 4 of them. And it's been wonderful to see

C = child; D = doctor; F = father; GP = general practitioner; I = interviewer; M = mother; R = researcher.

GPs often described to parents what they found during the physical examination. They rarely communicated their assessments of the child's cognitive and psychosocial development, apart from the very general “everything looks fine!”

### Examination of the well-being of the family

During the interviews, most doctors said they had surveyed the child's record before the consultation, but that they had not looked through the parents' records. Several GPs indicated that they remembered the most important things. However, they also said that they expected the families to be doing well, or that they trusted parents to bring up any problems. The consultations and the interviews with parents showed that this assumption was often not correct (Quote 4, Table 4). When GPs knew the family had problems, they would ask about the parents' situation. They rarely made enquires when they were unaware of problems, or when they did not know the family. GPs asked questions about the child's relationship with its father only when they knew the father did not live with the child. In the interviews, GPs often said that they did not know the fathers (Quote 5, Table 4).

It was only at the five-week examination and when the GP already knew that the family had problems that the doctor asked about the mother's health and well-being. The child's relationship with its siblings was usually mentioned, while the relationship between the parents, their child and the rest of the family was only rarely brought up.

## DISCUSSION

### Summary of findings

The assessment of a child's physical health and development is an important feature of the BU at all ages. The mental health, motor, cognitive and social skills of preschool children are assessed globally through observation and communication with the child, and, less so, through conversation with the parents. GPs asked about the parents' situation, well-being, and their relationship when they were already aware of significant problems. Otherwise, they seldomly addressed parental health and well-being.

### Discussion of findings

The focus of the BU on the child's physical development and health reflects national guidance, and this may explain why mainly physical findings are made [9]. Apart from infant examinations, the GPs in this study did not make specific motor, cognitive or mental assessments of children, but relied on a global impression of the child's competence and behaviour. This is in accordance with the guidance for BUs [9] and is supported by some international experts [13].

GPs often communicated more with older children than with their parents. Cahill described the importance of involving both parties early in a consultation to establish a constructive balance between their respective participation [14, 15]. When parents' interpretations and

assessments are ignored, an important opportunity to strengthen the relationship of trust between the doctor and the parents is missed [16].

In our study, GPs did not ask specific questions regarding behaviour and psychosocial health, and parents did not bring up these topics themselves. This finding supports several studies that show how difficult it can be to identify children's mental and social symptoms and problems during a preventive health examination [4-6]. Parents rarely mention their worries about a child's psychosocial or mental well-being of their own accord at the consultation [17, 18].

Our findings indicate that the family perspective at the BU may be too weak. Knowledge and understanding of the child's environment and conditions are important in the assessment of his or her development and well-being [12]. If this is absent, the doctor may miss insights that could assist the understanding of observations made at the BU. This, in turn, could cause the GP to overlook significant difficulties that the child might have [18]. Child health and well-being are related to the health and well-being of parents [19, 20]. In contrast with other professionals who may have contact with the child, GPs have the opportunity to understand the child's situation in the light of their knowledge of the parents' health.

### Strengths and weaknesses

The strength of this study is its observational design and the interviews with both doctors and parents after the BU. Close observation makes it possible to investigate whether the things people say they do are consistent with what they actually do. The interviews shed light on points that have been observed, and they can provide information about perceptions and understandings.

Our findings provide valuable insights into some general trends in the BU in Denmark today. We identified these trends in consultations across the age range of children, parental backgrounds, the GPs' familiarity with the families and the GPs' clinical experience.

The observed consultations may have been influenced by the presence of the researcher. The feeling of being evaluated might have caused GPs to focus more on the physical examination, where, arguably, they feel professionally more comfortable; and parents might have withheld some information or worries. However, we were very clear that our study focused on the examination of children and not on the performance of doctors or parents.

All authors are part-time GPs and have considerable experience working with the BU. This ensured that relevant interview questions were asked and it strengthened our attention on the topics of the interpretation process. Being so close to the research field requires



Infant examinations at five weeks and five months included a general physical examination on the couch.

constant awareness of one's own understandings and interpretations.

### CONCLUSION

The BU is an important platform for dialogue about child health. The child's physical health is thoroughly examined, but more development is needed when assessing the child's mental health and the well-being of the family. Greater use of parents' assessments would strengthen both the doctor's insight and increase the benefits to parents from the examinations.

### Implications

GPs need to balance their interaction with the child with their dialogue with parents. Parental appraisals are important supplements to the assessment of child health in the BU.

A family perspective is essential, and GPs should fully use the opportunities present in the fact that they are the family doctor for both the child and the parents. There could be a stronger focus on the child's mental health and social development. Further research is needed to facilitate this approach within the contextual and financial framework of delivery of child health.

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