

Physical activity promotion in public health nursing practice with children

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Background: Physical activity has become a major public health concern even in early childhood. This article exemplifies physical activity promotion in practice as described by public health nurses from Finnish primary health care. **Method:** We gathered the data by purposive sampling in five regional focus groups with 24 informants working in child health clinics provided for all families with children below school age. Statements associated with physical activity promotion were extracted out of verbatim transcripts. Frequency counting complemented qualitative analysis of the content of statements. **Findings:** Child-centred evaluation provided by public health nurses focused on motor development, basic sporting skills and amount of activities outdoors and play and exercising habits of the child. Family-centred evaluation focused on the general activity level of the family or a member of the family and resources for physical activity. Activation and support included nearly the same issues brought up for discussion during check-ups, as a basis for counselling, or as points of reinforcement. Contradictory to a family approach in health care, most of the statements (78% out of 223 statements) were child centred. Forcefulness of statements revealed that assessment of physical abilities, including motor development, was the only topic applied with every child. Other topics were more selectively targeted for children and families with mild special needs: for example overweight, clumsy, insomniac, or restless children and sedentary families. **Conclusions:** Even though special needs should receive specific attention in health care, we suggest more concern on physical activity of every child and the whole family in practice in order to meet modern health promotional challenges. Although the Finnish child health clinic system is unique due to its vast coverage and frequent contacts with every child and the family, the findings from this explorative research might inspire other community practitioners to start analysing their own work in view of this research.

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Introduction

‘Health promotion, especially advice on healthy lifestyles, should be included in all health services’,

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is a recommendation announced worldwide (eg, STM, 2001; WHO, 2003; Department of Health, 2004). Physical activity is inevitably recognised as a component of healthy lifestyle, but the promotion of physical activity has not been analysed in child health care settings in connection to practical opportunities for its promotion by health professionals. Moreover, there is still apprehension that the whole concept of health promotion

remains vague among health professionals (Seedhouse, 2000). Therefore, the aim of this research was to make the health promotional work of public health nurses in primary health care for children more visible (Savola and Koskinen-Ollonqvist, 2005) in order to close the gap between theory and practice.

Despite the fact that the child's well-being and health are major goals for public health (Ministry of Social Affairs and Health, 2001), physical activity of children below school age has received little scientific attention in Finland (Telama *et al.*, 2001). Furthermore, no relevant statistics exist on the health status (eg, physical activity, overweight or obesity) of Finnish children in early childhood. However, the importance of physical activity is markedly increasing due to the internationally growing trend of overweight in 5–11-year-old children (International Obesity Task Force, 2005) and due to the health risks associated with sedentary lifestyle even in early childhood (Livingstone, 2001; WHO, 2003). The proportion of overweight (relative weight $\geq 20\%$) children was 13% in a sample of Finnish boys and girls when starting school at the age of seven years (Sihvola, 2000) in 1996. More recent figures are unavailable. According to a Finnish survey, 14% of children between three and six years of age were reported not to engage in any form of physical activity – neither on their own nor in an organised way (Liikuntatutkimus 2005–2006, 2006). In a three-year family-based intervention (Sääkslahti *et al.*, 2004b), individual differences in physical activity were remarkable in 4–7-year-old children.

Physical activity in childhood contributes to growth and development including social and cognitive development (US Department of Health and Human Services, 1996; Department of Health, 2004). Furthermore, in health care physical activity should be considered as an opportunity for enhancing health potential, general well-being and self-actualisation of clients; including individuals, families and community (cf. WHO, 1986; Green and Ottoson, 1994). In addition to physical activity, motor development and acquisition of basic motor skills of a child as a basis for normal growth and development and for a physically active lifestyle should be relevant topics for child health care.

On a broader developmental basis, the importance of early years in the course of life has been

proposed (e.g. Patrick *et al.*, 2001; NSW Commission for Children, 2005). A need for comprehensive child health services for children and the family has been stated. The Finnish child health clinic (CHC) system, as a part of primary health care, could act as an example of such comprehensive service delivery. As a part of maternal and child health care, Finnish CHC represents primary health care based on family nursing practice (Duffy *et al.*, 1998). Municipal health centres provide health care services free of charge for every child below seven years of age, the age of school entry. According to the Primary Health Care Act of 1972, health education of the public in general is an essential task of health centres. The specific aim of CHC is to promote the health and general well-being of every child and the family. Nearly every Finnish family makes use of this service in which a child is scheduled to visit a public health nurse at least ten times before the age of one year, and six times from ages one to six years. One home visit is included in the programme, when the child is two weeks old. Other visits are carried out in office-based CHC. A physician usually attends five check-ups. At the age of five years, a team of health professionals carries out a more comprehensive examination with developmental screenings (Rimpelä *et al.*, 2006) in order to anticipate difficulties with learning or other special problems before the child goes to school (STM, 2004).

Family and parents should be automatically involved when dealing with healthy living habits of children below school age (Sallis *et al.*, 2000). Particularly, family habits in exercising can have a major impact on children's leisure activities (Yang *et al.*, 1996). Furthermore, the importance of parents is obviously greater for physical activity in younger children, who are totally dependent on their parents. Therefore, collaboration with parents, support and parental modelling are essential issues of prevention and health promotion in child health care (Bosch *et al.*, 2004; Hesketh *et al.*, 2005). According to a summary of studies conducted in Finland (Pelkonen and Löthman-Kilpeläinen, 2000; Viljamaa, 2003; Varjoranta *et al.*, 2004), practice in CHC has focused on children or parents – most often on mothers – rather than on the entire family. Consequently, we can hypothesise that physical activity promotion

concentrates on enhancing the physical activities of the child, through education of the mother.

Preventive and promotional aspects (Tones and Green, 2004) of physical activity play a significant role in public health today and will do so even more in the future (Livingstone, 2001; WHO, 2003). In particular, public health nurses in CHC dealing with healthy living habits (cf. Miilunpalo *et al.*, 1995; Besner, 2004) have an ideal opportunity for preventing and promoting physical activity due to their knowledge of the strengths and risks of their clients (cf. Sihvola, 2000, p. 86) facilitated by frequent and regular contacts with the child and the representative of the family (STM, 2004).

The purpose of this research was to further the understanding of physical activity promotion as part of the total health care in order to develop public health nursing practice. With the use of focus groups, this research illustrates how a group of Finnish public health nurses currently promotes physical activity in young children.

The research questions were:

- 1) What is the content of physical activity promotion provided by public health nurses in CHC?
- 2) What are the means of physical activity promotion provided by public health nurses in CHC?

Methods

Focus group procedure

Focus groups (Morgan, 1997; Krueger and Casey, 2000) were used in this study to capture the public health nurses' perceptions and experiences in physical activity promotion and to secure a rich description on the content and means of promotion. The interaction among the participants in focus groups was supposed to bring out more insights and understandings of the topic than a questionnaire would have allowed. In a permissive group discussion, participants compare and contrast experiences, are inspired by each other and reveal more than in a more formal interview setting.

A regional sample covering rural, urban and suburban areas in municipalities of different sizes was selected driven by the research questions, and

also because of reported regional variations in child health care services (Varjoranta *et al.*, 2004), anticipated environmental options for physical activity and national strategies preferring local research (Karvonen *et al.*, 2003). An additional selection criterion was that the total number of public health nurses working in a selected area for study was approximately six, the recommended size for focus groups. Originally, four regional groups were selected: one group with rural participants ($N = 7$) from six small municipalities, the second group with urban participants ($N = 5$) from a middle-sized municipality, the third group with urban population centre participants ($N = 6$) and the fourth group with participants ($N = 6$) from six residential suburbs of this population centre. In spring 2003, 92.3% of invited public health nurses out of the selected eight municipalities attended focus groups. Finally, because of long distances, the rural group was divided into two separate groups ($N = 3 + 4$).

The research plan was accepted by the Scientific Board at the University of Jyväskylä. The researcher group, consisting of one sport scientist working as an educator in health care, one scientist in sport sciences and one in health education, obtained permission to carry out the research from relevant local authorities. The moderator of the focus groups, the educator, provided personal information for participants on research aims and on focus group procedure, and assured confidentiality. Each participant gave her informed consent. Focus groups lasted approximately two hours and took place at the end of regular workdays. Participants' travelling expenses were reimbursed. Every CHC received a book on physical activity for children and a video of the same theme was sent to health centres.

Discussions were run in two phases with a short break in between. The topics of discussions with main questions by the moderator are shown in Table 1. *Phase I* was implemented as freely as possible, but still the moderator considering all the time that the purpose was to reveal all possible manifestations of physical activity promotion in the daily routines of the public health nurses. The moderator did not limit the time for this phase; in general, it lasted for about one hour. *Phase II* was more structured thematically based on the findings of a preliminary research dealing

Table 1 Topic guide with main questions (Morgan, 1997; Krueger and Casey, 2000) in focus groups

Phases of discussions in focus groups	Topics and main questions
Phase I ~ 1 hour	Physical activity promotion in daily routines of public health nurses in child health clinics – general approach 'How is physical activity promotion of the child manifested in your daily routines?'
Phase II ~ 1 hour	Challenges for physical activity promotion according to a preliminary research (Javanainen-Levonen <i>et al.</i> , 2003) – more detailed approach 'How are the following topics manifested in your daily routines?'
	<ul style="list-style-type: none"> • Assessment of motor development • Assessment of physical activity • Activation of physical activity • Exercise counselling • Collaboration

with the challenges for physical activity promotion written in developmental documents in health care and health-enhancing physical activity (Javanainen-Levonen *et al.*, 2003). An assistant audiotaped all focus groups and videotaped all except two rural groups. Regarding the theme of this article, discussions were video recorded only in order to make voice recognition easier in data transcription.

Analysis

First, the moderator converted audio and video data from the focus groups into digital format, and then transcribed the data verbatim. The next step in the analysis was to identify the public health nurses' concrete statements associated with physical activity promotion out of data with the total of 1663 turns in discussions. The analytical unit, a statement, was a discrete phrase, sentence or a number of sentences, in which the content and means of physical activity promotion were expressed. All statements were extracted to separate spreadsheets according to the two phases of discussions.

The aim of the qualitative content analysis was to present physical activity promotion in a condensed way (Huberman and Miles, 1994) by identifying the categories that answered the research questions. Due to the different natures of the phases, statements from Phase I formed the corpus of data in qualitative content analysis in order to allow inductive approach. Consequently, the emerging categories represented the data

from the free discussions of the public health nurses.

Validity was sought through discussions held in the group of researchers and through comprehensive data treatment (Silverman, 2001). It was only possible for one researcher, the moderator of discussions to conduct the time-consuming and intensive categorisation of data. In order to validate the categorisation, the group of researchers discussed and agreed on the theoretical concepts in categorisation. The most difficult task was to categorise statements dealing with activities naturally involving both the child and the mother or the parents. When public health nurses talked, for example, about swimming with babies or gymnastics for mothers and babies, the distinction had to be made from the context of the statement: whether it was physical activity of the child or the family that was in focus.

A categorisation with 6 researcher-named main categories and 14 subcategories was chosen. The categorisation is presented in Table 2. To validate the categorisation, statements from Phase II were included in the analysis. The statements in Phase II were associated with all six main categories and all subcategories already established for Phase I. Thus, the data were well saturated already with statements from Phase I. In the quantitative analysis, the frequencies of the statements were computed (Morgan, 1997). In all, 223 statements associated with physical activity promotion were found: 142 statements from Phase I of the focus groups and 81 statements from Phase II. The forcefulness of the statements was analysed in

Table 2 An example of the categorization of statements associated with physical activity promotion

Main categories	Subcategories	Examples of statements:
1. Evaluation of the physical abilities of the child	1.1. Evaluation of the motor development of the child	<ul style="list-style-type: none"> • Somehow, assessment is integrated at every visit, starting from the first visit at home: what kind of muscle tone the baby has and such things.
	1.2. Evaluation of the basic sporting skills of the child	<ul style="list-style-type: none"> • Skills are mostly asked about in our check-up list, just the following things: how they are doing with skiing and skating.
2. Evaluation of the physical activities of the child	2.1. Evaluation of the quality and amount of outdoor activities and play of the child	<ul style="list-style-type: none"> • Even going out and staying there is not a self-evident matter. That is also something you have to ask about and check on. How long do they really stay outdoors?
	2.2. Evaluation of the exercising habits of the child	<ul style="list-style-type: none"> • Therefore, I can ask the questions when I already know after reading from the newspapers which of the children have participated in a skiing competition.
3. Evaluation of the physical activities of the family	3.1. Evaluation of the general activities of the family	<ul style="list-style-type: none"> • When I ask a question about mother's leisure time activities, if the children are little, how can the mother relax, so I almost know it already [exercise habits of the mother].
	3.2. Evaluation of the resources of the family	<ul style="list-style-type: none"> • Do parents have any chance to take the child to swimming?
4. Activation and support of the physical abilities of the child	4.1. Bringing up the importance of physical abilities of the child	<ul style="list-style-type: none"> • I usually say that now it's worth practicing skating skills before the school starts. Otherwise it will be not easy, if all the others know how to skate. And your child doesn't. This is something I tell often when the child is six.
	4.2. Counselling of the physical abilities of the child	<ul style="list-style-type: none"> • When the child becomes four or five, I always give them the advice to take the child along and teach him the skills.
5. Activation and support of the physical activities of the child	5.1. Bringing up the importance of physical activities of the child	<ul style="list-style-type: none"> • Simply to be outdoors, it is a matter discussed every now and then. The aim is to activate the children to spend enough time outdoors.
	5.2. Counselling of the physical activities of the child	<ul style="list-style-type: none"> • If the child has lost his appetite, they are told to go outdoors to get it back!
	5.3. Reinforcement of the physical activities of the child	<ul style="list-style-type: none"> • If you know the family and you know that they do a lot of sports and exercise, I usually tell them that it is very good that they do it!
6. Activation and support of the physical activities of the family	6.1. Bringing up the importance of the family's physical activity	<ul style="list-style-type: none"> • So, one of the things I have to always tell is to go out with the whole family.
	6.2. Counselling of the family's physical activity	<ul style="list-style-type: none"> • Quite often I advise the whole family to take up an active hobby together. For example, to go once a week to swim. When the children are little, parents could swim in the big pool one at a time.
	6.3. Reinforcement of the family's physical activity	<ul style="list-style-type: none"> • I try to encourage for mother-child gymnastics. It will enhance their time together and, for those mothers who have just moved in the area, it is a way to get to know other mothers.

more detail by attention to the use of such expressions as ‘always’, ‘every health visit’, ‘in the case of’. Furthermore, statements addressed by individual informants were counted in order to check reliability issues. In each main category, 11–17 public health nurses made their statements concerning physical activity promotion.

Finally, in order to demonstrate interactions between the participants during discussions, the order of turn-taking in group discussions was analysed. The focus was on the content of the participants’ comments stated as immediate reactions to another participant – not replying to the moderator. Phases I and II were included in the analysis, excluding the opening of the focus group discussions that mainly dealt with the background information of the participants.

Results

All informants ($N = 24$) were women, their ages ranging from 31 to 55 years. The mean age was 46.2 years. The average length of their professional experience in CHC was 13.9 years. The most common caseload incorporated several fields of activity: maternity and child health, school health, family planning, adult health, outpatient clinics, home nursing, diabetes or nutrition counselling.

Of all turns ($N = 1337$) taken during the time spent on the actual research theme, 66% ($N = 884$) demonstrated interactions between the participants. Of these interactions, 41% ($N = 366$) revealed additional experiences, views and perceptions of the issue under discussion, 21% ($N = 186$) shared experiences or perceptions dealt with earlier, 15% ($N = 129$) provided more detailed insight into the theme under discussion and 13% ($N = 116$) contested the experiences or views presented. The remaining comments (7%) included, for example, questions or answers to other participants.

Content of physical activity promotion

In public health nurses’ discussions, age-appropriate motor development of the child and basic sporting skills were considered. During early infancy, the public health nurses discussed muscle tone, protective reflexes and head control. Later on, rolling, crawling, sitting and walking were introduced in their statements.

In case of a newborn baby, you always check on the child’s muscle tone and how the child uses hands and feet while lying down. Are they symmetric or asymmetric? And all those protective reflexes. At least I check on them every time. First the moro and walking reflexes.

(Phn5, group2)

At the toddler age, skipping, balancing, walking on a line, handling and kicking a ball were in focus. For 5-year-olds, gross motor skills and skills in skiing, skating and biking were often considered. Swimming skills were brought up a few times. All these areas are associated with the physical abilities of the child, and this category was named accordingly. Respectively, outdoor activities, play and exercising habits of the child were discussed. All these areas are associated with the physical activities of the child. The statements concentrating on the physical abilities or physical activities of the child were equal in numbers ($N = 87$).

Family-centred statements dealt with the general activity level of the family or physical activities of the individual family members – mostly of the mother. The public health nurses also paid some attention to the resources for the physical activities of the family.

How is she [mother] doing, does she have any leisure time? What does she do then? Many of them [mothers] tell that they go for a walk or jogging and that the father stays with the baby.

(Phn2, group1)

Out of all statements in our research data, 78% were child-centred and 22% were family-centred. Child-centredness in this research meant that a statement was associated with physical activity of the child. The researcher group decided to use the concept of family-centred statement when the public health nurses discussed the physical activities of the mother, the father, one of the siblings or the entire family.

Means for physical activity promotion

In all, transcripts included 106 evaluative statements and 117 activating and supportive statements. However, when reading the results, it

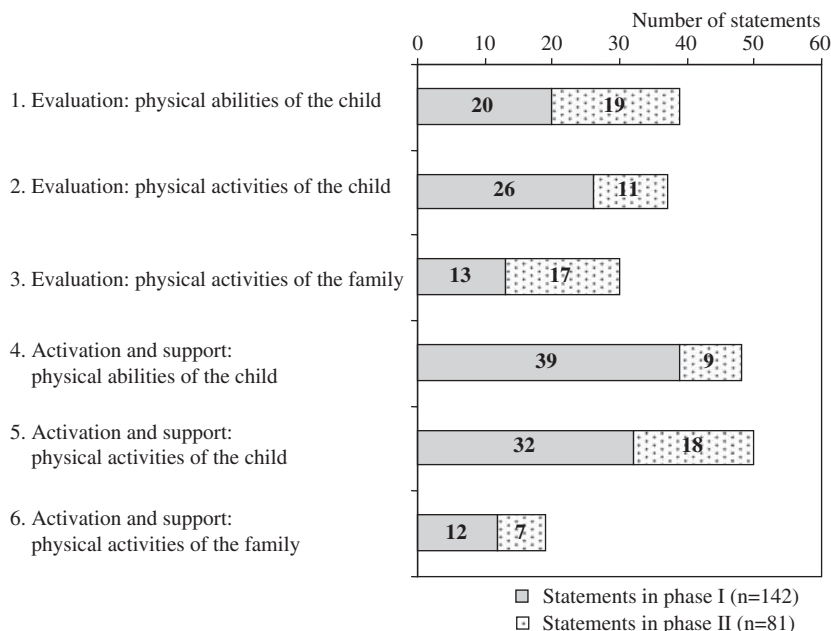


Figure 1 Frequencies of statements ($N = 223$) on main category level in focus group data

is important to consider the following qualitative nature of statements. In order to validate the findings, Figure 1 quantifies statements concerning evaluation or activation and support, and shows frequencies according to the two phases of focus groups.

Evaluation

The public health nurses considered that *the evaluation of the physical abilities of the child* had been the basic element of check-ups for decades. They told that assessment was carried out with every child according to regulations and with proper documentation. The focus of the evaluation of physical abilities was, first, the period from early infancy to 1.5 years and, second, at the age of five years. During infancy, the age-appropriate motor development was assessed closely, starting from the first home visit at the age of two weeks. Evaluation of abilities was performed by the means of tests and questions, but free observation was also frequently mentioned.

During every health visit, we monitor the child's abilities and how the child should develop. Every time, we also check on the

child's stage of motor abilities. As the child grows older, more skills are required and we check if the child is able to master them. Then, the check-up for 5-year-olds is the top of everything. A large series of tasks is completed and the child is expected to master many skills: physical skills, manual skills and other skills.

(Phn1, group1)

The evaluation of the physical activities of the child did not appear to be as systematic as the evaluation of physical abilities. Some of the public health nurses emphasised that physically active hobbies would only be discussed if parents brought them up. Evaluation appeared to be more selective by nature and was associated with specific health issues, such as overweight and postural issues or disability.

In the case of an overweight child, in my opinion, I check on the physical activity level of the child.

(Phn9, group3)

Free observation was carried out in the course of the daily work, for example, when walking to a home visit. If a public health nurse was a resident

of the working district, free observation would also be made during leisure time. The public health nurses paid attention to seasonal changes in physical activities. Because health visits took place only once per year after the age of two years, the public health nurses asked about winter activities during summer. Public health nurses did not address the need to assess overly strenuous hobbies before school age. Some public health nurses began to evaluate sedentary hobbies at the age of four. This kind of evaluation was regularly carried out during the examination for 5-year-olds.

So we have a question on the list asking how much the child spends time watching TV or playing games [on a computer or a game console].

(Phn2, group1)

The evaluation of the physical activities and resources for physical activity of the family was the third main category. According to focus groups, the public health nurses evaluated the daily routines of the family. Conclusions about the daily physical activity level, as part of the everyday life of the family, were made:

It starts with the question of how the daily routines run in the family. What do they actually do in the family during the day: is it action or is it only sitting and watching TV?

(Phn1, group1)

Furthermore, the well-being of the mother was evaluated. On exceptional occasions, questions were asked about the father's hobbies. Some of the public health nurses said that they made observational conclusions on family activities during leisure time. Furthermore, the public health nurses received information on active participation through reading local newspapers. In the evaluation of resources of the family, the public health nurses assessed, for example, the opportunities of the family to take the child to a swimming hall or to purchase sporting equipment.

Activation and support

The activation and support of the physical abilities of the child were provided by bringing up the physical abilities of a child or by counselling.

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The public health nurses told that they spoke, for example, about the importance of close physical contact to enhance motor development. Through explaining the local options for baby swimming, public health nurses tried to activate motor development. Before the child entered school, some public health nurses brought up the importance of basic skills in sports as a support for socialisation and self-confidence.

At least I tell everyone – when the child is about six – that one of the skills that must be learned is tying shoelaces and the laces of skates and ski shoes. Essentially, this is the way to give them the information that this must be done and practiced.

(Phn1, group1)

The second area associated with activation was counselling on the physical abilities. With an infant, parents were told to let the baby play regularly on the floor level for stimulation and enhancement of motor development.

We give the advice – in case of a baby of 6–7 months old who is not interested in anything else than just being there – to put the child on the floor and so the child will start crawling on the floor. Or to put some stimulating things in front of the child to make the child discover the need for moving.

(Phn4, group2)

In early infancy, the importance of counselling was highlighted if the child was passive or had gas pains. The public health nurses told that, recently, a new problem had arisen. Actually, they were worried about parents being too eager to buy unnecessary and unsafe equipment for their children so that the child would learn sooner to sit and walk independently. In the toddler age, the counselling of physical abilities was given while checking on postural issues. The public health nurses considered it to be the optimal time for advice.

Usually every time while making postural assessment and especially when I realise that there is something wrong with the balance. Therefore, in that case I can give the advice on movement and those kinds of things.

(Phn7, group2)

Selecting physical activities as a topic for discussions, counselling and reinforcement constituted *the activation and support of the physical activities of the child*. The public health nurses emphasised that the amount of outdoor activities had radically changed. Therefore, they attempted to activate the child by selecting this issue as a topic for discussion. Public health nurses discussed the importance of taking the newborn child outdoors. When the activation of toddlers was considered, they spoke about restricting hobbies that made the child passive. By providing information about the options offered in the community, public health nurses tried to activate the child through the parents. Counselling was mostly implemented with children with special health needs: for example with overweight, clumsy, restless, or insomniac children or sedentary families.

You don't even think of promoting physical activity until you start really thinking about it, as one of us immediately said, when the child is overweight. Then we really give the advice that this or that should be done.

(Phn23, group5)

To activate children in passive families, health professionals referred children to open nurseries or to municipal day care centres for a few days every week. One of the arguments for this was a minimal amount of outdoor physical activity. The public health nurses reported that reinforcement for families who were active or had children with disabilities was a means to support physically active behaviour.

The activation and support of the physical activities of the family was manifested in the public health nurses' discussions in three ways: by bringing up the physical activities of the family during discussions, by physical activity counselling or, rarely, by reinforcement. The public health nurses stated that they brought up the importance of physical activity for the family when talking, for example, about shared outdoor activities, the importance of parental modelling, active investigation of the environment and the options offered in the community.

I usually tell them to have activities together to create and teach the children a physically active atmosphere. I just met two 3-years-

olds during a health visit. That is the perfect age for modelling. So it would be very important to have activities together at that age, outdoor activities, games and the like.

(Phn23, group5)

Options for exercising in the community were the focus in the discussions with passive families and families that had recently moved to their places of residence. Practical solutions were described for the support of the outdoor activities of the family or the swimming options for the family. Reinforcement of the physical activities of the family was brought up, especially when activating the family of an overweight child.

It was just yesterday that I was discussing with a mother with a child younger than one year old and another one younger than two. I was asking how much time they spend outdoors. So the mother told me that it is very awkward: one child wants to sleep in the morning and the other in the afternoon. Moreover, I tried to suggest that she should go immediately and I realised that she should make a big portion of soup the day before and just warm it up at noon. She would have more time to spend outdoors.

(Phn3, group1)

Discussion

It has been stated that there is a need for descriptive research in order to facilitate the exchange of experiences in public health practice (European Public Health Association, 2005). Our research described public health nursing practice through experiences in physical activity promotion as expressed by a sample of Finnish public health nurses ($N=24$) participating in focus group ($N=5$) discussions. According to our research, the opportunities of public health nurses for physical activity promotion in CHC seemed to be diverse. The nature of public health nurses' work might contribute to the fact that there were many options for them to pay attention to the healthy living habits of their clients. This assumption was supported by an earlier research in Finland (Miilunpalo *et al.*, 1995) that dealt with health counselling carried out by various health professionals in primary health care.

Assessment of physical abilities – including motor development and basic sporting skills – was the only issue that the public health nurses systematically applied to each child. This finding indicates that public health nurses carry out assessment according to the guidelines for CHC (STM, 2004). These guidelines stress the importance of age-specific motor development and motor skills as a basis for healthy growth and development of children from early infancy onwards. Furthermore, they emphasise the importance of detecting delayed motor development for early interventions (STM, 2004). Developmental assessment carried out by public health nurses is evidently facilitated by existing neurological screening methods. In a survey with 214 health centres in Finland, it was found (Rimpelä *et al.*, 2006) that 77% of CHC made use of a neurological screening tool with specific items on, for example, gross motor skills, balance and coordination. Moreover, systematic evaluation of physical abilities implies that there are frequent opportunities for screening and monitoring presented by regular contact with children.

Activation and support for physical activity – including play and outdoor activities of the child and physical activity of the whole family – was not clearly evident for every child and every family. Nurses often addressed physical activity only as a reaction to obesity or to other health concerns of the child or the family. Several factors might contribute to this. In contrast to evaluative issues, the guidelines for CHC do not give concrete advice on health promotion through physical activity for public health nurses (STM, 2004). Public health nurses might not be aware of the importance of physical activity due to the lack of professional training in health-enhancing physical activity and, therefore, would not be professionally well prepared for promotional work. This fact has very recently been pointed out in Finland (Rautio, 2006; Segercrantz, 2006). Public health nurses might lack the skills for motivating the parents, not to mention motivating the child. In our data, public health nurses seemed not to pay much attention to interaction with children. Therefore, public health nurses apparently fail to have evaluative or activating discussions with toddlers and preschoolers concerning their own interests, strengths and preferences in physical activity and exercising habits. Furthermore,

public health nurses might not be aware of the options offered in the community for the family to be physically active. With limited time resources, it is thus evidently easier to address the more obvious issues – such as overweight or clumsiness. Consequently, this means that the work that public health nurses do from a physical activity perspective is more curative in nature.

Inspirational physical activity promotion, which considers the interests, strengths and resources of each child and family, with encouragement of physical activities, should be directed at every child and family. Regarding physical activity in this particular age group, playing outdoors – especially high-intensity playing – should be promoted with girls and boys, according to recent Finnish research (Sääkslahti *et al.*, 2004a). Such population-based prevention has also been supported when specifically considering childhood obesity (Blair, 2000; Livingstone, 2000).

The percentage of family-centred statements in our research was 22%, which included promotional statements on parents, siblings and the entire family. Therefore, the whole family was rarely in focus in our research data. The need for promoting physical activity for the whole family has been stated in both international (WHO, 1999, pp. 21–26, 88–89) and national guidelines for health care (Government Resolution, 2002). In order to ensure physical activity promotion on an equal basis for all families, new evaluative tools should be developed for CHC (cf. Pender, 1996, p. 138). Such assessment could include self-evaluation of the family in terms of physical activity of the child and the family. Furthermore, the factors that facilitate and impede physical activity, as well as resources for such activity, should be evaluated. On the basis of this information, public health nurses could more suitably carry out their activating role, including discussing the options offered in the community to be physically active, as well as giving positive feedback to active families.

Evidently, focus groups served as a suitable method to uncover and explore a new research area (Morgan, 1997) such as ours. Lively interaction among public health nurses generated different types of data than a questionnaire would have done. The experiences of public health nurses in physical activity promotion were illustrated in this study by counting the numbers of

statements related to different issues concerning the theme of physical activity. The number of the statements was proportional to the number of concrete examples that the public health nurses gave from their experience on the issue in focus. In the subsequent analysis, the emphasis was placed on the qualitative content of the statements.

Conclusions

According to our research, a sample of Finnish public health nurses with quite a long experience in child health care systematically evaluated motor development and basic motor skills while monitoring the health of children below school age in CHC. Promotion of and support for physical activity was not clearly evident in the case of every child. Moreover, physical activity for the whole family was seldom the focus of discussion. Issues concerning physical activity were mostly addressed as a reaction to health concerns. Particularly for preventive and promotional aims in public health nursing practice, means for public health nurses to evaluate physical activity of the child and the family should be developed. Furthermore, material for families, including ideas on how to activate the everyday life of the family, should be prepared. More resources should be directed to organising in-service training for health professionals. In view of this research, the basic training for future professionals should be evaluated more thoroughly. Further research will be needed for international comparative evaluation of physical activity promotion in child health care.

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