

RESEARCH ARTICLE (ORIGINAL) 

## Promotion of healthy lifestyles in early childhood: The perspectives of family members and experts

*Promoção de estilos de vida saudáveis na primeira infância: A voz de familiares e peritos*

*Promoción de estilos de vida saludables en la primera infancia: La voz de los familiares y los expertos*

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**Abstract**

**Background:** The importance of promoting healthy lifestyles in the first years of life is recognized. Identifying priority areas for intervention related to the promotion of healthy lifestyles is an urgent challenge.

**Objective:** To explore the perspectives of family members and experts on priority areas for intervention related to the promotion of healthy lifestyles in early childhood.

**Methodology:** Qualitative, exploratory, and descriptive study, using focus group sessions. Seven experts from the health, social, education, and media areas and three family members of young children participated in the study. Semi-structured interviews were conducted, and Bardin's content analysis technique was used.

**Results:** Two major priority areas emerged: determinants of diet and determinants of movement (physical activity, sedentary behavior, and sleep).

**Conclusion:** The determinants of diet and movement are priority areas for intervention. The involvement of caregivers (e.g., parents, early childhood educators) is essential to promoting healthy lifestyles.

**Keywords:** child; child health; health promotion; healthy lifestyle; public health

**Resumo**

**Enquadramento:** É reconhecida a importância da promoção de estilos de vida saudáveis nos primeiros anos de vida. Na atualidade, a identificação de áreas prioritárias de intervenção em saúde que promovam estilos de vida saudáveis, são um desafio inadiável.

**Objetivo:** Conhecer a perspectiva de familiares e peritos quanto às áreas prioritárias de intervenção relacionadas com a promoção de estilos de vida saudáveis na primeira infância.

**Metodologia:** Estudo qualitativo, exploratório e descritivo, com recurso a sessões de grupos focais. Participaram no estudo sete peritos das áreas da saúde, social, educação, media e três familiares de crianças pequenas. Foram desenvolvidas entrevistas semi-estruturadas e a análise de conteúdo foi efetuada seguindo os pressupostos de Bardin.

**Resultados:** Emergiram duas grandes áreas prioritárias, nomeadamente determinantes da alimentação e do movimento (atividade física, comportamento sedentário e sono).

**Conclusão:** Os determinantes da alimentação e do movimento são áreas de intervenção que se revelam como prioritárias. O envolvimento dos cuidadores (ex., pais, educadores de infância) é indispensável para a promoção de estilos de vida saudáveis.

**Palavras-chave:** criança; saúde da criança; promoção da saúde; estilo de vida saudável; saúde pública

**Resumen**

**Marco contextual:** Se reconoce la importancia de promover estilos de vida saludables en los primeros años de vida. Actualmente, la identificación de áreas prioritarias de intervención en la salud que promuevan estilos de vida saludables es un reto ineludible.

**Objetivo:** Conocer la perspectiva de los familiares y de los expertos sobre las áreas prioritarias de intervención relacionadas con la promoción de estilos de vida saludables en la primera infancia.

**Metodología:** Estudio cualitativo, exploratorio y descriptivo, mediante sesiones de grupos focales. En el estudio participaron siete expertos de los ámbitos sanitario, social, educativo, medios de comunicación y tres familias de niños pequeños. Se desarrollaron entrevistas semiestructuradas y se realizó un análisis de contenido siguiendo los supuestos de Bardin.

**Resultados:** Se identificaron dos áreas prioritarias principales, a saber, determinantes de la dieta y del movimiento (actividad física, comportamiento sedentario y sueño).

**Conclusión:** Los determinantes de la dieta y el movimiento son áreas prioritarias de intervención. La implicación de los cuidadores (por ejemplo, los padres, los educadores de las escuelas infantiles) es indispensable para la promoción de estilos de vida saludables.

**Palabras clave:** niño; salud del niño; promoción de la salud; estilo de vida saludable; salud pública



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## Introduction

The healthy habits established during early childhood are more likely to continue into adulthood (Georgiadis & Penny, 2017). Therefore, it is essential to implement political strategies and programs to promote health in the early years of life, with health gains and implications extending in the long term and beyond (Brereton et al., 2018; Georgiadis & Penny, 2017).

Health determinants can enhance (or compromise) children's health at a time when the roots of health and development are being established. Unhealthy environments and systems can negatively impact children's lives, with potentially irreversible consequences (Georgiadis & Penny, 2017). Thus, child health surveillance integrates not only the early detection of diseases but also health determinants (e.g., environmental, social, economic) and the strengthening and support to parenting while safeguarding children's well-being (Yakuwa et al., 2018). Health promotion during childhood involves knowledge of the child's daily life and environment to monitor and intervene in a sensitive and integrated manner, enhancing child growth and development (Brereton et al., 2018). Previous studies have found that encouraging healthy eating has several benefits, such as increasing the consumption of nutritious foods in children (Hodder et al., 2018), reducing sedentary behavior, and increasing physical activity. These benefits have been associated with improved quality of life and cardiovascular health (Wu et al., 2019). However, the best practices in health promotion have not yet been identified, mainly due to a large number of protagonists in children's lives, such as parents, teachers, schools, health professionals, extended family, and others, with different expectations about the implementation of health promotion strategies, and the fact that theories often ignore the social determinants of health (Langford et al., 2017). It is essential to explore the perspectives of those involved in children's daily lives, particularly in the first two years of life, on what is an appropriate intervention strategy. Reinforced by scientific knowledge of participatory approaches, the research tends to focus on the interests that arise from the community rather than being solely the result of academic research (Frerichs et al., 2016).

This study, which is part of a larger research project, aims to address this research deficit. Its main purpose is to explore, describe, and interpret priority areas of intervention related to the promotion of healthy lifestyles in early childhood based on the perceptions of experts and family members.

## Background

The importance of health determinants in developing healthy behaviors is recognized (Sisson et al., 2017). It is known that early childhood is a period when the benefits of intervention are more relevant and the risks of disease can be more easily reduced (Richter et al., 2016). The first three years of life are a window of opportunity to optimize children's growth and development and shape

their future health, namely through the prevention of chronic diseases and the adoption of healthy lifestyles (e.g., diet, physical activity, sleep; Brines et al., 2022). In Portugal, the consumption of healthy foods, such as fruit and vegetables, is low, especially in children under 10 years of age (Lopes et al., 2017). Thus, children are a priority intervention group and justify the greater dedication and availability of health professionals, such as nurses, to promote child health.

The adoption of healthy lifestyles by young children comes from care received from parents, other family members, caregivers, and community-based services, such as health and school services (Richter et al., 2016). Concerning the role of educators, a recent systematic review demonstrated the effectiveness of multicomponent interventions in improving healthy habits, such as increasing fruit and vegetable intake in children (Hodder et al., 2018). However, the prevalence of overweight and obesity continues to be a worrying trend in Portugal and worldwide (Freitas et al., 2019; NCD Risk Factor Collaboration (NCD-RisC), 2021).

Given the concern for encouraging children to adopt healthy habits, public health experts have shown increased interest in understanding how the interaction between the several movement-related behaviors (e.g., sleep, sedentary behavior, and physical activity) in children's daily lives influence their health (World Health Organization [WHO], 2019). This analysis of the 24-hour movement led to the development of international guidelines, namely in Canada and Australia, that address all movement-related behaviors across the 24-hour day rather than analyze them in isolation or for a short period of time (WHO, 2019). According to the recommendations for children aged 12 to 24 months, the 24-hour activity may include 11 to 14 hours of sleep (including naps), at least 3 hours of physical activity (moderate- to vigorous-intensity), and no more than 60 minutes of screen time (this exposure time is not recommended in children under 12 months of age). Although sedentary time should ideally be reduced to a minimum, it is a positive aspect when children spend time reading or interacting with the caregiver (WHO, 2019). Aware of the importance of involving family members, caregivers, and professionals in encouraging children to adopt healthy lifestyles and, consequently, promote children's health, the priority areas for intervention related to the promotion of healthy lifestyles in children should be explored and described.

## Research question

What are the perceptions of family members and experts on the priority areas for intervention related to the promotion of healthy lifestyles in early childhood?

## Methodology

A qualitative, exploratory, and descriptive study was conducted. The focus group technique was used for data



collection because it aims to interpret and understand phenomena through a group discussion among experts with interest in a specific area (Krueger & Casey, 2015). This technique was used to expand the perspectives on the promotion of child health and the determinants of healthy lifestyles, with different contributions from multidisciplinary experts. This technique enriches the discussion, explores people's views on health promotion in children, and provides insights into the complexity of health-related behaviors and motivation (Krueger & Casey, 2015).

Experts' professional experience provides them with in-depth knowledge about a given domain: knowing when, how, where, and why they should use that knowledge (Nunes, 2010). The experts were selected based on the project's objectives. They have something in common (involvement in the child's daily life) relevant to the project. Furthermore, we sought that the participants' unique interests aligned with the proposed objectives and that the discussions were productive and relevant to the topic under analysis. Thus, besides being familiar with the topic, we sought to create an environment that facilitated everyone's participation (Morgan, 1997).

The participants were identified based on the variables "family, health and education, digital". Segmentation was performed to identify the composition and the number

of groups (Morgan, 1997).

Thus, we assumed that the health experts (nurses and physicians) in the sample should be recognized by their peers and have at least 10 years of experience in their professional context. We used an intentional sample of experts and considered the diversity of disciplinary areas (e.g., early childhood education, physical education, nursing, medicine, communication), the length of professional experience (minimum 10 years), the context of professional practice, age, and gender. Family members were considered to be an interested party and an integral part of the team, so two members of families with young children were included.

Two groups of participants were selected. These groups were not the same in the two sessions of focus groups to obtain more diverse data. The composition of each group obeyed the balance between homogeneity and diversity based on the criteria described above.

As shown in Table 1, a pediatrician, a physical education teacher, an early childhood educator, and a mother participated in the first session, while two Primary Health Care (PHC) nurses, a father of young children/blogger about child and family health, an early childhood educator, an aunt of young children (2 and 7 years old), and a teacher and researcher in the area of child and family health participated in the second session.

**Table 1**

*Participants in the focus group sessions*

Participant	Category/function	Age (years)	Gender
Focus Group Session 1			
PA1	Pediatrician	37	female
PA2	Physical Education Teacher	34	male
PA3	Early Childhood Educator	50	female
PA4	Mother	41	female
Focus Group Session 2			
PB1	Early Childhood Educator	38	female
PB2	PHC* Nurse	34	female
PB3	Aunt	42	female
PB4	Higher Education Teacher and Researcher, Nursing Domain	55	female
PB5	Father and blogger	34	male
PB6	PHC* Nurse	37	male

*Note.* PHC\* = Primary Health Care.

The sessions took place on March 7 and 20, 2019, in facilities suitable for that purpose and lasted approximately 60 minutes. They started with welcoming remarks and an icebreaker activity that facilitated interaction among the participants. Each session had a moderator and an assistant who were available to meet any needs arising during the sessions. Both of them were higher education teachers, researchers, and research team members. A semi-structured script or topic guide with open-ended questions about children's lifestyles was designed based

on the literature (Hodder et al., 2018; Langford et al., 2017). Three people (mother, nurse, and teacher) who were not part of the groups reviewed the questions in detail to ensure that they were adequate and easily understood. Although the basic structure was similar for both sessions, the script was not rigid, allowing the questions to follow one after the other naturally and more dynamic interaction among the participants. Some topics were overlapped to provide more in-depth reflection.

The sessions were audio-recorded and then transcribed in

full by a researcher. A code was assigned to each participant to ensure anonymity. The non-verbal language identified by the moderator and the assistant in the sessions was included in the transcript. Complementing the transcripts with the moderator and assistant's notes is recommended in data analysis (Bloor et al., 2001). The moderator and the assistant of the focus group sessions validated the transcript. Data were analyzed and categorized according to Bardin's content analysis technique, without a priori categories, using the NVivo 10 software and two independent coders (project researchers).

This study was approved by the Ethics Committee for Research in Life and Health Sciences of the University of Minho (CE.CVS 133/2018).

The session participants were asked to sign an informed consent form, where they were explained the study and asked for permission to audio record the session. They were also ensured data anonymity and confidentiality. After the sessions, the data were stored and used only by members of the research team.

## Results

The analysis of the narratives showed interest and sensitivity to the proposed theme. Two categories emerged: *determinants of diet*, with four subcategories (exposure to food, easy access, the place where one eats [and associated activities], and family transition) and *determinants of movement (physical activity, sedentary behavior, and sleep)*, with two subcategories (screen time and synchronization of family schedules).

### Determinants of diet

The *determinants of diet* category includes the (complex and modifiable) conditions that can interactively influence food intake.

Participants identified childhood obesity as “a major concern” (PA1). Eating and diet seem to concern the family, especially when the child does not ask to eat or is not hungry. Among the determinants of diet, participants' voices identified exposure to food, easy access, the place where one eats (and associated activities), and family transition as relevant subcategories.

Exposure to a wide variety of foods seems to contribute to their consumption. On the one hand, the participants reported a low exposure to nutritious foods, particularly vegetables, so children show resistance to eating them. In fact, “Parents don't give them [children] vegetables” (PB2). On the other hand, there seems to be high exposure to less nutritious food. “Just the other day, I saw a mother giving a chocolate croissant” (PA1) or “I have seen [young children eating] French fries” (PA2) or “juice” (PA3). The “easy” access is perceived as promoting the intake of unhealthy choices such as fast-food, not necessarily McDonald's or Burger King, but the “easy thing, fruit on the go”. This type of meal seems to have become a habit in many families because “it's quick and they [the children] like it, so they eat it”.

The place where one eats (and the activity besides the

act of eating food) emerged as a determinant of diet. Eating in front of a screen is highlighted as an inhibitor of recognizing satiety signals. “Yes, this screen thing, obesity starts that way because they are not even aware that they are eating and satiety never comes”; it becomes “an unthinking act, then it continues for life, they eat whenever there's food and it's in front of them” (PA1).

The family transition to a new stage, such as the birth of a child, can be “a great time for them [parents and family] to change their diet, regarding salt and the type of food they eat, so I think that, even if only for the child, it's a great time to change the family diet” (PA1). However, the participants reported that it was necessary that “they [parents] manage to effectively transfer their knowledge about healthy eating . . . into their daily lives”.

### Determinants of movement

The *determinants of movement* category includes the (complex and modifiable) conditions that can interactively influence movement (physical activity, sedentary behavior, and sleep).

Sleep, sedentary behavior, and physical activity are determinants of lifestyles and contribute to enhancing children's health and well-being. Children seem not to be sleeping the recommended number of hours, as reported by PA1 “I've noticed that kids come to school tired (. . .) kids who go to bed very late, I ask what they were doing, they were watching TV”.

Screen time was referred to as inhibiting sleep time and physical activity. Children are “hooked on to their smartphones from the time they get home until they go to bed. Some even take their smartphones to their room, to bed” (PA1). Television in the bedroom also seems to be prevalent among families in this region, “there are still families with a television in every room and where the television is part of the family” (PB4). Another participant revealed that “the use of screens is tempting, perhaps because of the diversity and speed with which you get different images, because it changes, it changes, they can't and don't watch anything all the way through” (PA1). Even when participating in activities, children end up preferring to use the tablet or the smartphone. For example, “they're in the park, they'll even go on the slide for a bit, but then they end up sitting down with their tablet, iPhone, whatever, there, in the park” (PB1).

The synchronization of family schedules was identified as a determinant of child movement. Parents seem to encourage the use of screens, perhaps because it is better for them if children are quiet, as is highlighted in the following excerpt “they [the children] are sitting down, the adults are talking, and they are staring at the iPad. Because like this they don't bother, they don't run, they don't throw tantrums, they don't ask questions, it makes everything much easier” (PB3). Accordingly, the response to everyday activities (e.g., dressing or undressing) also includes the use of mobile devices. For example, PA1 mentions: “so you can use the tablet while I get you dressed, watch TV while mom puts on your joggers, briefs, ties your shoes”. One of the participants also mentioned that screens are digital babysitters, “kids get out of school and want the smartpho-

ne: smartphones or tablets have become digital babysitters” (PB5), and that it is necessary to create alternatives to technology, which is a responsibility “of the parents, not the kids” (PB5). This exposure to screens also predisposes to other types of complications, as PB6 mentions “they spend much more time indoors, so in terms of natural light, their eyes are getting lazy, so the incidence of myopia will increase”. Bedtime is influenced by the synchronization of professional and family schedules, “parents often have very little time to be with their children, even for professional reasons, and they often delay bedtime” (PB2). However, it has several implications, “the next day is a vicious cycle, isn’t it? They only sleep a few hours, they are irritable, they go to school, they cry because they go to school” (PB2). Naps are deliberately avoided because:

parents often don’t want them to sleep because then they come home and have a different routine, and they don’t want it, they want them to come home, take a bath, eat, and go to bed. (PB1)

The fact that the child takes naps at daycare but not at home (especially at the weekend) was highlighted by PA3: “The child who sleeps perfectly alone for two hours, sleeps at least two hours, often two and a half hours, and, at home, the child doesn’t sleep”, and PB1 reinforced:

children do not sleep enough, and that is especially true when they come back to school after the weekend . . . they don’t sleep and then on Mondays, many even say that they [the children] don’t need to sleep, but we know that they need a great deal of sleep. (PB1)

## Discussion

This study identified two priority areas related to health promotion: determinants of diet and determinants of movement. Among the determinants of diet, four subcategories were identified: exposure to food, easy access, the place where one eats (and associated activities), and family transition. The determinants of child movement included screen time and synchronization of family schedules.

Exposure to food was identified in this study as a determinant of diet. Previous studies also found that exposure to and intake of small amounts of vegetables, even those that children initially reject, has a positive long-term effect on taste and acceptance of these foods (Brines et al., 2022; Georgiadis & Penny, 2017). In addition to exposure, the “easy” access seems to be relevant to increasing the intake of foods such as fruit and vegetables.

Concerning family transition due to the birth of a child, although the participants considered it an ideal occasion to adopt healthy lifestyles, a previous study highlighted the presence of a child as an inhibitor of an active lifestyle (Carson et al., 2018).

Parents and educators reveal limited knowledge about the impact of diet on children’s health and development (Brereton et al., 2018), so it may be promising to include them in the promotion of healthy lifestyles (Aranceta-Bartrina & Pérez-Rodrigo, 2016). Unhealthy eating habits have several consequences (Brereton et al., 2018) that

can lead to the development of diseases such as obesity, hypertension, or cardiovascular diseases (Aranceta-Bartrina & Pérez-Rodrigo, 2016).

Concerning sleep, the participants reported that children do not sleep enough hours, mainly due to excessive screen time. Previous studies have also associated reduced sleep time in children with excessive/unnecessary use of television and other types of screens (WHO, 2019). The insufficient number of hours of sleep can have several consequences, such as an increased risk of overweight and obesity and impaired emotional regulation and growth (WHO, 2019). The participants also reported that physical activity was usually low among children. Parents often avoid outdoor physical exercise outdoors, and, according to the participants, they prefer more sedentary activities such as painting and drawing over outdoor exercise. Moderate- and vigorous-intensity physical activity, the limitation of screen time, and enough sleep time are critical for children’s health and development (WHO, 2019). The determinants of movement seem to include family schedules, where professional and family lives are included. Parents have been described as a relevant “target” in interventions for child health promotion due to their influence in supporting and managing lifestyles such as those related to diet and movement (Brereton et al., 2018). This study has limitations, namely the fact that only two focus group sessions were conducted. However, we believe that the number of sessions allowed exploring the priority areas of health promotion identified by the participants, taking into account the determinants of diet and movement. Despite being a more risky strategy, the development of two focus groups, as Morgan (1997) states, is adequate, particularly when required by the circumstances in which the study is conducted, such as the fact that it is impractical to carry out more sessions in the timeframe foreseen for the purpose. Another limitation was the heterogeneity of the participants, which allowed further exploring individual perspectives. On the other hand, the strengths of this study should be highlighted. The researchers’ experience developing and implementing focus groups is a strength. The existence of two mediators in each session allowed paying attention to the words, the non-verbal language, and group dynamics. Finally, other strengths were the data analysis using NVivo 10 software and the coding performed by two independent coders. Traditional health promotion programs focus on single interventions and installed diseases rather than on encouraging health promotion (e.g., health literacy, healthy lifestyles) and the democratic involvement of children and other stakeholders in developing intervention programs. In Portugal, we found no intervention programs targeting children under 3 years of age. This study lays the foundation for the development of health promotion programs.

## Conclusion

The objective outlined for this study was achieved. The identification of the determinants of diet and movement in children contributes to the design of programs for promo-

ting healthy lifestyles. There is a clear need to involve and empower parents, caregivers, and professionals in strategies for promoting healthy lifestyles in children. The exposure to food, the (easy) access, how they eat, and family transitions are enhancers (or inhibitors) of the intake of nutritious and healthy food. Screen time and synchronization of family schedules are highlighted as areas that should be considered in promoting movement in children.

The implications of this study for research are relevant. We believe that quantitative studies with integrated approaches directed at parents should be conducted to contribute to positive child health outcomes. We believe that the development of experimental studies with the implementation of intervention programs that promote healthy lifestyles taking into account the determinants of diet and movement and co-involving stakeholders may be helpful to enhance children's health. Experimental studies, still practically inexistent in Portugal and implemented before the age of 3, may strengthen the evidence in this field and answer (new) questions that remain unclear.

This study is an opportunity to reflect on theory/practice, particularly in the area of health and education. From this perspective, the training of (future) health and education professionals should emphasize the relevance of the determinants of diet and movement. In their several professional contexts but particularly in daycare and primary health care settings, these professionals are close to children and families and can take every opportunity to promote healthier lifestyles.

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