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Understanding Parents' Perceptions of Children's Physical Activity

Entendiendo la percepción de las madres sobre la actividad física de los niños y niñas

Comprendendo a percepção das mães sobre a atividade física das crianças



Carlos Eduardo Álvarez-Bogantes

Universidad Nacional

Escuela de Ciencias del Movimiento Humano y Calidad de Vida

Heredia, Costa Rica

ceab.03@gmail.com

 <https://orcid.org/0000-0003-3797-7993>

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Abstract: Currently, there is little research on mothers' perceptions of the social support they provide for their children to be physically active, which could yield important information in the construction of interventions that promote active lifestyles in childhood. We conducted individual interviews and three focus groups with 15 mothers of children 6 to 8 years old. The data were thematically analyzed using a qualitative approach, applying Ecological Model constructs to guide coding and categorization of results and the discussion of these results. The majority of mothers acknowledged that their sons and daughters were relatively less active and indicated that they perceived a need for increased physical activity among their children. The use of social support strategies was minimal, limited to accompanying their children. Mothers reported environmental factors such as cost, time constraints, lack of extracurricular-community activities and unsafe environments as the main barriers to their children's physical activity. This study generated three main categories of results: the information gathered following the ecological model as a framework for analysis generated suggests that mothers are not aware of lack of physical activity of their children; mothers do not know ways to use social support for active lifestyles in their children, and recognize barriers to increase children's physical activity. These research findings may contribute to health promotion strategies and programs that educate parents on how to effectively support their child in developing an active style of life.

Keywords: Physical activity; social support; barriers; children; mothers' perception.

Resumen: Actualmente hay poca investigación sobre las percepciones de las madres acerca del apoyo social que brindan a sus hijos e hijas para que practiquen actividades físicas, información importante en la construcción de intervenciones que promuevan estilos de vida activos en la niñez. Métodos: Se realizaron entrevistas individuales y tres grupos focales con 15 madres de personas menores de 6 a 8 años. Los datos se analizaron temáticamente utilizando un enfoque cualitativo, con los constructos del modelo ecológico para guiar la codificación, la categorización y la discusión de hallazgos. Resultados: La mayoría de las madres reconoció que su progeñie es poco activa e indicó



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que percibían la necesidad de un aumento en su actividad física. El uso de estrategias de apoyo social fue mínimo, limitándose a aquellas de acompañamiento. Las madres informaron factores ambientales tales como costo monetario, limitaciones de tiempo, falta de actividades a nivel extra curricular-comunitario y ambientes poco seguros, como las principales barreras para la AF de sus hijos e hijas. Conclusión: Este estudio, generó tres categorías principales de elementos: desconocimiento de las madres, en relación con sus hijos e hijas, sobre la importancia de los niveles de actividad física, falta de apoyo social de las madres hacia estilos de vida activos y barreras físicas para la realización de actividad física. Los hallazgos de esta investigación podrían contribuir a la promoción de estrategias y programas que brinden las herramientas, a las madres, para apoyar a sus familias en desarrollar estilos de vida activos.

Palabras claves: Actividad física; apoyo social; barreras; niñez; percepción de las madres.

Resumo: Atualmente, existem poucas pesquisas que investigam as percepções das mães sobre o apoio social que elas proporcionam aos filhos, para a prática de atividades físicas, informação importantes na construção de intervenções que promovem estilos de vida ativos na infância. Métodos: Foram realizadas entrevistas individuais e três grupos focais com 15 mães de crianças menores, entre 6 a 8 anos de idade. Os dados foram analisados de forma temática, utilizando uma abordagem qualitativa, com os construtos do modelo ecológico para orientar a codificação, categorização e discussão do que foi encontrado. Resultados: A maioria das mães reconheceu que sua forma de criar seus filhos não é muito ativa; indicaram perceber a necessidade de um aumento em sua atividade física. O uso de estratégias de apoio social foi mínimo, limitado as de acompanhamento. As mães relataram fatores ambientais, como custo monetário, limitações de tempo, falta de atividades extracurriculares - ambientes comunitários inseguros como as principais barreiras à AF de seus filhos e filhas. Conclusão: Este estudo gerou três categorias principais de elementos: desconhecimento das mães em relação aos seus filhos e filhas; a importância dos níveis de atividade física; falta de apoio social das mães a estilos de vida ativos e barreiras físicas para a realização de atividade física. Os resultados desta pesquisa poderiam contribuir para a promoção de estratégias e programas que brindem ferramentas para que as mães possam apoiar suas famílias no desenvolvimento de estilos de vida ativos.

Palavras-chave: Atividade física; apoio social; barreiras; infância; percepção das mães.

Introduction

Coronary heart disease has been shown to be a pediatric problem given that risk factors, especially sedentary lifestyle and obesity leading to atherosclerosis, begin in childhood. Early and adequate control of these factors improves the prognosis for children, and preventive measures should therefore begin in infancy to eliminate, minimize and control cardiovascular disease (Santaliestra-Pasías, Rey-López, & Moreno, 2013).

As disease progresses, intervention becomes an increasingly ineffective process, until the only form of treatment is curative or restorative medicine. Increased levels of sedentarism, the lack of

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opportunities for physical activity, and the increase in numbers of overweight and obese children worldwide (Timmons et al., 2012) have led to the consideration of school spaces as the fundamental scenario in which children can be active and build the skills needed to confront a sedentary culture.

It is recognized that the educational system, especially in the first cycle of school, is an environment where efforts should be concentrated to promote physical activity and healthy lifestyles, since it offers the greatest potential to develop movement habits that can be carried over to adult life (Nyberg et al., 2015). However, when developing interventions to increase children's physical activities, parents should be part of the process, since they possess the basic characteristics needed to socialize better health at an early age through the promotion of habits and attitudes towards active lifestyles (Pugliese, & Tinsley, 2007).

There are two aspects of parental behavior that promote physical activity in children: modeling, which includes the interests of parents in physical activity, as well as their efforts to be active, and parental support, which refers to encouragement by parents, their participation, and providing opportunities for children to be active (REACH, 2014).

When the social environment is mentioned as the indispensable sphere in the physical activation of children, parents emerge as the figures that can promote or limit the involvement of their children in physical activities (Beets, Cardinal, & Alderman, 2010). When it comes to fostering children's participation in physical activity, parents have been identified as one of the most important determinants of participation through social support, validation support, instrumental support, as well as the different types of informational support and those of an emotional nature, which are part of the direct and indirect supports. The use of this type of reinforcement has proven to be a valid tool in the physical activation of children, compared to parents who do not show any type of behavioral strategy (Peterson, Lawman, Wilson, Fairchild, & Van Horn, 2013).

Davison et al. (2013) found that mothers offer instrumental support and that fathers offer validated support. Greater participation of children in physical activity has been found when both types of support are provided; this is especially true for weekends rather than on school days, making the weekend the ideal time to apply intervention processes to work with parents and children. However, in some contexts, mothers are more involved than fathers in their children's socialization processes, so they may have a greater potential to stimulate behavioral changes in the family environment due to behavioral cultural norms (Lox, Martin, & Petruzzello, 2006). This situation makes it necessary to study the mothers' points of view, the support they give their sons and daughters for physical activity, and the possible barriers they face in this task, to be able to structure proposals that encourage the adoption of active lifestyles within the family.

This study is in keeping with the research orientation of the Ministry of Public Education (MEP), which has established a social ecological perspective in its search to identify opportunities



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for intervention and the promotion of physical health. It seeks to understand the factors that influence behavior in each level of the ecological social model, while recognizing that an individual's behavior is influenced at multiple levels, which help to categorize the constructs from multiple theories into individual, interpersonal, organizational and environmental of influence (Marcus, & Forsyth, 2003). It has focused on the detection of basic inputs to develop a model of intervention for parents of MEP students which encourages cooperative efforts between the family and the institution.

There is no research in the Costa Rican context which has examined the beliefs and styles of support of parents towards their children's physical activity. This makes it necessary to investigate the views of mothers as well the support they give their children for physical activity, which often work together to shape the behavior of children's active lifestyles.

From a health education perspective, the objective of this study will be to determine mothers' points of view on physical activity, the support they provide to their sons and daughters for these activities, and the development of lines of intervention that have the potential to be applied in our environment.

Methods

Research design

This study used a qualitative methodology, placing special emphasis on individual interviews and focus groups, which have proven to be an effective method for bringing together a wide range of views and opinions on a given topic (Darbyshire, MacDougall, & Schiller, 2005).

Participants

Participants were selected through a typical-criterion sampling process (Patton, 2002), by which the research team selected them to include 15 volunteer housewives who are mothers of boys and girls of the first educational cycle in a given priority school in semi-urban area of the province of Heredia.

When conducting the focus groups, a questionnaire with open-ended questions was used, which was constructed based on a review of literature about parental support in the family, proposed research objectives, and researchers' experience, guided by the socio-ecological model (Ward, Saunders, & Pate, 2007).

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Procedures

Once the study was approved by the Ministry of Education and had obtained permission from the director of the educational institution, consent was obtained from participating mothers.

Individual interviews and focus group sessions were held and recorded in a private location within the institution during the class time of participants' children and were conducted by the researcher with the help of the institution's counselor. Counselors took notes of the sessions to strengthen subsequent analysis of the information gathered and to permit triangulation of data (Patton, 2002). Each session lasted 30 to 40 minutes. Prior to the start of an interview, the following points were explained to each of the participants: the purpose of the investigation, the fact that what they expressed would be recorded, and that everything they mentioned would be absolutely confidential. In addition, the terms "physical activity", "exercise" and "sport" were explained to permit full understanding of the questions.

A semi-structured interview was used in focus groups, with questions that were drawn from the socio-ecological model and the literature regarding the model used, and were validated by two experts according to three levels of questions: intrapersonal, interpersonal, and organizational.

Information analysis

To permit use of triangulation to verify our data, the information collected was transcribed by researchers with help from counselors and teachers upon completion of each focus group. Once this information was described, it was coded using open, axial and selective coding analysis (Pitney, & Parker, 2009) to define the categories used in the further analysis of this information.

At each stage of analysis, the categories defined were discussed with the school team. In addition to triangulation by researchers, theoretical triangulation was used, based on the ecological model that takes into account the constructs of multiple theories to develop the categories used-personal, interpersonal and organizational (Ward et al., 2007).

Results

Following the ecological approach, three main categories of analysis were identified when explaining the results: mothers' awareness of the importance of levels of their children's physical activity, mothers' social support for active lifestyles, and barriers to children's physical activity (Ward et al., 2007).

Table 1 presents a summary of the main findings and their future impact on the process of carrying out interventions with mothers of school children following the Ecological Model.



doi: <http://dx.doi.org/10.15359/ree.23-2.16>URL: <http://www.una.ac.cr/educare>CORREO: educare@una.cr**Table 1:** Proposal of Ecological Model in interventions with parents for the promotion of children's physical health

Ecological components	Findings	Generating questions	Components in a parental intervention	Intervention strategies
Personal	Perceived self-efficacy. Lack of information about benefits and perceived barriers. No physical and behavioral skills.	How is it possible to develop awareness of the levels of activity required to be healthy?	1. Development of physical and behavioral skills to be active. 2. Development of self-efficacy oriented towards physical activity (intrinsic motivation). 3. Intent and expectations.	1. Social persuasion and modeling
Interpersonal	Without the use of modeling and observational learning. Social influence approaches.	What strategies could be used to develop active lifestyles in the family environment?	Emotional, informative, instrumental, and accompaniment support for building healthy lifestyles in the family environment.	1. Appropriate levels of physical activity. 2. Family activities involving movement. 3. Accompanying to physical activities. 4. Managing limits on the use of technology
Organizational relationships Administrative barriers	Insecurity	Determine forms of articulation with the environment.	Integration of the school and home environments.	1. Extracurricular mother-child activities. 2. Promotion of joint school-family activities.

Note: Own elaboration.

Knowledge and understanding of physical activity (PA)

Mothers agreed on general aspects of the benefits of being physically active in adulthood and childhood; however, 50% of the participants mentioned benefits to their own health more often than to benefits for their children. Disease prevention, weight management and diabetes were the benefits most often mentioned. The knowledge of mothers of the role of physical activity as an important element in disease prevention did not translate into more active mothers, since 90% of the mothers indicated that they were in the stage of intending to engage

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in physical activities, which classifies them as sedentary. One mother explained, "I think that much of my physical activity has to do with household activities and taking my daughter to school, which I do not think is enough".

With regard to their children's physical activity, the participants were amazed at the amount of time their children need to spend in physical activity to be healthy. Mother 1 stated "I do not think that my daughter engages in much physical activity if as soon as she comes home from school she turns on the television". Unlike Mother 1, many of the mothers felt that their children were active, but that they should do more.

With reference to whether children were involved in enough physical activity, several mothers indicated that it was difficult to judge. One of them said: "I can't measure very well how much physical activity my children engage in, I have no idea if they're doing enough. So I'm really interested in knowing more about things they can do". Although only a few mothers reported having overweight daughters, they placed great importance on physical activity to control excess weight in their daughters. One of the mothers has developed a physical activity plan with her daughter in the house and feels that it is important that she accompanies her daughter while doing physical activity: "We're achieving it as a team.

Mothers' perception of their children's sedentary lifestyles

Mothers who stated that their children were sedentary were defensive about this fact, saying that their children's sedentary behaviors were indispensable or stimulating for academic development. Many mothers felt that their children's excessive use of technology was a constant for boys and girls as soon as they got home from school. This was seen as the trigger for maintaining sedentary behavior, and as a symptom of addictive behavior in girls and boys. In this regard, Mother 17 stated: "She's at home a lot and all she does is watch television and play games on the phone".

Increasing physical activity in children

When talking about how to increase children's physical activity, many mothers said that it would be ideal if they motivated children to engage in more physical activity, but faced time constraints due to work and existing commitments in the home. "I have three of my children in school with different schedules, and I have to run to take one to school and pick up the others," said Mother 11.

In addition, during free time on weekends, they generally carried out family activities, but of a sedentary nature or responding to the needs of the father. Mother 6 stated that: "I could think about Sunday morning as a time to do something with the family, but usually my husband plays soccer and we stay at home".



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Mothers also recognized a lack of motivation to carry out physical activities, especially among girls, saying that they preferred sedentary activities. Fifty percent (50%) of mothers stated that being active or sedentary in childhood was influenced by personality, and that very sedentary children were not attracted to physical activity, a view which was clearly stated by Mother 8: "My daughter is quiet and prefers spending time making cutouts and reading". Mother 18 commented: "When I invited my daughter to come walking, I only heard the sound of the television".

Intrapersonal influences

Ninety percent (90%) of mothers perceived intrapersonal influences such as gender, being overweight or obese, and lack of intrinsic motivation as elements that do not encourage participation in physical activity. It was repeatedly stated that children who are overweight are seen as less able or motivated to participate in physical activities. "For example, if a child is already overweight, that means that they will have less interest in sport" (Mother 2). In addition, mothers recognized that lack of motivation for physical activity is often associated with preferences for sedentary behavior.

Interpersonal influences

With respect to emotional support given by mothers to their children, it was found that 80% of the mothers attribute their children's lack of physical activity to a lack of support for such activity, together with the struggle against the attractiveness of using the internet and other electronic media, and lack of knowledge of strategies to motivate physical activity.

Mothers repeatedly expressed that they lacked the knowledge and strategies to encourage their children to be physically active, and a lack of knowledge about the facilities and community programs where physical activity programs were offered.

Mothers believed that if they were active, that behavior would have a major impact on their children's active lifestyles. Being a model for her family was mentioned as one of the elements with most impact on their children by 75% of mothers; however, these mothers believe that household and school-related responsibilities of their children could limit their participation in fostering or stimulating active lifestyles in their family. Mother 1 stated: "I wash or attend to my children". This perception of overwork, which they face daily, has led them to comment that they prefer to encourage activities that keep children busy and quiet. Mother 5 stated that "of course the TV keeps them quiet".

Mothers perceive that siblings and friends play a social role in influencing children to engage in physical activities. Mother 14 said that "When other children come to the house, I have to calm them down, but they are entertained". Mother 7 said: "My older children take care of them," which shows the use of a care strategy for younger children, which could be channeled towards the involvement of children in active activities through the influence of their older siblings.

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Family physical activity

Sixty per cent (60%) of participating mothers indicated engaging in family activities during weekends; however, only 10% said that they engaged in physical activity with their children in these outings, with instrumental or observational support for sons and daughters.

Mothers felt that the responsibility for the weekend outings of the family fell on them, with little involvement by fathers. Mother 9 said that: "the weekend outings leave me exhausted, since I have to prepare everything for them". When talking about how to increase children's physical activity, many mothers feel they do not have support from their partner in dealing with giving their children more opportunities to engage in physical activities. It was common to hear from the group of mothers that when family activities take place, they mostly involve short and sedentary activities. Mother 17 says that "ever since we have a car, every Sunday we go out for a walk and come back quickly," while Mother 19 feels that "my husband's soccer game is more important than doing something as a family". Many mothers think that they could engage in more physical activity with their children, but that these additional activities would add to the burden of their weekly work.

The mother as a model

The role of the physically active mother as a model to encourage and motivate children to increase their activity was considered by mothers as extremely important. Mothers acknowledged that they had the potential to make their children more active. Mother 5 stated that "at the end of the day we are the ones who allow our children to watch television and allow them to spend a lot of time sitting around". Speaking of the same issue of serving as a model to promote active lifestyles, Mother 6 feels that "we do not move around much, and this could be a bad example for my son of not being active". In addition to the importance of maternal modeling as a way of helping to promote active lifestyles, 60% of the participants believe that it is very important that siblings like physical activity, so that they can accompany other children in the family in these activities. Mother 8 said that "friendly soccer matches in the house are a daily thing, so sometimes I have to restore order because of the messes they make".

Emotional support

Emotional support provided in the home was seen as having the potential for stimulating children to stop watching television or playing electronic games and become involved in physical play, something that did not occur in most cases. As Mother 2 commented, "I get tired of telling them to move, but I turn around and they're still doing the same thing".



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Barriers and facilitators perceived by mothers

The school environment was considered by the mothers as the main place where their children have the possibility to engage in physical activity. However, the mothers mentioned obstacles to physical activity in schools. Mother 13 observed that “that school has very few classrooms and students, so they don’t let them play ball”.

Some mothers found that their children’s preferences for passive activities make the promotion of physical activity difficult. “That’s about all he likes”. “He doesn’t like soccer”. “None of my children play soccer, they prefer the computer”. On many occasions mothers reported that their children enjoy activity, but “the limited space in their homes and the few places to take them makes it difficult for them to be active” (Mother 9). The widespread complaint among mothers about girls is that in the community there are no activities for their daughters, and that in the case of boys, activities almost always have to do with soccer schools, which charge for their sons to participate. Mother 6 feels that “neither in the school, nor in the neighborhood, have I been able to find activities for my daughter, although I have been able to take my older children to play soccer”. Another observation was that “he always wants to play soccer with the town team, but I say that I can’t pay”. In another case, Mother 14 feels that “there are no activities for her daughter, which makes her stay in the house most of the time”.

Regarding the use of technology as a barrier to being physically active, while it is considered to be useful in controlling children in the home, it is also true that the overuse of television is considered a contributing factor to children’s levels of sedentarism, as Mother 2 commented: “Television for me is definitely a babysitter, but it causes problems when I try to make the children be more active”. For example, many of the mothers explained that putting their child in front of a children’s television program contributed to direct supervision of the child’s behavior.

Instrumental support provided by mothers was present to a greater extent with boys, since the girls always accompanied their mothers to see their brothers’ sports training.

Barriers to a physically active life

Some mothers described environmental and personal barriers to encouraging their children’s participation in physical activities related to their own priorities, and their lack of ability to facilitate physical activity or to guide their children.

“He wanted to play soccer, but there was no one to take him to the soccer field”. “We couldn’t solve the transportation problem, so he didn’t play soccer”. “She likes to go to the park and have me participate with her; but again, I feel as if I don’t know how to guide her and get her to do it by herself”. Another barrier that the mothers said was an impediment to being active was the lack of safe outdoor spaces. “Yes, she used to go to the playground near the house, but there were a lot of strange people there,” said Mother 7.

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There are different solutions given by parents to overcome barriers. For example, Mother 11 said, "many mothers think we have to spend money, but we should probably explore some parks where it doesn't cost you money".

Many mothers recommend that after-school activities should be considered, as Mother 12 said: "activities could be offered in school", while Mother 6 said: "I don't know how to say it, but perhaps girls can participate in sports workshops in the evenings". Following the idea of peer modeling, mothers who had older daughters or sons saw the possibility of being able to involve the older children or companions in the process of helping younger children to be more active. "The thing is, of course, to have an active big sister or brother, since children always want to do what the older ones do".

Four mothers said that the social support that they provide for their daughters to be active is essential. Mother 1 said "she is rather shy, so when she starts new things, I think I have to stay with her the first couple of times".

Mothers stated that providing instrumental or physical support (equipment or accompanying children in performing physical activity) could be strategies to promote physical activity. In addition, mothers expressed the need to know more about how to motivate their sons and daughters. Mother 2 said that her daughter "is really lazy, and supporting her has not worked". Another mother provided instrumental support to her daughter by buying her a scooter and "she didn't even get on it".

Discussion

This study explored mothers' perceptions of their children's physical activity or sedentary lifestyle, and factors that might facilitate or limit their physical activity.

The findings of this study support the relevance of applying the socio-ecological model of behavioral influences to specify elements that could influence children's physical activity, which are basic elements in the design of interventions that integrate the intrapersonal, interpersonal and environmental levels to promote physical activity in children. Our findings are presented within the framework of the important role that mothers play as drivers of change towards active lifestyles in their children, especially in interpersonal constructs (Table 1).

Perception of family physical activity

The data obtained from mothers participating in this investigation suggest that they want to be active or slightly active, which suggests that they lead a sedentary lifestyle that should be taken into account when structuring family interventions, since it has been mentioned that the levels of physical activity of parents have a direct influence on their children's physical activity. The importance of mothers with active lifestyles as a model for constructing active lifestyles in



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the family environment has been pointed out by [Shen et al. \(2016\)](#), especially in the development of behavioral skills and strategies that could eventually permeate the family environment.

In this study, mothers were found to believe that the school environment offered the opportunities necessary for their children to be active, so they did not see the need to motivate them to be active, when in fact their children might not be reaching the levels of physical activity necessary to achieve physical health ([Álvarez, 2016](#)). If mothers become aware of the importance of physical activity in their own lives, they may want the rest of their families to receive these benefits as well, which could be used as a tool to reinforce active behavior in their children.

Interpersonal level

The mothers that participated in this study believe that because of the amount of time they share with their children, they could have more impact on their active lifestyles, but are limited by lack of information, strategies to motivate their children, and, above all, by the time required to attend to their home and their children's academic responsibilities. Nevertheless, they showed a willingness to learn more about strategies to reduce sedentary lifestyles in the home. In this regard, there are initiatives in other contexts in which the good intentions of mothers are channeled through the inclusion in physical activity guidelines of specific recommendations so that parents can successfully assume social support roles in their families ([Carson, Clark, Berry, Holt, & Latimer-Cheung, 2014](#)).

When participating mothers were asked to discuss sedentary activities that prevented their home from being an environment conducive to physical activities, they stated that although their children spent substantial time in front of the television, they saw some value in that activity. These findings are similar to those of [Leblanc, et al. \(2012\)](#), who state that while parents tend to perceive television as a learning tool, there is also a need to emphasize management of limits in the use of television in interventions, due to the negative relationship between television use, cognitive development and overweight and obesity in children.

In terms of future interventions at the interpersonal level that involve mothers, including strategies that address management of informational and emotional support for promoting appropriate levels of physical activity for health in the family environment should be a primary element, along with emphasizing the benefits of an active lifestyle in the family context ([Watkinson, van Sluijs, Sutton, Marteau, & Griffin, 2010](#)).

Different types of support that mothers can provide to their children

According to the ecological model, the second level of influence for promoting active behavior in children is that provided by parents ([Shen et al., 2016](#)). Within this level, different types of social support can be provided by mothers to motivate their children to be active, such

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as: instrumental support (accompanying them to sports activities), getting the family involved in physical activity on weekends, providing equipment for physical activity, supervising them when performing physical activity, and providing information about the benefits of physical activity (Lox et al., 2006).

Types of social support which mothers can provide to influence their children to be physically active, include indirect support such as modeling, in which mothers undertake active behaviors to influence their children; this has a stronger impact when both parents are active (Beets et al., 2010). It should be emphasized that in this study mothers stated that they led a sedentary life, which did not allow them to be a role model for their children.

Mothers that participated in this study lacked knowledge of the benefits and amounts of physical activity that their children needed to be physically active, and in a few cases provided support to stimulate more active behaviors in their children, with accompaniment being the most frequent type of social support. This finding is similar to those of previous studies (Bentley et al., 2012; Carson et al., 2014) that concluded that any intervention involving mothers should consider the development of appreciation of physical activity in the family context as a first step. Watkinson et al. (2010) also recommend working with mothers on developing active lifestyles, and strongly recommend that they become involved in developing their own healthy lifestyles, and passing them on to their families.

Similar to the results reported by De Lepeleere, De Smet, Verloigne, Cardon, Bourdeaudhuij, (2013), this study found that strategies that mothers perceive as effective in supporting children to develop an active lifestyle are related to the cognitive theory. In this study, mothers stated that feedback and reward mechanisms could be used in the framework of behavioral and physical schemas, recommendations

Although parents are considered to be the principal drivers or inhibitors of their children's participation in physical activity through instrumental, emotional, modeling, validation and knowledge strategies (Beets et al., 2010), the mothers interviewed for this study showed occasional instrumental support behaviors. This limited use of strategies to motivate active behavior in their children is explained by the low importance they assign to physical activity for boys and girls. Parents who support their children's physical activity tend to have children who are more physically active, compared to children whose parents do not exhibit this type of behavior (REACH, 2014).

The findings of this study indicate that when family activities occur on weekends, they tend to be sedentary. However, mothers see the weekend as a possibility for the promotion of active family behavior, making the weekend the ideal time to work on parent-child intervention processes for the construction of active lifestyles (Fairclough, Boddy, Mackintosh, Valencia-Peris, & Ramirez-Rico 2015). This situation offers parents the strong possibility of increasing their



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children's participation in physical activity (Trigwell, Murphy, C., Cable, G., Stratton, G., & Watson, 2015) in an environment of trust and autonomy (Bentley et al., 2012).

The results of this study also show that mothers perceive that children are motivated by physical activities they find to be fun and attractive. However, Mothers emphasize sedentary activities in their families that are adjusted to their need to work at home. Similar results have been reported in other settings, reinforcing the fact that when planning physical activities for children, participant enjoyment should be taken into account (Trigwell et al., 2015).

Many mothers talked about the intrinsic motivation of their children to engage in a particular activity; however, it has been noted that a passive attitude in mothers undermines intrinsic motivation, reducing feelings of self-determination, and hindering the inherent development of autonomy (Bentley et al., 2012).

Children who have greater intrinsic motivation not only perceive themselves as able to be active, but are also those whose parents perceive them as having the physical skills that allow them to engage in physical activity (Boise, Sarrazin, Brustad, Trouilloud, & Cury, 2005), which indicates the need to provide parents with strategies to teach their children basic physical abilities and age-appropriate behavioral skills (Kimić, & Horn, 2012).

One of the common elements in responses by participants in this study was that they indicated a higher level of instrumental, emotional or accompanying support for boys than for girls when promoting physical activity. This is extremely important, since girls develop their physical skills and their liking for physical activity when they are younger; otherwise, they will be more likely to be sedentary adolescents, with the consequent risks to their health (REACH, 2014). In the case of girls, instrumental support given by mothers is less common than the one offered to boys. Within the framework of the promotion of active lifestyles in childhood, unequal levels of parental support for boys and girls will have to be addressed through an interpersonal approach.

Perception of mothers of barriers to being active in their families

This study found that mothers think that participation of their sons and daughters in physical activities is limited by the environmental barriers they face, especially in terms of access to safe spaces for physical activity outside the home. Other studies have shown that when children have safe neighborhoods, they are more physically active and neighborhoods with appropriate safety conditions have also been associated with a lower body mass index in boys and girls (McMinn, Griffin, Jones, and Van Sluijs, 2013).

As reported in the study by Tappe, Glanz, Sallis, Zhou, & Saelens (2013), the main barriers to having more active children perceived by the mothers in this study include lack of safe places in the neighborhood, lack of time of mothers, lack of facilities or parks, and lack of programs

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for their children. Although some of these barriers are not easy to overcome through family interventions, others may be more manageable through an emphasis on solving environmental and personal problems, promoting low-cost activities and providing better information on the availability of facilities. In addition, mothers mentioned lack of safety when playing outdoors, so strategies for interventions at this level should be oriented towards increasing the perception of safety in the environment with concrete actions at the organizational level, that take into account the state of existing infrastructure.

As a result of this research, a reference framework has been designed for developing interventions in which mothers are the articulating entity for promoting active lifestyles at the family level, guided by the principle that the most successful interventions require multiple levels of influence (Table 1).

Conclusions

Even though, there are two aspects of parental behavior that promote physical activity in children: modeling and parental support, the information gathered following the ecological model as a framework for analysis generated suggests that mothers are not aware of the importance of giving social support for active lifestyles in their children, and ignore the barriers to increase children's physical activity. This study suggests that a sedentary lifestyle in mothers limits the influence, they may have on active lifestyles for their children.

Once recommendations for physical activity for children used worldwide were explained to participating mothers, they perceived their sons and daughters as not being as active as they should be. With respect to the levels of influence mothers believe that they have on their children, accompaniment is the most common social support that these mothers think that they provide, while they do not believe that they have other ways of supporting their children in the construction of an active lifestyle.

Although mothers feel that environmental factors are the main barriers to physical activity for their children, their ability to support behavioral change, the child's motivation, and lack of knowledge about the benefits and amounts of physical activity that boys and girls require are considered obstacles in the promotion of physical activity.

Finally, it is clear that mothers believe that carrying out their work at home and supporting the academic work of their children prevents them from becoming more involved in additional activities with the family; however, they believe that it is possible to promote physical activities in the family, with appropriate supervision.

The findings of this study are essential in developing Health promotion strategies and programs that educate parents on how to effectively support their child in developing an active



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lifestyle may contribute to increasing physical activity levels. Furthermore, this study contributes to the possibility of carrying out new studies to learn more about the life stories of these women and their daily life, not just their perception or awareness of the need to be models for their children and to support them.

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