SUMMARY

Epidemiological and scientific studies are warning about level of overweight/obesity in our schoolchildren, and their possible influence on the health of these children along their life. The combination of physical activity and proper nutrition appears as one of the basic pillars to keep children in normal weight and healthy state. This study aims to analyze “how much” and “how” children 5 years old use space during school recess. We used the “pedometer” and “behavioral mapping” as registry tools, establishing a motor behaviours in their free play and the possibility of promoting healthy lifestyles. By means of to these, along with classes of motor skills and physical education, key moments to promote physical activity of our students.

Key words: : behavioural mapping, spatial occupation, obesity, childhood, physical activity, health.

INTRODUCTION

Scientific epidemiological studies are warning about level of childhood overweight/obesity in our schools, and their possible influence on the health of these children along their lives, resulting in problems of hypertension, diabetes, metabolic syndrome etc... (M.R. & Sánchez, 2006; Huang & Frank, 2007). Unfortunately Spain is among the European countries with higher rates of obesity at school (Moreno, Moscoso, Rius, & García, 2005).

Physical activity (PA) presents itself as one of the basic pillars to keep away from a sedentary lifestyle and optimal health status (Jiménez-Pascual, Kelly & Hardy, 2010; OMNI, 2002), and relative to ages of this work, studies evidence the importance of PA in childhood (Strong, Malina, Blanck, Dennis, Dishman, et al., 2006). School sports, in a broad sense, is all kinds of physical activity during school time, and that it is usually done from three particular moments: Physical Education (PE) class, recess and extracurricular activities (Blázquez & Ramírez, 1999; Otero, Navarro & Abadiesa, 2004), being an ideal context for the promotion of PA among our children (Haya & Velas, 2000; Solomon, 2000). Of these three educational moments, the little time available for PE classes does not guarantee the accomplishment of the recommendations of daily practice of PA for children (OMB, 2008;WHO, 2010).

The PA that takes place in recess usually is not directed and remain unknown the extent to which environmental factors can influence at levels of PA done by the children of all ages (Arías, 2014), existing PA levels higher in children when we compared with Adolescents, even in similar contexts (Rowland & Hughes, 2006; Vilhjálmsdóttir & Kriekemantdottir, 2003).

The study involved 119 children, aged 5 years old (65 boys and 54 girls), students from 4 preschools in the province of Malaga (Spain).

Method

To evaluate the steps taken by students were used pedometers (Yamax Digitwalker SW-200, YDSW200). For obtaining the BMI, weight and height were registered. The means of the two attempts of weight and height were used for subsequent statistical analysis.

Behavioural mapping was done using a recording sheet (Fig. 2). This was divided in 9 quadrants, corresponding to the 9 zones in which the school yard was divided. It was used for spatial positioning and recording behaviours of children. In the same recording sheet, sex, height, weight, ratio, surface density (number of students per square meter), distance travelled and behavioural unit (4 behavioural categories) was collected.

Procedure

Recording the number of steps and behavioural mapping was performed during recess and free play in the centre of Early Childhood Education. The collection of data was done for 20 min., although the recess was 30 min.

The time the child spent in each of the nine areas of the schoolyard or multifore was divided in different areas (10 spatial categories) was recorded. Also four behavioural, predefined and exclusive categories were determined: 1) Passivity (P): The child observes situations or partners, does not make any displacement and does not maintain communicative activity with others. 2) Communication (C): The child does not make any displacement but maintains a communicative or social activity with others.

3) Static Activity (SA): The child makes games or activities that do not involve displacement, although if actions manipulative, passive entertainment games, etc.

4) Dynamic Activity (DA): The child makes games or activities that involve displacement in space.

Statistical analysis

Observational data analysis can be done from different perspectives. Generally, to record nominal systems (categories), the procedure involves the development of primary measures (frequency of occurrence of each category and duration of them) as well as secondary measures (relative frequency, rate, relative duration and average length).

RESULTS

Discussion

The amount of PA done during recess was higher in boys than girls. A result that agrees with the data obtained in similar studies with childrens: 9.5 years old (Beiglie et al., 2006), 9 to 11 years old (Blatchford et al., 2003), 8.5 years old (Escalante et al, 2011) and children and adolescents aged 6-17 years (Arías, 2014).

- Analysing the spatial occupation for students, dominates the multizone Category 10, alternating with 8 and 9. The zones 4 and 7 were the least used. In this study, according to the frequencies of use, both sexes shared the same space at recess. This result does not coincide with other studies in primary school, where children used recreational space in a differentiated way, either due to the space used, children use more space than girls (Cantó & Ruiz, 2005), or the differential use of playground areas, with children who take up more space and use the centre, while girls use peripheral areas (Abraldes & Argudo, 2008).

- The category of behaviour most recurring is the DA, during the 20 minutes of recess, and the duration in this dominant category, we would have about 11 minutes of dynamic activity per student. The rest of the time is distributed among the other categories, especially in the static activity, less interesting categories from the point of view of health habits and physical activity. In this respect, we believe that the time should increase physical activity in the playground, through its educational promotion.

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