Abstract

Purpose: The Niños Sanos, Familia Sana project is a multifaceted intervention to slow down the rate of BMI increase in young children in two Mexican-origin communities using a Community Based Participatory Research approach. This study focused on the physical activity component to (1) examine where schoolteachers engage their students in physical activity, (2) identify teachers perceived barriers to formal classroom physical activity, and (3) determine teachers’ perceptions regarding strategies to increase their daily physical activity.

Method: During the 2015-2016 school year, thirty-two kindergarten through 4th grade teachers from the intervention and control communities completed a Classroom Barriers to Physical Activity survey.

Results: Descriptive statistics revealed that the majority of teachers (84.6%) in the intervention community used a playground for physical activity engagement. In contrast, the majority of teachers (68.4%) in the control community reported that they used a classroom for physical activity. Furthermore, classroom teachers and physical activity instructors reported that 87.8% of the time spent teaching academic subjects was at high barrier for delivery of physical activity. Discussion: By understanding the barriers for delivering children’s physical activity, we can gain a stronger understanding in the development and implementation of physical activity interventions for low-income rural communities.

Introduction

Over the past several decades, the rate of childhood obesity in the United States has increased dramatically and now approximately 1 out of every 3 children aged 2-19 years are considered overweight or obese [1]. However, this trend is not shared equally throughout the general population; subpopulations with certain ethnic groups are much more highly affected [2]. For instance, the prevalence of overweight or obesity in ages 2-19 in Latino children (38.9%) is higher than in African American children (35.2%) and in non-Latino white children (28.5%) [1]. Due to these disparities across ethnic groups, preventative interventions have been implemented to combat childhood obesity targeting specific ethnic groups [3-5]. One of these studies targeting Mexican-American children was the USDA, AFRI project Niños Sanos, Familia Sana (NSFS, Healthy Children, Healthy Families). NSFS was a multifaceted intervention to slow down the rate of BMI increase in young children in two Mexican-origin communities from California’s agricultural Central Valley [5]. The baseline anthropometric measurements for children aged 2-8 years revealed that 51% of the population was overweight or obese, a rate much higher than the national average [6]. Ongoing strategies to reduce obesity in young children has been shown by increasing physical activity and reducing sedentary lifestyle [7].

In this study, we analyzed elementary school teachers’ perception of the barriers to formal classroom physical activity. The purpose of this study was to (1) examine where schoolteachers engage their students in physical activity, (2) identify teachers perceived barriers to formal classroom physical activity, and (3) determine teachers’ perceptions regarding strategies to increase their daily classroom physical activity.

Methods

Population

The NSFS study takes place in two rural school districts in Fresno County (Fig. 1), Firebaugh-Las Deltas Unified School District and Golden Plains Unified School District. Firebaugh-Las Deltas was randomly selected as the intervention community and Golden Plains Unified School District as the control [5].

Participants

The sample size consisted of 32 kindergarten through 4th grade teachers from both communities, intervention and control sites (Fig. 2).

Procedure

During the 2015-2016 school year, teachers were asked to complete a researcher-developed survey called Classroom Barriers To Physical Activity. This survey asked the location where teachers usually engaged their students in physical activity, frequency of taking students on walks and/or runs, a ranking of the barriers to formal daily physical activity, and teacher’s perception regarding strategies to increase those activities in the schools.

Figure 1: Map of California highlighting Fresno County in red.

Figure 2: Elementary school students from the control site performing physical activity.

Results

Physical Activity Engagement

In the intervention group, the majority of teachers (84.62%) reported that they used a playground for engaging their students in physical activity (Fig. 3). In contrast, the majority of teachers (68%) in the control group reported that they used a classroom for physical activity engagement.

Barriers to Physical Activity

Statistical analysis revealed that the time spent in teaching academic subjects was a high barrier to classroom teachers and physical education instructors (Fig. 4).

Discussion

This research helps to recognize the multiple barriers that affect the delivery of children's physical activity in Fresno County and similar rural communities. By understanding these barriers, we can gain a stronger understanding in the development and implementation of physical activity interventions for low-income rural communities. For instance, the majority of classroom teachers and physical activity instructors reported that the time spent teaching academic subjects was a high barrier to the delivery of physical activity. However, studies have shown a positive relationship between physical activity and academic achievement [8-10]. Since physical activity is not only beneficial for health status but also in enhancing cognitive function, teachers should participate in in-service programs so they can recognize the benefits of physical activity. Lastly, the findings in this study are relevant to researchers, health care professionals, and policy makers interested in working with underserved communities and improving the lifestyle practices for families with school-aged children.

References

2. National Center for Health Statistics, Health, United States, 2013 With Special Features on Prescription Drugs and Health Care Spending.

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Data Analysis

Survey data was entered and coded into a Microsoft Excel spreadsheet. Statistical analyses were conducted in IBM SPSS version 22. Descriptive statistics, including means, frequencies, and standard deviations were used to summarize and compare variables. The ranking of the teachers perceived barriers to physical activity was analyzed using the Bayesian Average formula. The open-ended comments of the survey were classified and grouped using word content analyses and to explore potential solutions to these barriers.