



Research Article

Healthy Behavior Patterns in English as a Second Language (ESL) Elementary Students

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Abstract

Background: With an increase of diversity in public schools, educators must be prepared to teach a more racially and ethnically diverse student population. For health educators, having a better understanding of culturally different health behaviors can increase their ability to relate content to more students. **Objectives:** This project focused on healthy behavior patterns in a small group of English as a Second Language (ESL) students. **Methods:** Parents of ESL students enrolled in an afterschool tutoring program completed the Eat Well Be Active (EWBA) survey. The EWBA instrument included items related to physical activity, dietary habits, TV/screen time, and availability of resources. Demographic information, such as educational level, ethnic background, gender and age, were also collected. **Results:** The parents demonstrated knowledge around healthy several healthy habits but reported that their children are not receiving the recommended daily amount of fruits, vegetables, and physical activity. Certain ethnic groups reported lower levels of healthy behaviors than others. **Conclusion:** Identifying the current knowledge and practices of non-native diverse groups is a crucial step in being able to provide effective education around healthy behaviors.

Keywords: English as a Second Language; Diversity; Family health

Introduction

Diversity within public schools has been increasing in recent years. One study found that students in Pennsylvania are increasing in ethnic diversity by a rate of around 1.3% every two years [1]. This increase in diversity needs examined to determine what, if any, gaps in healthy behaviors exist within these groups.

HealthyPeople2020 sets goals and provides communities with information relating to all aspects of health. Some of the topics covered through this initiative include physical activity levels, dietary habits, and family habits. As part of the nutrition and weight status objective, HealthyPeople2020 seeks to promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weights [2].

It is recommended that children get at least 60 minutes of moderate to vigorous physical activity (MVPA) daily [3]. This type of activity can include running, playing, and organized sports that results in the child breathing heavily [4]. Evidence suggests that high levels of sedentary behavior, specifically screen-based activities, are associated with increased cardiovascular disease risk in children [4]. As children's physical activity levels decrease with age, their screen time levels tend to increase. For instance, one longitudinal study found that sedentary screen time significantly increased in children as they entered their adolescent years [4]. It has also been shown that physical activity levels are lower in females, ethnic minority groups, and non-English speaking households [5]. These key findings suggest that minorities and non-English speaking students have a higher inactivity level [5]. In addition, a previous study conducted among Saudi adolescents found results that

correlated with dietary habits and physical activity levels. Results found that physical activity had a significant positive relationship with fruit and vegetable intake; suggesting that children who were more active were found to have healthier dietary habits [6].

Parental influence is a major factor in determining lifestyle habits and overall health of children [7]. Parents have a strong influence on their children's health; including the food they eat, the amount of physical activity they engage in, the amount of emotional support they are provided, and the quality of their environments [8]. By focusing on responses from parents, it can be determined what kind of activity levels and dietary habits their children receive.

There is limited research that focuses solely on immigrant children and their health behaviors. This study project utilized parent reports to determine the health habits of a group of English as a Second Language (ESL) students in a rural Pennsylvania school district.

Subjects and Method

Method

This pilot study examined the healthy behavior patterns of ESL Elementary students as reported by their parents. Parents of students enrolled in an after-school ESL tutoring program completed the Eat Well Be Active [9] (EWBA) survey. This instrument contains 25 questions requiring 67 responses covering the following domains: demographics; obesity factors within the home environment; parental knowledge and attitudes towards healthy eating and physical activity; child physical activity and healthy eating behaviors. The questionnaire was developed by members of the eat well

be active Community Program of Australia which included academics with expertise in childhood obesity, nutrition, physical activity, and community development. The study used internal consistency analysis and test-retest reliability. It was determined that all of the instrument subscales had Cronbach’s alpha test-retest reliability ranging from 0.62 to 0.76; meeting the acceptable 0.5 level.

Ethical approval and statement

This project followed federal guidelines for the protection of human subjects and was approved by an institutional review board prior to beginning this study. Parent participants signed informed consent forms prior to completing the survey instruments. All participant data were collected in a manner in which individual results were keeping anonymous.

Statistical analysis

This study utilized a participant-report descriptive survey design. Multiple analysis procedures were used to examine the survey results. Descriptive statistics were used to explain the data results through measures of central tendency to examine if there was a correlation between reported physical activity levels and dietary behaviors. Relationships were determined between different variables when controlling for ethnicity. Those variables included reported physical activity, average sedentary time, and dietary habits. Lastly, descriptive statistics were calculated on demographic information including parent’s education level, ethnic group, and employment status.

| | | Frequency | Percentage |
|----------------------------|---------------------------|-----------|------------|
| Gender | Male | 2 | 25 |
| | Female | 6 | 77 |
| Highest level of education | High school diploma | 3 | 37.5 |
| | Current graduate work | 1 | 12.5 |
| | Graduate degree | 4 | 50 |
| Current employment | Stay at home parent | 2 | 25 |
| | Part time | 2 | 25 |
| | Full time | 4 | 50 |
| Ethnic or ancestry groups | Burma (Myanmar) | 2 | 25 |
| | North African/Middle East | 3 | 37.5 |
| | South Korea | 1 | 12.5 |
| | West African | 1 | 12.5 |

Table 1: Demographics characteristics of participants.

Participants

This pilot study included eight parent participants who had a combined total of 20 children.

As shown in Table 1, the participants represented five different ethnic regions, including, Burma, North African & Middle East, South Korea, and West African. There were six females (75%) and two males (25%) who completed the survey.

The current employment of the participants included two stay-at-home parents (25%), two part-time workers (25%), and four full-time workers (50%). Out of eight participants, three had a high school diploma as their highest level of education (37.5%), one was currently completing graduate work (12.5%), and four had a graduate degree (50%). When asked how many children, under the age of 18, live in this household, 1 (12.5%) reported one child, 2 (25.0%) reported two children, and five (62.5%) reported three children.

Results

The parent reported survey was designed to investigate the (1) parent’s knowledge recommended levels of physical

activity and dietary habits; (2) their children’s level of those healthy habits; and (3) their perceptions towards those health patterns. The parents received the survey instrument during the after-school program and returned it upon completion.

Physical activity

The recommended amount of daily physical activity for children is at least 60 minutes per day [2]. The parents answered survey items to provide an overall perception of the reported levels of physical activity levels in their children. As shown in Table 2, 37.5% of the families report that their child plays outside for less than 15 minutes, and only one parent reported that their child(ren) play outside for more than 60 minutes per day. Though low levels of physical activity were reported, most (75%) parents report that they believe children should be physically active for at least 60 minutes per day.

Neighborhood and home opportunities for physical activity

The survey instrument included items that asked parents to report on home and community resources to assist in physical activity.

| | Time | Frequency (Percentage) |
|--|---------------------|-------------------------------|
| How many minutes does your child get playing outdoors | 0-15 Minutes | 3 (37.5%) |
| | 15-30 Minutes | 4 (50.0%) |
| | 60 + Minutes | 1 (12.5%) |
| How many minutes per day do you think a child should be physically active for good health? | At least 30 minutes | 2 (25%) |
| | At least 60 minutes | 6 (75%) |
| Are the children encouraged to play outdoors? | Rarely | 3 (37.5%) |
| | Sometimes | 2 (25%) |
| | Often | 1 (12.5%) |
| | Always | 2 (25%) |

Table 2: Parent report of Physical Activity (PA) in ESL children.

On the survey item asking about physical activity information, half of the participants disagree or do not know if there is enough information about physical activity opportunities for children in their neighborhood. That same 50% of parents also reported that there is not enough variety of equipment at home for their children to use to be physically active. Six parents (75.0%) reported that there are not enough recreation/sports facilities in their neighborhood to encourage elementary school aged children to be physically active.

Television and meal times

Descriptive statistics were computed to determine the reported television and meal time reported behaviors according to opinions of participants’ about their children. When asked how much time does the child spend watching TV, videos, DVDs or playing video or computer games (screen time) three reported 0-1 hours (37.5%), one person reported 1-2 hours (12.5%), two reported 2-3 hours (25.0%), and two reported 3-4 hours (25.0%). Continuing in the survey, the participants ranked how often certain screen time behaviors and family rules around screen time occur at home. Four (50%) of parents reported that their children never or rarely watch television during meal times, two (25%) reported they sometimes watch television during meal times, and two

(25%) reported that their children often watched television during meal times. Furthermore, a Spearman Rank-order correlation was computed to determine if the number of televisions in the home correlated with screen time during meals. It was determined that there was a significantly strong positive correlation ($r=0.845$, $p=0.008$) between how many television sets are in their home and how often children watch television during meal time.

Lastly, when asked if their child has a set meal time routine; one (12.5%) reported they rarely have a routine, five (62.5%) reported sometimes having a routine, one (12.5%) reported often having a routine, and one (12.5%) reported always having a set meal time routine

Daily recommended fruits and vegetables

The majority (62.5%) of the parents in this study reported that they believe children should receive 3 to 5 servings of vegetables daily, it was found that most (85.8%) of parents reported that their children receive 1-2 servings of vegetables (Table 3). Only one parent reported that their children gets three servings of vegetables on average, and not one reported that their children receive four or more servings of vegetables per day.

| | | Frequency | Percentage |
|--|----------------------|------------------|-------------------|
| How many servings of fruit do you think your child should get daily? | Less than 1 serving | 0 | 0.0 |
| | 1-2 servings | 5 | 62.5% |
| | 3-5 servings | 3 | 37.5% |
| | More than 5 servings | 0 | 0.0 |
| How many servings of fruit does your child usually eat each day? | 1 serving | 4 | 57.1% |
| | 2 servings | 1 | 14.3% |
| | 3 servings | 1 | 14.3% |
| | 4 servings | 1 | 14.3% |
| | More than 5 servings | 0 | 0.0 |
| How many servings of vegetables do you think you child should eat daily? | Less than 1 serving | 0 | 0.0 |
| | 1-2 servings | 3 | 37.5% |
| | 3-5 servings | 5 | 62.5% |

| | | | |
|---|----------------------|---|-------|
| | More than 5 servings | 0 | 0.0 |
| How many servings of vegetables does your child usually eat each day? | 1 servings | 3 | 42.9% |
| | 2 servings | 3 | 42.9% |
| | 3 servings | 1 | 14.3% |
| | 4 servings | 0 | 0.0 |
| | More than 5 servings | 0 | 0.0 |

Table 3: Parent report of dietary habits in ESL children.

In addition, parents were asked to report on their children’s daily fruit servings. The majority (62.5%) of participants reported they believe their children should be getting 1-2 servings of fruit per day; which is much lower than the actual recommended amount. When discussing their own children’s fruit intake, 57.1% of parents reported their child is getting just one serving of fruit daily. Two participants reported that their children receive 2-3 servings of fruit, and only one parent indicated that their children get four servings on an average day.

Purchasing habits for food and drink

When considering parental influence on children’s nutrition, this study compared parents purchasing of fruit and their perception on how much fruit their child should be consuming. The survey instrument reported on how often parents purchase certain food and drink items. 50% of parents reported purchasing cake/muffin/doughnuts every two weeks and 75% of parents reported purchasing vegetables once or more per week. Parents reported either rarely or never purchasing diet soft drinks while 12.5% purchase regular soft drinks once a month and 25% purchase regular soft drinks every two weeks.

When examining parents’ purchasing of fruits and vegetables and their beliefs about the importance of eating healthy, positive results were found. Specifically, it was determined that there was a significant positive relationship ($F=4.04, p=0.007$) between parents who reported buying fruit regularly and those who believe children should have 3-5 servings of fruit per day. In other words, parents who reported purchasing fruit regularly also reported that they believe children should have higher amounts of servings of fruit. Even though all of parents in this study reported that their children eating fruit and vegetables every day is a high priority for them, the majority of children are reportedly not reaching that recommended amount. Lastly, two ethnic groups, North Africa/Middle East and Burma reported more unhealthy behaviors and less knowledge about certain patterns. For instance, those two groups reported buying cake/muffins/doughnuts and candy more frequently than the other ethnic groups.

Education levels and reported screen time

Parent participants reported on the average amount of time daily that their children spend watching television, videos DVDs or playing video or computer games. Parents with a graduate degree reported that their children’s screen time is less than one hour daily ($m=1.25$). Parents with current

graduate work reported that their children spend between 2-3 hours of screen time daily. There was a significant negative correlation ($r = -0.903, p=0.002$) between screen time and the parent’s education. In other words, the parents with higher levels of education reported lower levels of children’s screen time.

Discussion

Parent’s reported on his or her elementary aged children’s health behaviors. By answering the survey questions, parents reported on knowledge of physical activity and nutrition, their child’s physical activity habits, and routines and behaviors in their home. Though an extremely low sample size, this study helps to address the lack of health-related data currently missing from the literature.

The participants in this study do not fully understand the recommended daily servings for fruits and vegetables; which was associated to a low report on the number of servings their own children receive. According to the Centers for Disease Control and Prevention (CDC), the recommended total amount of fruit children should get is 3 to 5 servings per day. A large majority (67%) of the participants in this study believe that children should get 1-2 servings per day. Furthermore, two ethnic groups, North Africa/Middle East and Burma, reported more unhealthy behaviors and less knowledge about certain patterns. For instance, those two groups reported buying cake/muffins/doughnuts and candy more frequently than the other ethnic groups.

In addition, this study reported that elementary aged ESL students are not receiving the recommended daily amount of fruits and vegetables. When parents are not informed of the recommended daily amount of fruit or vegetables, their children are less likely to get the correct amounts. The majority (87.5%) of parents in this study reported that they believe the recommended daily amount for fruit is one serving; when it is really between 3-5 servings [2].

Screen time is another health behavior that the parents reported on in this study. Screen time includes television watching, video game playing, and computer/tablet usage. Evidence suggests that high levels of sedentary behavior, specifically screen-based activities, are associated with increased cardiovascular disease risk in children [4]. Results found that the ESL students do not meet the recommended level of daily physical activity for elementary aged students. A previous study also found that physical activity levels were lower in ethnic minority groups, and non-English speaking households [5]. Interesting, this study also found that parents with a higher education level reported their child participated in less screen time daily. Similar results were found in a study

conducted by Garcia et al. [4] that concluded lower parental education was closely associated with increased family screen time. Though low levels of physical activity were reported, most (75%) parents believe children should be physically active for at least 60 minutes per day. This demonstrates that most families in this study agree with the Healthy People 2020 recommendation for 60 minutes per day.

Instructional implications

Health education class is vital for teaching children about activities and concepts that can improve their healthy behaviors. Educators need to be aware of the diverse backgrounds of their students and make every effort to gear instruction based on students' prior knowledge of health topics. When designing and selecting curriculum, schools should evaluate the content and modify the delivery based on student knowledge. One step that educators can easily make is to conduct a needs assessment of students to determine what their beliefs and knowledge of a particular health concept include. For instance, if students believe that they should only be getting one serving of fruit per day, as found in this current study, the educator can address that specific barrier. Furthermore, the schools can also improve the effectiveness of instruction by communicating with parents. One way to increase children's participation in healthy behaviors is to increase the awareness of parents on health issues [10].

Study Limitations

This pilot study is limited in the reported findings. First, this project only focused on a small group of non-native families in one community in Western Pennsylvania. Though this region is indicative of rural America, the small number of participants eliminates the generalizability of these findings. Furthermore, this pilot project relied solely on parent-report to determine health behaviors in ESL children. Utilizing other forms of data collection would have strengthened the findings.

Conclusion

Whether it is the parent or the educator, knowledge needs to be established about the importance of healthy behaviors of children. Schools should continue to develop policies and resources that support parents in making healthy behavior decisions for their children. Developing these resources with ethnic diversity barriers in mind can help increase the healthy behavior patterns of non-native English as Second Language students.

Recommendation

With the number of different ethnic backgrounds found in public schools increasing, educators must be prepared to teach a more diverse student population. For health educators, it is important to understand how cultural and ethnic beliefs can impact healthy behaviors and habits. Having this information can allow educators to better relate health content as it applies to cultural values. Future research should examine barriers to health information and cultural differences

in defining health. This type of literature could help educators better educated and interact with diverse groups when discussing crucial health topics.

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