

Dietary Habits among Kuwaiti Physical Education College Students

Khaled E. Alsharji; Sanabel B. Alkhalaf; Mohammad F. Alkattan; Abdullah A. Akbar; Amal H. Alshareefi; and Kholoud A. Alabduljader

Abstract

Physical education (PE) teachers can play an important role in reducing sedentary behavior and improving children and adolescent's health habits (e.g., dietary intake). Often viewed as role models, PE teachers can effectively educate children, adolescents, and youth populations about healthy choices. Therefore, the aim of this study is to investigate the dietary habits of current Kuwaiti college students studying PE who will become PE teachers within two to three years. **Method** A total of 418 PE college students (198 male & 220 female) were randomly selected to complete a validated self-reported questionnaire (Al-Hazzaa, Musaiger and Group, 2011), which is comprised of three categories: physical activity levels, sedentary behaviors, and dietary habits. The third category gathered data on students' food and drink intake per week, including how often they consumed breakfast, milk or dairy products, fast food, fruit, vegetables, chips, dessert, chocolate, sweetened soft drinks, and energy drinks. **Results:** An independent samples t-test showed that, compared with female PE students, males showed significantly higher scores in their weekly dietary habits. For example, eating breakfast intake at home, sweetened drinks consumption, vegetable, fruit, and dairy product intake as well as fast-food drinking and eating per week was more frequent in male PE students than females.

Conclusion: The results indicate that although male PE students consume more unhealthy meals like fast-food, desserts, and chocolates, compared with females they tend to have healthier dietary habits overall.

Introduction

The dietary behaviors adopted in childhood can become lifelong habits and the associated risk factors can also emerge at an earlier age (Freitas & Torgal, 2010). Despite the implications for long term health, including the development of childhood obesity, young people are still not meeting recommended dietary habits (e.g., eating breakfast and abstaining from sweetened soft drinks) (Brown, Dullo, & Montani, 2008; Collison, Zaidi, Subhani, Rubeaan, Shoukri, & Al-Mohanna, 2010); Croezen, Visscher, ter Bogt, Veling, & Haveman-Nies, 2010). The local health stakeholders in Arab countries have been monitoring this situation over the past decade and share a growing concern at the expansion of unhealthy lifestyles and poor dietary habits among the Arab population (Musaiger & Al-Hazza, 2009).

According to Musaiger (2012), Kuwait has one of the highest rates of obesity in the world, for adults and children, and it is estimated that 78% of males and 82% of females can be classified as overweight and obese. Obesity is associated with a range of social, psychological and environmental factors, all of which can serve as obstacles to healthy eating and undertaking physical activity (Goh, Bogart, Sipple-Asher, Uyeda, Hawes-Dawson, et al., 2009). Since these factors vary across communities, each community must examine what could prevent their local population from following a healthy diet. Studies have investigated the obesity-related factors in Kuwaiti children (Al-Haifi, Al-Fayez, Al-Athari, -Al-Aljmi, Allafi, Al-Hazzaa et al., 2013) and adults (Moussa, Shaltout, Nkonsa-Dwamena, Mourad, Alsheikh, Agha et al., 1999). In Kuwait, the high prevalence of overweight and obesity among children and adults is significantly associated with poor eating habits. According to Al-Isa (1998;1999), 34.4% of Kuwaiti college students and 49.6% of Kuwait college males were overweight or obese. Ten years later, El-Ghazali, Ibrahim, Kanari, & Ismail (2010) found that the trend in obesity had increased remarkably (~93%) among male and female

college students. In addition, the above study indicated that the college students were frequent consumers of sugar and fast-foods.

One potential means of addressing and preventing childhood obesity is through physical education (PE) teachers. These educators play an important role in reducing sedentary behavior (McKenzie & Lounsbury, 2013) and contributing to children and adolescent's health awareness and health habits (e.g., dietary habits). Often viewed as role models, PE teachers can effectively educate children, adolescents, and youth populations about healthy choices. Therefore, the aim of this study is to investigate the dietary habits of current Kuwaiti college students studying PE who will become PE teachers within two to three years.

Methodology

Participants: A total of 418 PE students (198 male & 220 female) were randomly selected from the Department of Physical Education at the College of Basic Education in Kuwait. The Public Authority for Applied Education and Training (PAAET) approved the study and written consent was obtained from participants prior to beginning the study

Questionnaire: A validated self-reported questionnaire (Al-Hazzaa, Musaiger and Group, 2011) was completed by all participants. The questionnaire is comprised of three categories: physical activity levels, sedentary behaviors, and dietary habits. Only results from the third category, dietary habits, was included in the present study. Data was gathered on participants' food and drink intakes per week, including how often they consumed breakfast, milk or dairy products, fast food, fruit and vegetables, chips, dessert, chocolate, sweetened soft drinks, or energy drinks. Before completing the questionnaire participants were provided essential information regarding the aim and relevance of the study as well as confidentiality.

Data analysis: Analysis of the data was done using SPSS Version 22.0 (SPSS Inc.) Independent t-tests were used to analyze dietary habits differences between male and female PE students in Kuwait. The statistical significance level was fixed at $p < 0.05$. Data is reported as mean \pm SD unless otherwise stated.

Results

Table 1 includes combined and mean differences of male and female PE participants' dietary habits (food and drink intakes per week). Per week, participants (males and females) consume 3.3 ($SD = 2.5$) sweetened drinks, 3.3 ($SD = 2.4$) servings of fruit, 3.6 ($SD = 2.2$) servings of dairy products, 3 ($SD = 2$) fast-food meals, and 3 ($SD = 2.5$) breakfast meals at home.

Compared with female participants males showed significantly higher scores on their breakfast intake habits, $M = .773$, 95% CI [.297, 1.24], $t(420) = 3.19$, $p = .002$. In addition, male participants consumed significantly more sweetened drinks per week than females, $M = .838$, 95% CI [.37, 1.3], $t(420) = 3.52$, $p < .001$. For vegetables and fruits, male participants scored significantly higher than females, $M = .905$, 95% CI [.45, 1.3], $t(420) = 3.93$, $p < .001$ for vegetable, and $M = .592$, 95% CI [.18, 1.0], $t(420) = 2.82$, $p = .005$ for fruits. Finally, male participants had significantly greater consumption of dairy products and fast-food than females (dairy, $M = 1.48$, 95% CI [.102, 1.93], $t(420) = 6.44$, $p < .001$; fast-food, $M = .514$, 95% CI [.14, .89], $t(420) = 2.68$, $p = .008$).

Table 1: Dietary habits (intake per week) of Kuwaiti PE Students Relative to Gender.

Variables	Male	Female	All	Diff.
1- Breakfast at home	3.4 ±2.6	2.6 ±2.4 *	3 ±2.5	.773 *
2- Sweetened drinks	3.8 ±2.5	2.9 ±2.3 *	3.3 ±2.5	.838 *
3- Vegetable	3.8 ± 2.4	2.8 ±2.4 *	3.3 ±2.4	.905 *
4- Fruits	3.2 ± 2.1	2.6 ±2.2 *	2.9 ±2.2	.592*
5- Dairy	4.4 ±2.3	2.9 ±2.4 *	3.6 ±2.5	1.48*
6- Fast-food	3.3 ±2	2.8 ±1.9 *	3 ±2	.514*
7- French fries/chips	2.7 ±2	3 ±2.2	2.9 ±2.1	.242
8- Cake, biscuits, donuts	2.6 ±2.1	2.4 ±2	2.3 ±2.1	.202
9- Dessert and chocolate	3.3 ±2.3	3 ±2.6	3.1 ±2.4	.267
10- Energy drinks	1.2 ±1.9	1.3 ±2	1.3 ±1.9	.107

Data are means and SD. Independent T-test; Significant difference at $P < 0.05$ *

Discussion

This study explored the dietary habits of physical education (PE) college students in Kuwait. The results indicate that males tend to have healthier dietary habits than female PE students. For instance, compared with female students, male students showed greater frequency of breakfast consumption at home and males consumed more servings of fruit, vegetables, and dairy products. On the other hand, male PE students reported a greater frequency of consuming fast-food and soft drinks than their female counterparts. However, habits were broadly consistent for males and females with regards to drinking energy drinks and eating chips, desserts or chocolate (Table 1).

Young adolescents often have unhealthy eating habits. Numerous studies describe the high incidence of adolescents omitting breakfast, limiting intake of fruit and dairy products, and consuming sweetened or energy drinks and fast food; the results of these studies are fairly consistent across the West, Eastern Mediterranean region and Gulf populations (Al-Haifi, 2013; Bin Zaal, Musaiger, and D'Souza, 2009; Washi and Ageib, 2010). There is a robust association between these unhealthy dietary practices and the incidence of chronic diseases such as hypertension, obesity and type 2 diabetes (World Health Organization, 2002). Results of this study are consistent with results reported in the literature, with exception of consuming energy drinks, as males PE students tend to adopt healthier dietary practices in this area than females. Critically, females reported skipping breakfast more often than male PE students which has been shown to contribute to overweight and obesity (Croezen et al., 2009). Additionally, females consumed less dairy products which is concerning given the increasing prevalence of Vitamin D deficiency in the Gulf region despite the region's sunny climate (Saadi, Nagelkerke, Benedict, 2006). Therefore, female PE students are at a greater risk for not reaching their maximal potential for bone growth and possible osteoporosis. Of all developing regions, Middle Eastern countries have the highest surplus of dietary energy. Due to the epidemiological transition, the risk of cardiovascular disease is rapidly rising and becoming a significant health issue in these countries (Galal, 2003)

The poor dietary habits of female PE students should not be ignored by themselves, nor by their faculty. As indicated above, unhealthy dietary habits are strongly

associated with chronic diseases including obesity. On the other hand, 95% of elementary schools for boys in Kuwait are managed and taught by female faculty and teachers. Thus, once they become elementary PE teachers, the unhealthy eating behaviors of current PE female students could transfer to their elementary students. We recommend that all PE students undertake health-education classes and workshops during their time in college, especially those that address healthy dietary habits. In addition, we recommend all university and college PE departments increase the education and awareness of healthy lifestyle practices, especially dietary habits.

This cross-sectional study was constrained by several limitations, including participants being exclusively PE students recruited only from the Physical Education Department of the College of Basic Education (CBE). For future studies, participants should be recruited from a range of departments at the CBE.

In summary, this study reveals that male PE students have healthier dietary habits than their female counterparts. Therefore, there is an urgent need for PE departments to adopt a life-skills approach to deliver health education to their students and train them about eating behavior and dietary recommendations. Training future teachers to use a skills-based approach to deliver health education can encourage individuals to adopt healthy lifestyles

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