Global Journal of Health Education and Promotion
Vol. 16, No. 2, pp. 32–50

Health Behaviors Among First-Year College Students in a Private University in the Dominican Republic

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Abstract

The purpose of this study was to evaluate the health behaviors of first-year college students attending a medium-sized private university in the Dominican Republic. Data were collected from 333 students enrolled in a university orientation course for first-year students using a modified version of the Youth Risk Behavior Survey. Findings from this study suggest risky health behaviors are more likely to be found among males, who were more likely to carry a gun to school, to use tobacco products, and to use steroids. Because students spend a good portion of their lives attending institutions of higher learning in the Dominican Republic, it is recommended that universities take steps to implement health promotion and disease prevention programs designed to improve the health status of those students.

Keywords

Dominican Republic; adolescents; risk factors; health behaviors

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Introduction

The transitional developmental stage known as adolescence, typically between 13 and 19 years of age, is characterized by exploration, feelings of invincibility, personal identity, and search for independence (Lightfoot, 1997; United Nations Children's Fund [UNICEF], 2012). Negative decisions and risk behaviors started during adolescence have a direct impact on the morbidity and mortality indicators for this population group, which accounts for approximately 20% of the world's population (UNICEF, 2012). Problems related to poor decision making and inappropriate health choices are exacerbated by adolescents' inability to focus on the long-term implications of their decisions. Similarly, health promotion and disease prevention efforts are severely curtailed by the limited research on adolescents' perception, definition, and application of health concepts especially in middle and lower income countries (Arrivillaga, Salazar, & Correa, 2003; Maddaleno, Morello, & Infante-Espínola, 2003; UNICEF, 2012).

Latin American Youth

Adolescents (aged 13–18) and young adults (aged 18–25) account for over 25% of the population of the Americas. Given their increasing number, adolescent health can be said to be key to the social, economic, and political development of the region. In recognition of their growing importance, the Pan American Health Organization has proposed a new conceptual framework focused on human development and the promotion of health within the context of family, community, social, political, and economic development (Cunningham, McGinnins, Garcia Verdy, Tesliuc, & Verner, 2008; Maddaleno et al., 2003). In this framework, the adolescent population is placed at the forefront of governments' agendas to assist them in improving their own conditions including their health status.

In an increasing body of research, it has been suggested that adolescents in Latin America face challenges not experienced by adolescents in other parts of the world. Low literacy rates, high unemployment rates, restrictive upward mobility opportunities, and armed conflicts are among the issues Latin American adolescents face (Blum, 2004; Maddaleno et al., 2003; Pons, Queralt, Mars, Garcia-Merita, & Belager, 2010; UNICEF, 2012). Similarly, Blum (2004) found that changes in population characteristics, including migration and education, have an impact on mortality and morbidity among adolescents. These factors singularly and collectively have a profound impact on adolescents perception of health and risk taking.

Studies Related to Adolescent Risk Behavior

Researchers have suggested that negative outcomes in adolescent health are related to behavioral choices that increase risk factors among that popula-

tion group. Data from the United States continue to denote negative health behaviors among American adolescents (Eaton et al., 2010). In a study among a sample of Colombian university students, the researchers found that first-year students exhibited a number of risky health behaviors that could have immediate and long-term negative effects on their health status (Alonso Palacio, Pérez, Alcalá, Lubo Gálvez, & Consuegra, 2008). Peña, Cabrera-Nguyen, Chavez, and Fernández (2010) reported similar findings among Dominican adolescents.

In studies related to use of alcohol and mind-altering substances, researchers have found negative behaviors among adolescents in several Latin American countries including Argentina, Central America, and the Dominican Republic (Alderete, Kaplan, Nah, & Perez-Stable, 2008; Dormitzer et al., 2004; Epstein, Botvin, & Diaz, 2001; Guilamo-Ramos et al., 2011). In a study among college students in Cali, Colombia, Arrivillaga et al. (2003) found that knowledge does not always translate into healthy behaviors. Based on these results, they concluded that there is a need to design health promotion programs targeting adolescents and enabling them to contemplate psychosocial processes such as learning, cognition, motivation, and emotion.

Drug use among adolescents continues to be a concern to parents and public health officials (Garcia-Vega, Menéndez Robledo, Fernández García, & Cuesta Izquierdo, 2012; López, Schwartz, Prado, Campo, & Pantin, 2008; Sánchez-Suárez & Galera-Sueli, 2004). Pillon, O'Brien, and Piedra-Chavez (2005) found that gateway drugs such as alcohol, tobacco, and marijuana are the most often consumed mind-altering substances by students in Ecuador. In a national study by the Consejo Nacional de Drogas (2008) in the Dominican Republic, low prevalence rates in drug use among school-attending adolescents were found. According to the study, less than 2% of respondents indicated having used inhalable drugs such as glue. A similarly low usage rate was reported for marijuana use (1.6%). In the same study, it was found that less than 1% of Dominican adolescents reported ever having used cocaine.

Risky sexual behaviors of adolescents have received increasing attention in recent decades. However, few studies have been focused on the sexual behavior of adolescents in certain geographic areas in Latin America. In a study of adolescents in Brazil, Soares Dos Dantos and Félix de Oliveira (2009) found that the rate of correct answers in an instrument measuring knowledge, attitudes, and behaviors about HIV/AIDS was higher in low complexity questions (knowledge) and decreased with increasing degree of complexity (behaviors). In other studies in Latin American countries, it has been suggested that adolescents have been exposed to basic information related to HIV/AIDS, its transmission, modes, and some prevention messages; however, they have not translated that knowledge into actions that may prevent infection with the virus (Dussaillant, 2010; Escalante-Romero, Cerrón-Vela, Salazar-Granara, & Mezones-Holguín, 2008; Gonçalves Câmara, Castellá Sarriera, & Carlotto,

2007; Gálvez-Buccollini, DeLea, Herrera, Gilman, & Paz-Soldan, 2009). Despite the studies listed above, Latin American countries lack comprehensive surveillance systems designed to track the health status and risk behaviors of adolescents. This is especially true in middle-income countries such as the Dominican Republic, which focus a lot of their resources in primary care rather than prevention.

According to *The World Factbook* (Central Intelligence Agency, n.d.), over 10.3 million people reside in the Dominican Republic, a country bordered by the North Atlantic and the Caribbean Sea. According to the same source, 18.5% of the population in 2014 was between ages 15 and 24, making it the third largest population group in the country. According to data from the 2010 Dominican Republic National Census, 18.1% of individuals aged 16 to 24 are enrolled in institutions of higher learning (Arboleda, 2014). This is not surprising since postsecondary education starts a few years earlier in the Dominican Republic than it does in the United States, somewhere between 16 and18 years of age.

Despite the importance of their demographic composition, little information exists to understand the behavioral patterns of individuals in this demographic group, information that can be used to develop health promotion and disease prevention strategies designed to minimize negative health outcomes. The purpose of this descriptive study was to evaluate health behaviors of college students at a medium-sized university in the eastern part of the Dominican Republic

Method

The Youth Risk Behavior Surveillance System (YRBSS) was developed by the Centers for Disease Control and Prevention (CDC) and was designed to monitor the six highest health risk behaviors that have been found to affect the health status of school-aged populations including unintentional injuries and violence, sexual behaviors, alcohol and other drug use, tobacco use, unhealthy dietary behaviors, and inadequate physical activity. In the United States, the YRBSS is conducted by the CDC, and state, territorial, tribal, and local surveys are conducted by state, territorial, and local education and health agencies and tribal governments (CDC, n.d.; Eaton et al., 2010). Results from these studies provide the foundation for many health promotion and disease prevention programs in the United States.

Although high-income countries such as the United States have highly developed health and disease surveillance systems, the same is not true for middle- and low-income countries, making it necessary to obtain base information before programs can be developed. Data for this study were collected using a modified version of the Youth Risk Behavior Survey (YRBS). The modified version has been used in El Salvador, Colombia, Mexico, and the Dominican Republic. Since the original YRBS was developed in English, the Latin

American version has been translated by language experts and back translated to verify its accuracy. To ascertain its cultural appropriateness to each of the countries, a panel of cultural experts also evaluated the translated instrument for face validity. All participants completed the 99-item YRBS, including seven demographic variables. The modified version of the YRBS was designed to assess health behavior including (a) unintentional and intentional injuries, (b) tobacco use, (c) alcohol and other drug use, (d) sexual behavior, (e) dietary behaviors, and (f) physical activity.

Participants

Study participants were 333 male and female undergraduate students representing approximately 95% of first-year students attending a medium-sized private university in the eastern Dominican Republic. Instructors of the six sections of the university introduction course were contacted about the study and asked for permission to distribute the survey in their classes. All instructors agreed to have their students participate in the study, which was approved by the institutional review boards at two universities. Study participants were provided with an informed consent form and a printed copy of the survey, and a member of the research team remained in the classroom to answer questions the students might have. For the purpose of this analysis, only students between ages 16 and 24, the typical college age in the Dominican Republic, who completed all items in the survey instrument were included (n = 299), yielding a final usable return rate of 89.8%. Thirty-four study respondents were excluded from the data analysis because they either exceeded the targeted age group or did not complete all items in the survey.

Data Analysis

The Statistical Package for the Social Sciences (SPSS) version 21.0 was used to analyze the data in this study. Data analysis included the use of descriptive statistics for demographic characteristics. Chi-square analyses were used to determine differences in unintentional injuries, violence, tobacco use, alcohol and other drugs, sexual behaviors, dietary, and physical activity between males and females. Differences between males and females were considered statistically significant at $p < 0.05$. The results show the percentages of students who responded to the item overall and by gender. In some cases, the numbers and percentages in the tables refer only to those who completed the specific questions.

Results

The final sample consisted of 299 students between ages 16 and 24 years (M_{age} = 18.58, SD = 1.63). Fifty-seven percent of the participants were female (n

= 171), and 97% reported they were heterosexual (n = 258). Fifty-one percent indicated they were Mestizo (n = 153), 18% White (n = 54), 12% Black (n = 35), 10% Indigenous (n = 30), and 9% other race (n = 26).

Behaviors That Contribute to Unintentional Injuries

Table 1 shows that 75% of study respondents who rode in a motorcycle in the past 12 months rarely or never used a helmet; similarly, 87% of those who rode a bicycle rarely or never used a helmet when riding. Close to 17% of those who drove a vehicle rarely or never used a seat belt, and 47% rarely or never used a seat belt when someone else drove. Similarly, 34% of study respondents rode with a driver who had been drinking alcohol, and almost 25% of those who drove did it after drinking alcohol.

A chi-square analysis showed a significant difference between males and females with respect to using a helmet when riding a motorcycle, using a seat belt when driving or when someone else drove, and driving after drinking alcohol. Females were less likely than males to use a helmet when riding a motorcycle ($\chi^2 = 15.61$, $p < .001$) and less likely to wear a seat belt when someone else drove ($\chi^2 = 9.52$, $p < .05$). Males were less likely than females to wear a seat belt when driving ($\chi^2 = 27.11$, $p < .001$) and more likely than females to drive after drinking alcohol ($\chi^2 = 40.04$, $p < .001$).

Table 1
Behaviors That Contribute to Unintentional Injuries

	Overall	Gender *n*(%)	
Category	***n*(%)**	**Male**	**Female**
Rarely or never wore helmet when riding a motorcycle**	138(75.0)	64(64.6)	72(86.7)
Rarely or never wore helmet when riding a bicycle	172(86.8)	80(88.9)	90(84.9)
Rarely or never wore seat belt when driving***	49(16.5)	25(20.3)	24(14.0)
Rarely or never wore seat belt when some else drove*	141(47.2)	47(37.6)	93(54.3)
Rode with driver who had been drinking alcohol	101(34.2)	44(35.5)	56(33.3)
Drove when drinking alcohol***	35(24.5)	29(35.8)	5(8.5)

Note. Number and percentage are based on those who answered the particular question.
*$p < .05$. **$p < .01$. ***$p < .001$.

Behaviors That Contribute to Violence

Overall, a small percentage of students reported that they carried a weapon

during the last 30 days (5%), carried a gun (2%), carried a weapon to school (2%), or were threatened or injured with a weapon at school (3%). Approximately 13% of the participants were involved in a fight during the last 12 months, 6% did not go to school due to safety concerns, almost 13% had property stolen or damaged at school, and almost 5% reported they were forced to have sexual intercourse during their life. The data show that males were more likely than females to carry a gun (see Table 2).

Table 2
Behaviors That Contribute to Violence

	Overall	Gender *n*(%)	
Category	***n*(%)**	**Male**	**Female**
Carried weapon	11(3.7)	8(6.4)	3(1.8)
Carried gun*	6(2.0)	6(4.9)	0(0)
Carried weapon to school	5(1.7)	4(3.2)	1(0.6)
Threatened or injured with a weapon at school	9(3.0)	6(4.8)	3(1.8)
Involved in physical fight	40(13.4)	20(16.0)	20(11.7)
Did not go to school due to safety concerns	19(6.4)	11(8.8)	8(4.7)
Had property stolen or damaged at school	38(12.7)	22(17.6)	16(9.4)
Forced to have sexual intercourse	14(4.8)	6(4.8)	8(4.9)
Seriously considered attempting suicide	20(6.9)	7(5.7)	13(7.8)
Made suicide plans	20(6.9)	7(5.7)	13(7.8)
Attempted suicide	20(6.9)	7(5.7)	13(7.8)
Suicide attempt treated by doctor or nurse[a]	10(50.1)	4(57.1)	6(50.5)

Note. Number and percentage are based on those who answered the particular question.
*$p < .05$.
[a]Number and percentage based on those who attempted suicide.

Suicide Ideation

Around 7% of the participants considered attempting suicide, made a plan for suicide, or attempted suicide during the past 12 months. Out of those who attempted suicide, almost 53% were treated by a doctor or nurse (see Table 2). A chi-square analysis showed that more males than females reported that they carried a gun ($\chi^2 = 8.32$, $p < .05$). No significant differences were found among the other variables.

Tobacco Use Behaviors

Almost 17% of the participants reported that they had smoked cigarettes and almost 5% reported that they smoke cigarettes daily. Of those who reported that they had smoked, 21% smoked before age 13 years. Only 4% of the participants (n = 12) reported being current cigarette smokers, and out of those, close to 17% smoke between six and 10 cigarettes daily, all of them smoke while at school, 75% had bought cigarettes at a store, and almost 42% had tried to quit smoking. A chi-square analysis showed that females were more likely than males to have tried smoking cigarettes before age 13 years ($\chi^2 = 11.87$, $p < .05$). Finally, less than 6% reported being current smokeless tobacco users and less than 1% used smokeless tobacco at school (see Table 3).

Table 3
Tobacco Use Behaviors

	Overall	Gender n(%)	
Category	n(%)	**Male**	**Female**
Ever smoke cigarettes	48(16.6)	24(19.7)	24(14.4)
Ever smoke cigarettes daily	14(4.9)	8(6.6)	6(3.7)
Smoke cigarettes before age 13 years*	12(21.0)	3(10.3)	9(32.1)
Current cigarette smoker	12(4.2)	8(6.7)	4(2.5)
Smoke 6–10 cigarettes daily[a]	2(16.7)	2(25.0)	0(0)
Smoke cigarettes at school[a]	12(100)	8(100)	4(100)
Bought cigarettes at store[a]	9(75.0)	6(75)	3(75)
Tried to quit smoking cigarettes[a]	5(41.7)	3(37.5)	2(50.0)
Current smokeless tobacco use	15(5.5)	9(7.8)	6(3.8)
Use smokeless tobacco at school[b]	2(13.3)	2(22.2)	0(0)

Note. Number and percentage are based on those who answered the particular question.
*$p < .05$.
[a]Number and percentage based on those who are current cigarette smokers. [b]Number and percentage based on those who use smokeless tobacco.

Alcohol and Other Drug Use Behaviors

Almost 69% of study participants reported that they had drunk alcohol, with almost 16% of them trying alcohol before age 13 years. Forty-one percent reported being current alcohol drinkers, with 34% reporting binge drinking within the past 30 days and 7% reporting drinking alcohol at school.

A small percentage of students reported having used marijuana (3%), with less than 1% having tried marijuana before age 13 years. Forty-four percent of those who reported having used marijuana were current marijuana users (n =

4) and 11% ($n = 1$) had used marijuana at school. One percent or less reported having used cocaine, having used cocaine at school, having used inhalants, and having used inhalants at school. Approximately 6% had taken steroids without a doctor's prescription, around 5% had injected illegal drugs, and less than 4% had been exposed to illegal drugs at school (see Table 4). A chi-square analysis showed that males were more likely than females to report using steroids without a prescription ($\chi^2 = 18.63$, $p < .01$). No significant differences were found among the other variables.

Table 4
Alcohol and Other Drug Use Behaviors

	Overall	Gender *n*(%)	
Category	***n*(%)**	**Male**	**Female**
Ever drank alcohol	195(68.6)	93(75.0)	102(63.8)
Drank alcohol before the age of 13 years	45(15.7)	27(29.0)	16(15.7)
Current alcohol use (past 30 days)	120(41.5)	58(46.7)	61(37.7)
Binge drinking[a]	41(34.2)	19(32.8)	22(36.1)
Drank alcohol at school[a]	9(7.5)	7(12.1)	1(1.6)
Ever used marijuana	9(3.2)	5(4.1)	4(2.5)
Used marijuana before the age of 13 years[b]	1(0.4)	1(0.8)	0(0)
Current marijuana use[b]	4(44.4)	3(60.0)	1(25.0)
Used marijuana at school[b]	1(11.1)	1(20.0)	0(0)
Ever used cocaine	4(1.4)	3(2.5)	1(0.6)
Current cocaine use[c]	4(1.4)	3(2.5)	1(0.6)
Ever used inhalants	4(1.3)	3(2.5)	1(0.6)
Ever used illegal drugs	2(0.7)	2(1.6)	0(0)
Ever took steroid without doctor's prescription[*]	18(6.3)	15(12.5)	1(0.6)
Ever injected illegal drug	12(4.2)	6(4.9)	6(3.7)
Had been offered, sold, or given illegal drug at school	10(3.5)	6(5.0)	4(2.5)

Note. Number and percentage are based on those who answered the particular question.
[*]$p < .01$.
[a]Number and percentage based on those who drank alcohol in the past 30 days. [b]Number and percentage based on those who used marijuana. [c]Number and percentage based on those who used cocaine.

Sexual Behaviors That Contributed to Unintended Pregnancy and STIs

Overall, 50% of the students reported that they have had sexual intercourse, with less than 5% reporting that they had sexual intercourse before age 13 years. Almost 37% of the participants who reported having had sexual intercourse reported having had more than four sexual partners during their lifetime, and 41% of the students reported having had sexual intercourse with at least one sexual partner during the last 3 months.

Sixty-seven percent of those who have had sexual intercourse reported using a condom and almost 83% reported using a form of birth control the last time they had sexual intercourse. Eight percent of those who were sexually active reported drinking alcohol, and almost 2% reported using drugs before the last time they had sexual intercourse. The majority of participants were taught about AIDS/HIV at school (90%) or talked to parents or other adults about this topic (80%). Finally, only 6% of the sexually active students reported having been told by a doctor or nurse that they have an STI (see Table 5).

A chi-square analysis showed a significant difference among males' and females' sexual behaviors. Males were more likely than females to report having had sexual intercourse ($\chi^2 = 31.75$, $p < .001$), having had sexual intercourse before age 13 years ($\chi^2 = 48.01$, $p < .001$), having had more than four sexual partners during their lifetime ($\chi^2 = 32.11$, $p < .001$), having had sexual intercourse within the past 3 months ($\chi^2 = 11.61$, $p < .05$), having used a condom the last time they had sexual intercourse ($\chi^2 = 21.14$, $p < .001$), and having drunk alcohol before sexual intercourse ($\chi^2 = 3.88$, $p < .05$). Females were more likely than males to report using a form of birth control ($\chi^2 = 16.53$, $p < .05$).

Table 5
Sexual Behaviors That Contributed to Unintended Pregnancy and STIs, including HIV

	Overall	Gender *n* (%)	
Category	***n* (%)**	**Male**	**Female**
Ever had sexual intercourse[**]	145(51.1)	84(70.0)	58(36.0)
Had first sexual intercourse before the age of 13 years[**a]	13(4.7)	13(10.9)	0(0)
Had sexual intercourse with four or more partners during their life[**a]	47(36.5)	41(55.4)	5(9.6)
Had sexual intercourse with at least one partner in the last 3 months[*a]	118(41.5)	69(57.5)	46(28.6)

Condom use last sexual intercourse[**a]	90(67.2)	64(51.8)	23(43.4)
Birth control use[*a]	111(82.8)	62(79.5)	46(86.8)
Drank alcohol before last sexual intercourse[*a]	25(8.4)	19(25.3)	6(11.3)
Used drugs before last sexual intercourse[a]	5(1.7)	3(4.0)	1(1.9)
Were taught in school about AIDS and HIV infection	262(90.3)	113(91.1)	148(90.8)
Talked to parents or other adults about HIV/ AIDS	231(79.9)	101(82.1)	128(78.5)
Were told by a doctor or nurse that had STI	8(6.0)	5(6.4)	2(3.8)

Note. Number and percentage are based on those who answered the particular question. [*]$p < .05$. [**]$p < .001$.

[a]Number and percentage based on those who reported having had sexual intercourse.

Dietary Behaviors

Forty-one percent of the participants reported that they eat at least one to two servings of fruit per day. Similarly, less than 40% of respondents indicated that they eat at least one to two servings of vegetables, either uncooked (29%) or cooked (37%), on a daily basis. However, most participants indicated that they eat one to five servings of grains (84%), one to two servings of dairy, and one to three servings of proteins (79%) daily. A chi-square analysis showed that females were more likely than males to eat one to five serving of grains daily ($\chi^2 = 16.10$, $p < .01$), but less likely to eat cooked vegetables ($\chi^2 = 6.34$, $p < .05$) daily. Males were more likely than females to report eating one to two servings of dairy (χ^2=13.35, p<.01) and eating one to three servings of proteins daily (χ^2 = 11.65, $p < .01$; see Table 6).

Table 6
Dietary Behaviors

	Overall	Gender *n*(%)	
Category	***n*(%)**	**Male**	**Female**
Ate at least 1–2 servings of fruit	121(40.9)	56(44.8)	65(38.0)
Ate 1–5 servings of grains[**]	249(84.1)	98(79.0)	148(87.6)
Ate at least 1–2 servings of uncooked vegetables	86(29.5)	44(36.0)	42(24.7)
Ate at least 1–2 servings of cooked vegetables[*]	109(37.1)	50(40.3)	59(34.7)

Table 6 (cont.)

	Overall	Gender *n*(%)	
Category	***n*(%)**	**Male**	**Female**
Consumed at least 1–2 servings of dairy**	185(62.3)	85(68.5)	98(57.6)
Ate 1–3 servings of proteins**	233(78.6)	122(81.1)	168(77.9)

Note. Number and percentage are based on those who answered the particular question. *$p < .05$. **$p < .01$.

Physical Activity

Over half of the students participated in exercise or physical activity (58%) or stretching activities (52%) and walked or bicycled at least for 30 minutes (53%) at least once per week. Less than one third participated in muscle strengthening activities (29%) or attended physical education classes (25%), and less than 10% played on at least one sports team. A chi-square analysis showed that males were significantly more likely than females to participate in exercise or physical activity ($\chi^2 = 15.80$, $p < .01$), stretching activities ($\chi^2 = 18.00$, $p < .001$), and muscle strengthening activities ($\chi^2 = 62.35$, $p < .001$); attend physical education classes ($\chi^2 = 17.09$, $p < .01$); and play on at least one sports team ($\chi^2 = 30.47$, $p < .001$).

Table 7
Physical Activity

	Overall	Gender *n*(%)	
Category	***n*(%)**	**Male**	**Female**
Participated in exercise or phys act**	172(58.5)	85(68.5)	87(51.2)
Participated in stretching act**	155(52.4)	78(62.4)	77(45.0)
Participated in muscle strengthening act***	87(29.4)	66(52.8)	4(12.3)
Walked or bicycled at least 30 mins	158(53.4)	71(56.8)	57(50.9)
Attended physical educ class**	75(25.3)	49(27.8)	35(20.5)
Played on at least one sports team*	29(9.7)	16(12.8)	13(7.8)

Note. Number and percentage are based on those who answered the particular question. *$p < .05$ for gender. **$p < .01$ for gender. ***$p < .001$ for gender.

Obesity, Overweight, and Weight Control

Approximately 15% of participants in the study described themselves as being overweight (see Table 8). Furthermore, less than 25% were trying to lose

weight by controlling their diets, exercising, or doing something else. There were no statistical differences by gender in these variables.

Table 8
Obesity, Overweight, and Weight Control

	Overall	Gender *n*(%)	
Category	***n*(%)**	**Male**	**Female**
Described themselves as overweight	45(15.4)	15(12.3)	30(17.7)
Trying to lose weight	66(22.5)	23(18.5)	43(25.4)
Followed diet to lose weight or keep from gaining weight	43(14.5)	15(12.1)	28(16.5)
Exercised to lose weight or keep from gaining weight	62(21.0)	30(25.7)	31(35.3)
Didn't eat for less than 12 hours to lose weight or keep from gaining weight	14(4.7)	6(4.8)	7(4.1)
Took diet pill, powers, or liquids to lose weight or keep from gaining weight	11(3.7)	4(4.7)	7(6.3)

Note. Number and percentage are based on those who answered the particular question.

Discussion

The aim of this study was to provide baseline information on health behaviors and practices among first-year college students in a medium-sized university in the Dominican Republic. Results from this study revealed a number of risk-taking behaviors among participants that may contribute to higher morbidity and mortality factors among the studied population. The results related to low use of helmets was similar to the findings in other studies (Cerezo & Méndez, 2012; Pillon et al., 2005), and considering the high number of people who reported low use of helmets, even low to moderate accident rates could result in preventable injuries or even deaths. Furthermore, considering that motorcycles are a primary mode of transportation among the target population, health promotion messages designed to increase the use of helmets may decrease head injuries among the target population.

In this study, some study participants reported suicide. These findings, while similar to those found in a similar population in Colombia (Alonso Palacio et al., 2008), suggest that suicide attempts may be higher in this population group than previously anticipated. The finding that women are more likely to engage in these behaviors is similar to the findings reported by Arias López et al. (1999) among Dominican teenagers.

Although a large percentage of study respondents claimed to have had information about STDs and HIV/AIDS, the results suggest that knowledge does not translate into behavior, as the commonly preventive practice of condom use was lower than expected. The data suggest that the educational component is not internalized properly to prevent these diseases.

Tobacco use in adolescence is considered a gateway to the exploration of additional mind-altering substances as the individual grows older. The higher percentage of smoking among males is similar to that found in groups of university students from Ecuador (Pillon et al., 2005), Brazil (Pillon et al., 2005), and Colombia (Alonso Palacio et al., 2008). Since tobacco use may start early in adolescence, perhaps even before students enter a university, some Dominican researchers have suggested that starting prevention at this stage may be too late (Peña et al., 2010). Despite the recommendation given by the researchers quoted before, and given that smoking is a risk factor for the development of many diseases, and because universities are establishments with a captive concentration of this population, the data suggest that institutions of higher learning should develop policies designed to regulate the use of tobacco on campus and to mitigate cigarette consumption within academic institutions.

A high percentage of students in this sample population reported using alcohol. Results from this study are similar to those reported by other researchers (Epstein et al., 2001; Guilamo-Ramos et al., 2011), and the documented relationship between alcohol use and other risk behaviors including irresponsible sexual behaviors indicate that universities in the Dominican Republic should play a key role in addressing alcohol use among their students.

Results from this study suggest that most students obtain their physical activity outside the university setting. This is not surprising given that most institutions of higher learning in the Dominican Republic do not include physical activity as a required course in their curriculum. The lack of structured physical activity, outside sports such as soccer, may be correlated to the body composition of body weight of study respondents.

In this study, however, there was a significant limitation of data obtained through the YRBS. As indicated above, this instrument was designed to collect information about six specific areas that have been found to affect the health status of adolescents in the United States adversely. The instrument does not address other determinants of health including cultural beliefs, low literacy rates, high unemployment rates, restrictive upward mobility, and armed conflicts, among others. This is an important limitation because decision making, risk taking, and prevention are largely associated to cultural background as suggested in the literature (Kasperson et al., 1988; Uchino, 2009). It was also suggested in the literature that cultural values largely determine the way in which an individual behaves and perceives reality; furthermore, elements such as religion, sociocultural traditions, values, and morals appear to be among the

most important factors influencing risk perception and reduction among adolescents (Baban & Catrinel, 2007). It is therefore important that future studies expanding on the baseline data collected on this study be focused on those variables to provide a more comprehensive view of the health status of adolescents attending universities in the Dominican Republic.

A second limitation to this study is the small number of individuals who participated. Although the 333 respondents represent a significant proportion of first-year students at this institution, the sample size is smaller than in the more comprehensive national surveys conducted in the United States, making it difficult to draw direct comparisons between the two countries. For instance, the 2013 YRBS contained information from 21 large urban school districts spread across 42 states. The smaller sample, however, does not eliminate the findings from this study, which was designed to provide much needed data in a nonexistent comprehensive surveillance system.

Conclusion

The World Health Organization has advocated for declaring health a universal human right (Organización Mundial de la Salud, 1978, 2013). In fact, the international definition of health suggests that it is the result of genes, environment, access to health care, and individual behaviors, which collectively are called determinants of health. Becoña Iglesias, Vázquez, and Oblitas (2004) suggested that a person's health status is the reflection of what they do and more often than not reflects inappropriate health behaviors. Given its developmental nature, adolescence is a prime time for the development of positive health behaviors designed to reduce morbidity and mortality among a population likely to take many risks that may negatively impact health status and should therefore be a high priority for the development of health promotion and disease prevention interventions (Murphy, 2005).

Data from this study suggest that Dominican adolescents enrolled in institutions of higher learning represent a distinct population group in a country with over 10 million inhabitants. Individuals in the target group represent close to 19% of the population, and this provides a strong incentive to develop health promotion and disease prevention programs targeting this group. Based on the data collected in this study, interventions focused on risky behavior such as alcohol consumption and unprotected sexual activity may be good starting points to improve the health status of the target population. Specific areas will be determined by the society and be driven by the baseline data provided in this study.

As indicated above, future studies should be focused on the role of culture and risk-taking behavior. Other areas for research include the self-reported health status, access to health care services, and other health determinants. The YRBS was not designed to address the relationships between spirituality

and drug use among Latin American adolescents, yet it has been suggested in the literature that there is a relationship that merits further investigation (Chen, Dormitzer, Bejarano, & Anthony, 2004); therefore, researchers in future studies should explore the correlation between religiosity and health behaviors and use faith beliefs as a mediating variable in controlling risk behavior. Finally, this study should be replicated among a larger number of students at several universities in different parts of the country to provide a more comprehensive surveillance profile of health status among this population segment.

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