

# Investigation and Research on the Requirement of College Students' Physical Health Education in Tianjin

Yueying Liang, Fang Yuan, and Jian Zhang\*

Tianjin University of Traditional Chinese Medicine, No. 10 Poyang Lake Road, West District, Tuanbo New Town, Jinghai District, Tianjin, China

**Keywords:** College students, Physical health education, Demand, Influencing factors

**Abstract:** Objective: To understand the needs of college students 'physical health education and its influencing factors, and to provide a reference for college students' physical health education. Methods: This paper uses stratified cluster sampling method, selects ten universities undergraduate students in Tianjin as the survey object, investigates the needs of college students for physical health education, and uses SPSS 23.0 software to conduct  $\chi^2$  test and multi-factor logistic regression analysis on the survey data. Results: 82.36% of college students stated that they needed a physical health education for college students, and 48.98% of college students said that they had not received or received little physical health education for college students during college. College students of different genders, father's education level, mother's education level, father's occupation, mother's occupation, and family monthly income per capita had statistically significant differences in health education needs ( $P < 0.05$ ). Multivariate logistic regression analysis results showed that female students, non-medical majors, parents with education level in high school and below, and family per capita monthly income of 5,000 yuan and above were positively correlated with college student health education demand rate. Conclusions: Colleges and universities should pay attention to the cultivation of health education professionals and establish a reasonable teaching system; They should strengthen physical health education for college students, including nutrition and dietary knowledge, sports and fitness knowledge, lifestyle habits, safe medication, and healthy sleep. Sexual knowledge, knowledge of infectious diseases, and AIDS and other physical aspects of health education.

## 1. Introduction

Health education is an important part of national education. Most western countries have included health education as a compulsory course in the syllabus of elementary and middle schools [1]. China's health education began in the 1950s. In 1984, college student health education was implemented in China's colleges and universities [2]. In recent years, a survey of the physical fitness and health of students across the country found that the physical fitness of college students in China has deteriorated year by year, and some indicators are even inferior to those of middle school students [3]. With the continuous development of higher education in China, the proportion of college students among their peers has increased year by year [4], and college students are at the stage of the formation and fixed development of ideas and behaviors. Carrying out health education for college students is of great significance to the improvement of China's future population quality [5]. A meta-analysis as of February 2015 showed that the total health literacy level of Chinese college students was only 12.08% [6]. According to previous studies, it is found that more college students in China have unhealthy lifestyles [7]. And there are various factors affecting the healthy lifestyle of college students [8]. Through statistical analysis of related literatures, it is found that most scholars in China have studied more and higher quality of psychological health education of college students, and have less research and lower quality of physiological health education of college students. Therefore, this article mainly focuses on the physical health education of college students in China. In order to understand the needs of college students' physical health education in China and the related influencing factors, this article conducted a survey of college students' physical health education in Tianjin from January to February 2020, in order to provide reference

for college students' health education.

## **2. Objects and Methods**

### **2.1 Objects**

Using stratified cluster sampling method. First, ten undergraduate colleges were selected in Tianjin, and then a total of 2165 college students who were studying or graduated from the ten colleges were selected for questionnaire surveys. Invalid questionnaires that were omitted and duplicated were eliminated. A total of 2058 valid questionnaires were recovered, with an efficiency of 95.05%. Among them, there are 891 boys and 1167 girls. The maximum number of people aged 20-25 years is 1634, accounting for 79.4% and 81.97% of the total college students enrolled in 2014-2019 (that is, nearly five years).

### **2.2 Methods**

#### **2.2.1 Survey Tools**

The questionnaire survey was used to collect the research data. The survey content included the collection of basic information and health education content. The health education content included nutrition and diet knowledge, sports and fitness knowledge, lifestyle habits, safe medication, healthy sleep, In terms of sexual knowledge, infectious disease prevention knowledge, and AIDS knowledge, ask the needs of Tianjin University for the above.

#### **2.2.2 Statistical Analysis**

Use descriptive statistics to analyze the current situation of health education needs of college students in Tianjin and its influencing factors, use X<sup>2</sup> test and analysis of variance to compare the differences in the needs of different demographics and health education content, and do multi-factor logistic regression analysis on the factors affecting health education of college students The inspection level is  $\alpha = 0.05$ .

## **3. Results**

### **3.1 Demand for Specific Content of Health Education for College Students**

Among the 2058 college students, 1695 (82.36%) stated that they needed health education, and 1008 (48.98%) said they did not have, received very little or received relatively little health education during college, and 1050 (51.02%) College students stated that they had received more or very much health education content during college. According to a survey on the needs of college students' health education content, it was found that there were 1,459 (70.90%) health education for nutrition and diet knowledge, 1512 (73.50%) health education for sports and health education, and lifestyle habits among college students. In this regard, 1456 people (70.70%), safe medication knowledge of 1582 people (76.87%), healthy sleep knowledge of 1475 people (71.70%), sexual knowledge education of 1500 people (72.90%), infectious diseases (hepatitis , Tuberculosis, influenza, etc.) 1595 people (77.60%) of prevention knowledge, and 1579 people (76.70%) of AIDS education. There is a significant difference between male students and female students in sports and health knowledge education, safe medication knowledge education, sex knowledge education, and AIDS knowledge education, with statistical significance, P value <0.05. See Table 1.

### **3.2 Different Demographic Characteristics and Health Education Needs of College Students**

College students of different genders, father's education level, mother's education level, father's occupation, mother's occupation, and family monthly income per capita had statistically significant differences in health education needs (P <0.05). Female, non-medicine, father's education level is high school or below, mother's education level is high school or below, father's occupation is worker, mother's occupation is freelance, and college students whose average monthly income is above 5000 yuan. The demand for health education is relatively high. See Table 2.

Table 2 Comparison of health education needs of college students in different groups

Group		People	Number of people in need of health education	X <sup>2</sup> value	p-value
Gender	Male	891	707 (34.4%)	9.815	0.002
	Female	1167	988 (48.0%)		
Profession	Medicine	866	710 (34.5%)	0.145	0.703
	Non-medical	1192	985 (47.9%)		
Education level of father	High school and below	767	694 (33.7%)	65.506	0.000
	Specialist	425	315 (15.3%)		
	Undergraduate	626	507 (24.6%)		
	Graduate and above	240	179 (8.7%)		
Education level of mother	High school and below	808	741 (36.0%)	91.613	0.000
	Specialist	435	340 (16.5%)		
	Undergraduate	552	432 (21.0%)		
	Graduate and above	263	182 (8.8%)		
Father's occupation	National Enterprise Staff	424	366 (17.8%)	19.934	0.001
	worker	542	457 (22.2%)		
	Farmer	359	291 (14.1%)		
	teacher	318	237 (11.5%)		
	Freelancers	415	344 (16.7%)		
Mother's occupation	National Enterprise Staff	312	257 (12.5%)	11.722	0.020
	worker	415	335 (16.3%)		
	Farmer	442	356 (17.3%)		
	teacher	387	309 (15.0%)		
	Freelancers	502	438 (21.3%)		
Monthly household income	¥2000 and below	187	141 (6.9%)	15.519	0.001
	¥2001-¥4000	651	529 (25.7%)		
	¥4001-¥5000	515	416 (20.2%)		
	¥5000 or more	705	609 (29.6%)		

### 3.3 Multi-Factor Logistic Regression Analysis of College Students' Health Education Needs and Influencing Factors

Taking Tianjin college students' health education as the dependent variable (required = 1, not needed = 2), the statistically significant variables of gender (male = 1, female = 2) and the degree of education of father and mother in univariate analysis were analyzed. (High school and below high school = 1, junior college = 2, bachelor = 3, graduate and above = 4), occupation of father and mother (state enterprise and public work staff = 1, workers = 2, farmers = 3, teachers = 4, freedom Professionals = 5), household monthly income (2000 yuan and below = 1, 2001 yuan-4,000 yuan = 2, 4001 yuan-5,000 yuan = 3, 5,000 yuan = 4 or more) as independent variables, multivariate logistic regression analysis was performed. The results show that gender, specialty, parents' respective education level, parents' respective occupations, and family's average monthly income are the influencing factors of college students' health education needs. Girls (OR = 1.352, 95% CI = 1.048-1.744), Medicine major (OR = 0.712, 95% CI = 0.551-0.919), father's education level is above high school (OR = 0.436, 95% CI = 0.275-0.693), mother's education level is above high school (OR = 0.203, 95% CI = 0.132-0.314) and the per capita monthly household income is 5,000 yuan and below Up (OR = 1.770, 95% CI = 1.270-2.465) was positively correlated with college students' health education demand rate (all P values <0.05). See Table 3.

Table 3 Multi-factor logistic regression analysis of college students' health education needs (n = 2058)

Influencing factors		B value	Standard error	Wald value	P value	OR Value (OR value 95%CI)
gender	Schoolgirl	0.302	0.130	5.382	0.020	1.352 (1.048-1.744)
profession	Non-medical	0.340	0.130	6.825	0.009	0.712 (0.551-0.919)
Education level of father	High school and below	-0.829	0.236	12.348	0.000	0.436 (0.275-0.693)
Education level of mother	High school and below	-1.593	0.222	51.431	0.000	0.203 (0.132-0.314)
Father's occupation	worker	-0.250	0.198	1.599	0.206	0.779 (0.528-1.148)
Mother's occupation	Freelancers	0.159	0.202	0.614	0.433	1.172 (0.788-1.742)
Monthly household income	5000 yuan and above	0.571	0.169	11.385	0.001	1.770 (1.270-2.465)

#### 4. Conclusion

This paper uses stratified cluster sampling method, selects ten universities undergraduate students in Tianjin as the survey object, investigates the needs of college students for physical health education, and uses SPSS 23.0 software to conduct  $\chi^2$  test and multi-factor logistic regression analysis on the survey data. The survey results show that the demand rate of health education for college students in Tianjin is 82.36%, and the demand for health education involves eight aspects. The order of health education demand from high to low is infectious diseases (hepatitis, tuberculosis, epidemic The demand rate for preventive knowledge education is 77.5%, the demand rate for safe medication knowledge is 76.87%, the demand rate for AIDS education is 76.73%, the demand rate for sports and health knowledge education is 73.47%, and the demand for sex knowledge education The rate is 72.88%, the demand rate for healthy sleep knowledge is 71.67%, the demand rate for health education on nutrition and diet knowledge is 70.89%, and the demand rate for lifestyle habits is 70.75%. Different genders, different professions, parents' education level, parents' occupation and family's average monthly income are the main factors affecting the health education needs of college students, and girls, non-medical majors, parents' education level above high school, and family's monthly average College students with an income of 5,000 yuan or more have a higher demand for health education, which shows that the situation of the original family has a greater impact on college students' health education. The greater demand of college students for physical health education reflects some of the problems in China's current college health education, mainly in terms of management systems and Health education professionals training<sup>[9]</sup>.

In summary, Colleges and universities should pay attention to the cultivation and introduction of health education professionals, and increase investment in health education related resources. Colleges and universities should make scientific and detailed plans for college students' physical health education, establish a reasonable teaching system, and set up special funds for health education. Adhere to health education for college students and encourage college students to actively participate in health education activities. Colleges and universities should pay attention to health education for college students. First, when time and resources are limited, focus should be placed on infectious diseases (hepatitis, tuberculosis, influenza, etc.) prevention education, safety medication education, and AIDS-related education. And education related to sports and health. Properly conduct education on sexual knowledge, healthy sleep, nutrition and diet, and lifestyle habits. Second, health education for college students should focus on strengthening health education for girls, non-medicine majors, and parents whose education levels are in high school or below according to their own conditions and characteristics, and pay attention to their physical health and health education. To ensure that college students are in good physical health. Third, universities can

set up health education courses, conduct health education knowledge contests, carry out campus posters on health education knowledge, open health education knowledge school public accounts, conduct campus radio publicity on health education knowledge, and set up health education on campus. Counseling centers and other methods comprehensively carry out college students' campus physical health education, and enrich education forms to achieve good educational results.

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Table 1 Investigation of whether college students should carry out health education related content

Demographic indicators	People	Statistics	Nutrition and diet knowledge education (%)					Sports and health knowledge education (%)					Lifestyle education (%)					Education on knowledge of safe medication (%)					
Gender	Option		a	b	c	d	e	a	b	c	d	e	a	b	c	d	e	a	b	c	d	e	
	Male	891		2.6	4.9	6.5	16.8	12.6	2.7	5.1	5.2	16.1	14.3	3.0	4.1	6.3	16.6	13.4	2.6	4.0	5.3	15.5	15.8
Female	1167		2.6	4.6	8.0	24.1	17.4	2.2	4.7	6.8	22.4	20.7	2.5	4.6	8.8	21.3	19.4	2.0	3.8	5.3	20.7	24.9	
Total			5.2	9.5	14.5	40.9	30	4.9	9.8	12	38.5	35	5.5	8.7	15.1	37.9	32.8	4.6	7.8	10.6	36.2	40.7	
		X <sup>2</sup>	9.176																				21.612
		p	0.057																				0.000
Demographic indicators	People	Statistics	Healthy sleep education (%)					Sexual knowledge education (%)					Knowledge education on infectious diseases (%)					AIDS knowledge education (%)					
Gender	Option		a	b	c	d	e	a	b	c	d	e	a	b	c	d	e	a	b	c	d	e	
	Male	891	2.3	3.8	6.7	14.1	16.5	3.0	4.1	5.5	13.9	16.8	2.6	3.3	5.1	14.5	17.9	2.3	3.7	5.3	13.8	18.1	
Female	1167		2.6	3.6	9.4	19.7	21.4	2.4	4.0	8.1	18.8	23.4	2.4	3.8	5.3	18.7	26.5	2.2	3.5	6.2	16.6	28.2	
Total			4.9	7.4	16.1	33.8	37.9	5.4	8.1	13.6	32.7	40.2	5	7.1	10.4	33.2	44.4	4.5	7.2	11.5	30.4	46.3	
		X <sup>2</sup>	5.433																				14.960
		p	0.246																				0.005

(a = Very should not, b = Basically should not, c = Doesn't matter, d = Should be, e = Very should)