



Factors that influence the use of health services by young people. Case of Jorge Tadeo Lozano University, Campus Bogota

Factores que influyen en el uso de servicios de salud por parte de los jóvenes. Caso Universidad Jorge Tadeo Lozano, sede Bogotá

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Resumen

Introducción: Las universidades tienen constitucionalmente consagrado un principio de autonomía que les permite desarrollar servicios de salud. **Objetivo:** Determinar los factores por los que los jóvenes utiliza los servicios de salud de la Universidad Jorge Tadeo Lozano. **Materiales y métodos:** Se analizó estudiantes de pregrado entre 16 y 27 años, que usaron los servicios de salud al menos una ocasión en el periodo comprendido entre el 13 de enero de 2016 al 31 de julio de 2017 a través de una encuesta de 26 preguntas. **Resultados:** Los costos, hábitos, profesionales y entorno de los jóvenes, además de las campañas de promoción y prevención de salud fueron determinantes para el uso de los servicios. **Conclusiones:** Una política universitaria que promueva el uso de los servicios asistenciales que brindan los centros educativos, fomenta la creación de una cultura del autocuidado y un cambio estructural en la construcción de un estilo de vida saludable en los estudiantes, lo que no implica prescindir del sistema General de Seguridad Social en Salud.

Palabras clave: Adulto joven; adolescente; servicios de salud para estudiantes; promoción de la salud. (Fuente: DeCS, Bireme).

Abstract

Introduction: Based on the Colombian Constitution, universities have the autonomy to develop their own healthcare service programs. **Objective:** To determine the factors by which young people use the healthcare services provided by the Jorge Tadeo Lozano University. **Materials and methods:** Using a 26-question survey, we interviewed students aged between 16 to 27 years, who have used the university healthcare facilities at least once during the period of January 13 to July 31 2017. **Results:** The key factors for using healthcare services were cost, habits, health professionals, environment and health promotion and prevention campaigns. **Conclusions:** A university policy that promotes the use of medical assistance programs provided by educational institutions encourages the establishment of a self-care culture and a structural change in the development of a healthy student lifestyle. A change that does not exclude students from using the General Social Security in Health System.

Key words: Young adult; adolescent; student health services; health promotion. (Source: DeCS, Bireme).

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Introduction

In Colombia, access to health services is a fundamental right for all people who inhabit the country and is regulated by the General Health Social Security System (GHSSS), which serves the entire population through public and private entities. However, there are various sociocultural, institutional and political barriers, of both national and local nature, that obstruct access to this Health System. Adding to this situation, there is a complex system of categories and variables⁽¹⁾ within those barriers.

One of the limitations to access to health services in Colombia is out-of-pocket spending, especially affecting unemployed population such as young university students who still depend on financial support from parents or legal guardians. This constraint has affected unemployment (17.0%), occupation (47.7%), and inactivity (42.5%) rates⁽²⁾.

Since university students do not have a consistent source of income, they face difficulties with buying medicines and following treatments. In fact, only 54% of the Colombian population that belong to the contributive regime can obtain prescription medication^(3,4).

Other variables that have a significant negative impact on the use of health services are information quality and cultural elements. For example, deficient communication strategies due to institutional factors will place individuals at a disadvantage in terms of knowing their rights and responsibilities. Similarly, cultural aspects such as popular beliefs and myths regarding health habits may drive people to seek care from unsuitable individuals like the so-called "yerbateros, teguas or sobanderos", who offer unconventional treatments that put community health at risk. Another example of this is the conception that people have about sexual habits, especially among young adults⁽⁵⁾.

Cultural aspects also influence the habits directly involved in diseases like depression, anemia, AIDS, self-inflicted injuries, back and neck pain, diarrhea, anxiety disorders, asthma, infections of the lower respiratory tract, and injuries caused by traffic accidents⁽⁶⁾.

Given this problematic situation, Colombian authorities have designed policies aimed at

promoting health among young populations. To this end, a program of friendly services has been developed, which include "those services in which adolescents, young people, and their relatives may find a pleasant health care thanks to the link established between users and health providers and the quality of their interventions"⁽⁷⁾. Through several studies of impact evaluations, it has been concluded that those adolescents who interact with such providers: become more knowledgeable about health services; the probability they will attend consultation with general practitioners is increased; their risky behaviors are slightly decreased; and they incorporate preventive habits related to sexual and reproductive education⁽⁷⁻⁹⁾.

Friendly services were adopted in 2006 as models oriented towards young people and adolescents, emphasizing prevention and sexual and reproductive health care. Three modalities were included: (i) differentiated consultation, (ii) health units, and (iii) friendly health centers^(7,10). Since its beginning, this model has not been applied by public entities but it has been mostly implemented by Colombian universities from the perspective of prevention and health promotion⁽¹¹⁾.

Universities have implemented mandatory wellness programs since 1992 under the article 117 - Law 30, which stipulates that "the higher education institutions must conceive well-being programs, understood as the set of activities aimed at physical, psycho-affective, spiritual and social development of students, professors, and administrative staff". Well-being includes diverse variables and terms as determined by the National Council of Education (CESU) that establishes that "well-being in higher education institutions are strategic and transversal functions that include institutional policies, processes, practices, as well as an institutional culture that promotes co-responsibility of the actors that coexist in those institutions and favors an integral formation, full development of human capacities, and community construction. Human development requires all the resources that are necessary to enjoy a long, healthy and dignified life"⁽¹²⁾.

In the second definition, it is possible to observe that health is considered as a necessary factor for well-being. This is fundamental since aspects of sexuality like unwanted pregnancies force young people to abandon their studies and focus on other activities of higher priority such as to work and take care of their

children. Nonetheless, by informing, implementing, and developing preventive practices and appropriate health behaviors, the well-being of young adults can be radically changed in the short-term and long-term⁽¹³⁾. This is how well-being programs and friendly health services share the purpose of promoting good health in this population of young students, as a mechanism of social responsibility.

Given the fact that students face difficulties in terms of accessing health services, we decided to analyze the reasons why they use health care services provided by the Jorge Tadeo Lozano University (JTLU); we classified those barriers in three categories:

1. Sociocultural barriers: identify the environment of the individual in addition to cultural aspects. They include the direct and indirect costs involved in obtaining health services, commuting time, gender sexual habits, performance of physical activity, alcohol consumption, smoking and nutrition⁽¹⁾.
2. Institutional barriers: including supply and quality of services, human resources, administrative procedures, infrastructure, and participation; the latter seeks to identify access to information⁽¹⁾.
3. Political barriers: reflected in the activities of the providing institutions⁽¹⁾.

Healthcare services are an important component of the role that JTLU plays in order to guarantee students' well-being⁽¹⁴⁾. This is the reason why the University has implemented the Well-being Department that belongs to the Academic Vice-Chancellorship office, which, in turn, includes three main offices: a) Art and Culture Center, b) Sports, and c) Assistance services. This research has focused on the assistance services as they are directly related to the integral health of the institutional community and are responsible for providing health services in general medicine, dentistry, nutrition, psychology and physiotherapy. According to the Institutional Educational Project (IEP), an important objective of JTLU is to promote healthy lifestyles to improve the quality of life of its community, making people responsible for their own health through self-care actions.

Some important features of the health services of the JTLU are that they are provided free of charge and grant access to the majority of its resources. There are

various programs and campaigns, including: workshops about relaxation and study techniques, "dare to dream", oral health campaigns, program to prevent osteomuscular lesions at the gym, "healthy back", "so that your abdominals do not depress you", "Tadeo takes care of you", "Tadeo without smoke", family planning counseling, "sincere talks" (2015-2020 Strategic Plan). Other activities are in the development phase and are aimed at avoiding student desertion.

Based on the current regulations regarding prevention and health promotion among adolescent and young populations, the JYLU provides university well-being and health care services. Therefore, this study is focused on undergraduate young students attending classes at the Bogotá campus. It is aimed at determining the factors by which those students use the health services of the Jorge Tadeo Lozano University.

Materials and methods

A quantitative descriptive and cross-sectional study was conducted in six phases:

The first phase consisted in the collection of primary information about dependency on assistance services from the JTLU. They keep clinical histories using the HOSVITAL program, which contains information on all of the students who attended any of the health services units: general medicine, dentistry, nutrition, psychology, and physiotherapy. This registry records patient data like personal and academic information, services provided, reason for consultation, personal and family history, evaluation, diagnosis, and recommended treatment. This database represents an important source of statistical information that makes it possible to identify factors that affect students in terms of their decision to seek medical attention. In addition, the information contained in the database helped us to establish a probabilistic sampling frame for conducting surveys without consulting the medical records of the students.

During the second phase, a survey and pilot test were carried out with three students included in the sample. Based on this test, questions about economic characteristics of the individuals were modified. The final survey had 26 questions distributed in the following way: a) demography, b) use of health care services, and c) lifestyles.

The third phase included the assembly of a probabilistic stratified sample with unequal final probabilities. It is probabilistic because each student-patient has a selection possibility greater than zero. This type of sample has the advantages of being able (i) to establish *a priori* the approximate desired or expected precision of the estimations, and (ii) to calculate *a posteriori* the actual precision observed in the results. The sample size was calculated assuming a relative error of no more than 10% and a conglomeration effect of one. The population consisted of 2,700 individuals disaggregated into five specialties (209 in physiotherapy, 1,709 in general medicine, 274 in nutrition, 485 in dentistry, and 437 in psychology). In other words, we followed a stratified design by specialties where the sampling units were students aged between 16 to 27 years old. The sample size was 196 surveys that were distributed as follows: physiotherapy 36, general medicine 43, nutrition 37, dentistry 40, and psychology 40. The expansion factors in the samples from physiotherapy, general medicine, nutrition, dentistry, and psychology were 5.81; 39.74; 7.41; 12.13; and 10.93, respectively.

The analysis to conduct descriptive statistics was focused on young undergraduate students, between 16 to 27 years of age. Students aged between 18 to 27 years old were used to apply the user survey at least once in one of the health services from January 13, 2016 to July 31, 2017; they had to be registered during the second semester of 2017.

For the fourth phase, we chose a population formed by students-patients enrolled in the University, who started academic activities in August 2017 and aged between 18 to 27 years old. The selection was conducted through a random numbers generator of a uniform probability distribution and a negative coordinate.

During the fifth phase, the survey and informed consent form were implemented under the following modalities: hard copy form (32.1%) and Google virtual forms (67.9%). All the information was consolidated using Excel spread sheets.

The sixth phase involved data analysis by SPSS software using descriptive statistics and Chi-square independence test to determine variables that strongly affect the use of health care services.

A probabilistic sampling method was applied to analyze the determinants of student access to health services (physiotherapy, general medicine, nutrition, dentistry, and psychology). All the variables used to calculate the sample size (e.g., age, requested service, date of service, etc.) were obtained from the database of the Assistance Services Unit of JTLU that has over 12,301 entries describing date of service, treating health professional, patient identification (gender and program), consultation details, and diagnosis.

Ethical considerations

According to Resolution 8430 of 1993 by the Ministry of Health by which scientific, technical and administrative guidelines were established for health research purposes, this study is classified under the “no risk” category. The reason for this classification is that this is a study without intervention and that the data was extracted from a review of the information provided by Department of Marketing and Planning and System of Clinical Histories belonging to the Assistance Services Unit of the Jorge Tadeo Lozano University. This research had the ethical endorsement of the academic institution. Participation in the study was voluntary and the participants were given the opportunity to refuse or accept their inclusion in the study. All the participants were adults and completed and signed the informed consent form.

Results

Based on the information provided by the Assistance Services covering the established period of time, a total of 12,301 consultations were made that mainly used the services of general medicine (40,8%), psychology (15.5%), dentistry (15.2%), nutrition (14.4%) and physiotherapy (14.2%). This number of consultations corresponded to 4,946 students, which indicates that they requested one or more services from one or more specialties. From that total, we only contacted 3,114 students because the rest were not enrolled during the academic period of August-November 2017. In order to apply the structured questionnaire, a filter by age was incorporated to the database resulting in a total of 2,700 students aged between 18 to 27 years of age. The survey applied to 196 undergraduate students yielded the results that are presented next, which were organized on the basis of the parts of such survey.

A) Demography

Figure 1 displays the age distribution of the population with respect to the use of assistance services. 59.6% of the users were women and 97.2% claimed to be single.

With respect to the offered services, students from the Chemical Engineering program were the ones that used health services the most (15.2%). This high percentage is explained by the fact that this program has the highest number of students enrolled during

the studied period. 99.6% of them were covered by health insurance plans, under any regime.

Table 1 shows some characteristics of the participants.

In reference to the employment situation, 57.8% of the students did not work at all, while 12.8% did work full time. On the other hand, 10.8% worked only during vacation time, 8% had a weekend job, 7.9% were half-time employees, and 2.7% had a part-time job. When students were asked if they quit their jobs would they have to stop studying, 22.5% of them answered affirmatively.

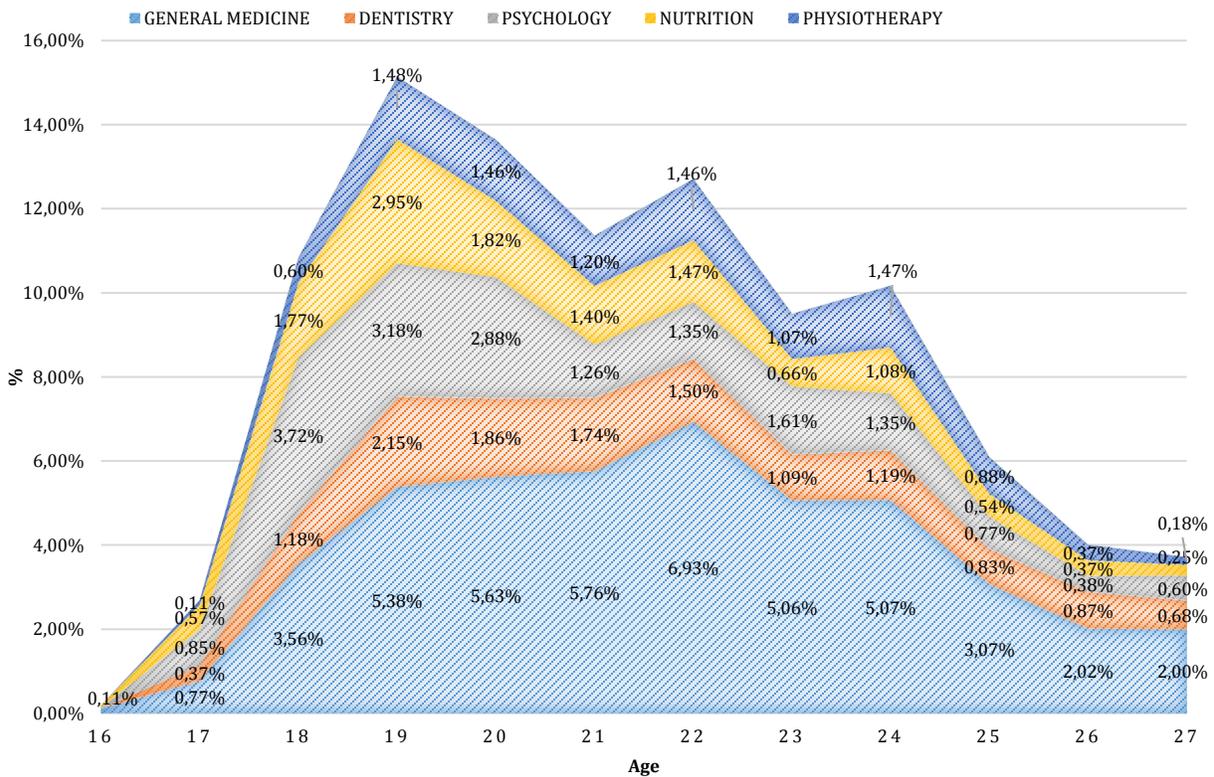


Figure 1. Age distribution with respect to the use of services

b) Assistance services

The information about the health services of the JTLU that are commonly used by students, as well as the most frequent diagnoses are summarized in Table 2.

Some of the most common reasons given by the students to use the university health services were: they were free of charge (24.8%); authorizations to access various services were not necessary (16.5%); students could use those services during their free time (12.6%); timely offer and qualified professionals (8.4%); appropriate schedules (8.4%); cutting-edge

technology (7.0%); medical leave of absence for up to two days (4.8%).

Students not showing up for consultation mainly happened in the following services: dentistry (11.7%), nutrition (5.3%), general medicine (1.6%), psychology (4%), and physiotherapy (2.2%). The most common reasons for non-attendance were: time constraints (30.2%), long waiting time periods (18.7%), complex administrative procedures (12.7%), students think that their health status is good (8.1%), poor attention by administrative staff (2.7%), and other problems (26.1%).

Table 1. Descriptive variables of the population

Variable	%
People with whom the student lives	
Both parents	41.5
Only with the father	5.4
Only with the mother	22.5
With other relatives	12.4
With other not relatives	8.0
With a partner	2.8
Alone	7.4
Home status	
Renter	54.9
Owner	31.7
Still paying for the house/apartment	12.1
Usufruct	1.3
Economic situation	
Contributes to family income	17.7
Studies away from home	19.5
Commuting time	
Less than 30 minutes	20.5
Between 30 to 60 minutes	42.5
More than 60 minutes	34.3

c) Lifestyles

Young people performed physical activity with the following weekly frequencies: once (19.1%), twice (16.1), three times (12.8%), four times (16%), five times (5.5%), six times (2.7%), more than six times (0.7%). The majority of the participating students did not practice any physical activity (27.2%). In reference to monthly alcohol consumption, most of them do it at least once (46%). A similarly high percentage of students (45.1%) did not consume alcohol, while some of them did it two-three (7.3%) or four-five (1.5%) times a month.

We also analyzed weekly tobacco consumption and observed that most of them had never smoked (72.5%). On the other hand, 7.9%, 6% and 6% of the students smoked once, two-three and more than seven times, respectively. Regarding the number of meals eaten during the day, 38.2% of the students ate three meals, followed by two (29.8%), one (23.4%), and more than three meals (8.6%).

Use of condom during sexual intercourse was also examined and our results showed that almost a third of the student population (28.3%) had never had sex before. From those that are sexually active, 51.3%, 11.2% and 6.8% use condom always, almost always, and sometimes, respectively. A low percentage of students (2.8%) had never used condom during sex.

Table 2. Services and health diagnoses in JTLU

Most used health services in JTLU	%
General Medicine	56.0
Psychology	14.5
Dentistry	13.8
Nutrition	8.9
Physiotherapy	6.8
Most frequent diagnoses in JTLU	
Problems with diet and inappropriate nutritional habits	8.9
Acute viral rhinopharyngitis (common cold)	6.9
Chronic gingivitis	6.7
Problems related to adjustment to vital cycle transitions	6.1
Sprains and strains of ankle	3.4
Problems related to inadequate social skills not classified elsewhere	2.4
Dental caries	2.2
Diarrhea and gastroenteritis of infectious origin	1.8
Non-specific low back pain	1.7
Hypoglycemia	1.5
Exam for participation in sports competitions	1.3
Localized hypomineralization	1.3
Personality disorder, emotionally unstable	1.2
Problems related to lack of exercise	1.2
Problems related to poor academic performance	1.2
Irritable bowel syndrome without diarrhea	1.2
Muscle tear or strain	1.1
Dyspepsia	1.1
Other dental caries	1.1
Dizziness and faintness	1.0
Headache	0.9
Other	45.2

Lastly, only 2.1% of the analyzed students had consumed psychoactive substances and 35% of them were aware of health promotion and prevention campaigns.

Next, we conducted a statistical analysis in order to identify the main variables that affect the student decision to use the services of the university.

Influential variables in the use of healthcare services

In order to analyze the factors that affect the decision-making process of students regarding the use of health services, we examine the associations between various variables (e.g., marital status, people who live with the student, type of living place, commuting time, physical activities, economic

reasons, type of job, smoking condition, alcohol consumption, number of daily meals, knowledge of health promotion campaigns) and the use such services.

We conducted chi-squared tests with a confidence level of 95% in order to analyze the dependence between each variable and the use of each assistance service⁽¹⁶⁾. For example, the work variable was analyzed under two groups: (i) students that do not work or just do it during vacation time and (ii) students that work during the academic period (full time, part time or weekends). Then, we studied the dependency of these two groups with the use of general medicine service. The chi-squared test carried out had as null hypothesis the independence between the two variables, i.e, the proportions of people who use this service are similar between those who do not work during the academic period and those who do.

According to the chi-test results, we observed that some variables influence the use of services and these are highlighted in orange boxes in Table 3.

As observed in Table 3, marital status, people with whom the student lives, and housing type are

influential variables in the use of all services. Particularly, being single is a variable that has been previously reported as very influential with respect to development of university life in Bogotá⁽¹⁴⁾. In addition, a lower degree of importance was observed for the following variables: travel time; number of meals taken at the university; knowledge of health promotion and prevention campaigns; and age. Finally, we observed that variables such as alcohol consumption and performance of physical activities are less influential with respect to the use of university health care services.

The last row of Table 2 shows the results for age, a variable that was studied through an analysis of variance comparing average ages of those who use and do not use different services. It was found that those who are significantly older, use medicine and physiotherapy services, whereas those who are significantly younger mostly use dentistry and psychology services. Finally, and with respect to the nutrition services, we did not observe a significant difference in the average age of those who use them or not. According to Table 2, those cases in which we found dependence between each pair of variables, the confidence levels of these hypothesis tests were always higher than 95% ($p < 0.05$).

Table 3. Influential variables in the use of healthcare services

Variable	General Medicine	Dentistry	Nutrition	Psychology	Physiotherapy
Marital status	<0.0001	<0.0001	<0.0001	<0.0001	0.007
Number of relatives	<0.0001	<0.0001	<0.0001	<0.0001	0.007
Type of housing	<0.0001	<0.0001	<0.0001	<0.0001	0.007
Commuting time	0.253	<0.0001	<0.0001	<0.0001	0.007
Physical activity	0.970	0.047	0.029	<0.0001	0.174
Economic reasons	0.026	<0.0001	<0.0001	<0.0001	0.243
Job	0.104	0.041	0.003	0.880	<0.0001
Smoking condition	<0.0001	<0.0001	0.003	0.932	0.311
Alcohol consumption	0.040	0.180	0.062	0.470	<0.0001
Number of meals taken in the University	0.983	<0.0001	<0.0001	<0.0001	<0.0001
Knowledge of campaigns for health promotion and prevention	0.745	<0.0001	<0.0001	<0.0001	0.011
Age	<0.0001	0.038	0.629	<0.0001	0.036

p-value of Ji squared test for independence between each pair of variables (orange color indicates significant dependence)

Discussion

It is mandatory for Colombian citizens to be affiliated to the General Health Social Security System (or SGSSS, from the Spanish “Sistema General de Seguridad Social en Salud”), in any of its regimes and

according to their economic capacity. This is the main reason why JTLU students must be affiliated to the contributory or subsidized regime either as contributors or beneficiaries. Nevertheless, there is a small group of students who are not affiliated to SGSSS.

As observed in our data analysis, the free-of-charge nature of the health care services provided to students by JTLU could be the reason for their common use. In contrast, the use of their private entity Health Services Provider (or EPS, from the Spanish "Entidad Prestadora de Servicios de Salud") involves a copayment, which becomes a barrier for student access to those health services, as also shown in previous studies. It is important to highlight that another important factor impacting the use of health services is the autonomy that young students reach when they enter into the university, which can also be observed in the number of students that live alone⁽¹⁷⁾.

It has been shown that parents, especially mothers, have a strong influence on the use of health services by their children. For instance, parents play an essential role in acquiring healthy habits, assisting medical appointments, among others. However, when young university students leave home, they start assuming those responsibilities^(18,19).

In reference to the employment situation, most of the students do not work, which means that their main source of income are parents and other relatives and this is the reason why students pay special attention to their health⁽²⁰⁻²³⁾. Consequently, they have to prioritize the use of their limited income^(20,21). Those students that work part time have the advantage of adjusting their academic and work-related activities in order to get access to the assistance services of JTLU. In contrast, students that work full time have scheduling constraints that restrict them to use the health facilities, especially those services that are not available during night time like nutrition, dentistry, psychology and physiotherapy. Previous studies have shown that students who work and earn a current minimum wage, or less, have the tendency to suffer physical and emotional pathologies^(22,23).

Transportation costs and commuting time also have an impact on students finances and affect their decisions to seek medical care⁽²⁴⁾. It has been shown that availability of consultations during academic periods has a positive effect on the use of assistance services⁽²⁵⁾.

Lifestyles are also involved in the decision-making process. Whereas physical activity is related to dentistry, nutrition and psychology services, it does not affect the use of general medicine and physiotherapy. This result is inconsistent with previous reports that have shown that students who

practice regular physical activities mainly request physiotherapy consultations⁽²⁶⁾.

We observed negative nutritional habits associated with low consumption of healthy and balanced meals, which is mostly due to lack of time and financial resources. Thus, students seek nutritional advice in order to correct bad eating habits and eating disorders, obtaining good results that may be reflected on their health status⁽⁹⁾.

Students present some clinical manifestations derived from the stress caused by academic activities, which lead to problems in adaptation to university life⁽²⁷⁾. Smoking appears as a common habit to cope with that stress, which mainly affects upper respiratory airways and teeth which results in students seeking dentistry care. Surprisingly, our results do not show that JTLU students who consume alcohol requested general medicine consultation because of osteomuscular lesions or other injuries, as previously reported⁽²⁸⁾. We suggest that more research is required to elucidate this observation.

The observed perception that students have some services indicates that institutional factors (e.g., infrastructure, health professionals, and administrative network) are important to reinforce adherence to treatment procedures. Also, we found that individuals are not aware of health promotion and prevention campaigns, with the only exception being general medicine as students know about the leave of absence for up to two days (when students require a longer leave, they are referred to their health services provider/insurer). This lack of communication should be corrected in order to increase the use of JTLU services.

Conclusions

The main factor that encourages students to use JTLU health services is that they are free of charge. Following in importance are a friendly and comprehensive attention by health professionals, and a pleasant environment. Altogether, these institutional elements have a strong impact on students and should be improved through the design of successful health promotion and prevention campaigns in order to increase the use of health care facilities and acquire healthy lifestyles. It is also necessary to implement follow up strategies to observe whether student population needs are being fulfilled.

The main conditions/illnesses diagnosed at the assistance services of JTLU are back and neck pain, diarrhea, and problems with adjustment to the vital cycle, i.e., how to establish relationships with himself/herself and with others.

The Assistance Services Unit of the Jorge Tadeo Lozano University takes into account Friendly Services guidelines and plays an important role as a complementary mechanism of the Colombian Health System. Thus, students are given the opportunity to access basic health services like general medicine, dentistry, nutrition, psychology and physiotherapy, which helps students to achieve an integral formation. One of the objectives of this unit is to promote a culture of preventive health that should that be reflected in a better quality of life of the JTLU community.

We think that it is important to (i) implement a university policy that promotes the use of the assistance services provided by JTLU to its students, (ii) create and strengthen a self-care culture, and (iii) support the building and maintenance of a healthy student lifestyle, all complemented by the General Health Social Security System. We were able to identify the variables related to the use of assistance services, but we suggest that further studies should investigate which of these variables have the greatest impact on the students' decision to use university health services.

From the methodological point of view, we faced some technical limitations with respect to the application of digital surveys and for this reason we preferred to interview students in person. However, this procedure required more time and delayed this phase of the investigation.

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Conflict of interests

The authors declare that they have no conflict of interest.

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