

Lifestyles and school performance of health sciences students

Estilos de vida y rendimiento escolar de estudiantes de Ciencias de la Salud

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Abstract:

Introduction: Lifestyles at the college stage involve fundamental changes in human development, which may have an impact on the school performance. The present work consists of a documentary review on the lifestyles of university students **Objective:** To identify the information that allows the evaluation of the lifestyles that are associated with the school performance of students of health sciences. **Methodology:** The research was carried out by using the keywords: lifestyles, school performance and students of health sciences, through PubMed and Crossref, in addition to the websites of public institutions, governments or organizations. The results of 20 studies were analyzed, which included a student population that was intervened through questionnaires about their lifestyles in school systems **Results:** It was found that students have unhealthy habits, 40% of students do not exercise, 90% of students consume junk food and 1 out of 5 students have mental health disorders. All of the above is striking, since being students of health sciences, it would be assumed that they practice healthy lifestyles, however, their knowledge has been little applied. **Conclusion:** Lifestyles and school performance are a problem that worries students, parents, teachers and authorities, not only in our country but also in other countries of the world.

Keywords:

Lifestyles, school performance, health science students

Resumen:

Introducción: Los estilos de vida en la etapa universitaria implican cambios fundamentales en el desarrollo humano, que pueden tener un impacto sobre el rendimiento escolar. El presente trabajo consiste en una revisión documental sobre los estilos de vida de los estudiantes universitarios. **Objetivo:** Identificar la información que permita evaluar los estilos de vida que se asocian al rendimiento escolar de los alumnos de ciencias de la salud. **Metodología:** Se llevó a cabo la búsqueda de información utilizando las palabras clave: estilos de vida, rendimiento escolar y estudiantes de ciencias de la salud, a través de PubMed y Crossref, además de páginas web de instituciones públicas, gubernamentales u organizaciones. Se analizaron los resultados de 20 estudios, en los que se incluyó población estudiantil que fue intervenida mediante cuestionarios sobre sus estilos de vida en sistemas escolarizados. **Resultados:** Se destaca que los estudiantes tienen hábitos no saludables, el 40% de los estudiantes no realiza ejercicio, el 90% de los estudiantes consume comida chatarra y 1 de cada 5 estudiantes presentan alteraciones de salud mental. Todo lo anterior llama la atención, puesto que siendo estudiantes de ciencias de la salud, se supondría que practican estilos de vida saludables, sin embargo, su conocimiento ha sido poco aplicado. **Conclusión:** Los estilos de vida y el rendimiento escolar son un problema que preocupa a los estudiantes, padres, maestros y autoridades, no solo de nuestro país, sino también en otros países del mundo.

Palabras Clave:

Estilos de vida, rendimiento escolar, estudiantes de ciencias de la salud

INTRODUCTION

Healthy lifestyles can be determined as "A general way of life based on the interaction between living conditions and individual behaviour patterns, determined by sociocultural factors and personal characteristics, which involve factors such

as: adequate diet, regular physical activity, responsible sexuality, recreation, healthy interpersonal relationships, rest habits, ability to deal with stress, personal hygiene, safe driving, and intellectual capacity.^{1,2}

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Currently, the world population exceeded 7,000 million of inhabitants, of which more than half (50.5%) are people under 30, and from them, 89.7% live in countries with emerging economies, like Mexico where 35.1% of the population are teenagers from 15 to 19 years old, 34.8% are young people from 20 to 24 years old and 30.1% are adults from 25 to 29 years old.³ According to the National Survey of Occupation and Employment (ENOE), Hidalgo state concentrates 2.4% of the youth population in the country, and 57.7% of them are currently studying.⁴ Young people between the ages of 18 and 29 currently represent the biggest generation in history, that makes up the healthiest population group and the one that uses health care services the least, in addition to being the sector with the fewest deaths. However, according to data from the World Health Organization (WHO), 1.2 million young people died worldwide in 2016, (more than 3,000 by day) mostly for preventable or treatable causes, since there is great exposure to risk factors such as unsafe sex, alcohol, tobacco or drug consumption, inadequate dietary patterns and sedentary lifestyle, that can lead to the appearance of chronic non-communicable diseases over time.¹

In Mexico, although the young population is perceived as healthy, 2% consider themselves as unhealthy, due to some factors such as tobacco consumption, with a prevalence of 9% (although only 42% of young people report never having smoked), and the prevalence gets higher as the age increases, reaching 25% in 19 year olds. Similar situation is observed with exposure to alcohol, on average young people between 10 and 19 years have a prevalence of 11%, which changes with age and it has been noticed that 10% of young people consume alcohol from the age of 15, and that at 19 the prevalence rises to 31 %.⁵

The college stage is a critical moment in which students tend to participate in risky behaviours that negatively affect themselves,⁶ and there is also a link between these lifestyles and the educational process, since certain habits can have repercussions on the academic environment, generating school dropout, failure, violence, and low academic performance.⁷

People with unhealthy behaviours that stay over time, are more likely to develop several diseases, compared to those people who do not engage in these practices,⁸ so that, a lifestyle that promotes health is an important determinant of the students well-being and represents an important factor for the maintenance and improvement of health.⁶

Regarding the antecedents of the study, many researchers affirm that young people do not perceive the risk closely, or they perceive themselves as invulnerable and therefore, they carry out unhealthy behaviours, in the medium or long term, since diseases can affect the capacity for optimal growth and development. It was also reported that most university students of health sciences do not apply their knowledge in their own lifestyles,⁸ this in turn

influences the high rate of academic failure, revealing the urgency of the creation of university programs that could modify and promote healthy lifestyles.⁹ The speeches and analysis with key information will allow a deep understanding of lifestyles of daily life in college students with the purpose of designing strategies that may guide students towards better academic performance.¹⁰

METHODOLOGY

In order to identify the available information that allow the evaluation of the lifestyles that are associated with the school performance of health science students, the research was carried out through PubMed and Crossref research, from which 35% and 50% of the information was obtained, respectively. In addition, websites of public institutions, governments or organizations were consulted to obtain some conceptual references (15%). The keywords used were: lifestyles, school performance, and health science students. Fifty nine articles and six theses were consulted, with publication dates between the years 2001 and 2018. The results of 20 studies in which the student population was intervened through questionnaires about their lifestyles were analyzed, the references in which the students were under non-schooled systems were discarded. To prioritize and objectively select the information, the operationalization of variables was carried out, as shown in Table 1.

RESULTS

The publications suggest that the lifestyles of college students of the health sciences area, are unhealthy. In a study performed in nursing students, it was reported that healthy habits are not performed routinely, showing that risk behaviors for chronic non-communicable diseases are enhanced, which can interfere with the decrease in abilities, increasing mortality as a consequence of these pathologies.¹⁷ Some components of the lifestyle of the university population have been analyzed, such as: sleep habits, nutrition, smoking, stress, and alcohol consumption to determine the quality of life, finding a high frequency of inappropriate habits such as alcohol consumption (41 %), that represents a high risk, drowsiness (58%), low physical activity (65%), inadequate diet (40%); low smoking level (4%) and a medium stress level of (16%).¹¹

It was also found that there is a significant relationship ($p = 0.06$) between gender and stress with the female population presenting a higher proportion of medium stress; a significant relationship ($p = 0.012$) between alcohol and gender was also identified, that men are at a higher risk compared to women.¹⁸ In a study carried out at the Autonomous University of Yucatan, it was identified that the dimensions of best practice are self-updating and interpersonal relationships, while the dimensions of worst practice are responsibility in health, stress management, nutrition, and exercising, which is related

to the academic performance.¹⁹ In a study developed by Capdevila et. al., variables such as study habits, sedentary

In a study performed on nursing students in Kuwait, the correlation of a lifestyle that promotes health was analyzed,

Table 1. Operational definition of variables

Variable	Operational definition
Lifestyle (Independent)	Lifestyles are a set of behaviors or attitudes that people develop, which are sometimes healthy or harmful to health. ¹¹
School performance (Dependent)	It is the quantitative result obtained in the learning process, according to the evaluations performed by the teachers through objective tests and other complementary activities. ¹²
Mental health	It is defined as the welfare state which allows the individuals to recognize their abilities, that are capable to deal with the normal stress of life, work productively and fruitfully, and contribute to their communities. ¹³
Physical violence	The term refers to the use of physical force to cause non accidental harm, with or without some type of weapon or object that may cause injuries, whether internal, external, or both. ¹⁴
Psychological violence	It is any act or omission that damages psychological stability. It may consist of: negligence, abandonment, celotype, insults, humiliation, devaluation, marginalization, indifference, infidelity, destructive comparisons, rejection, restriction to self-determination, which can lead the victim to depression, isolation, to the devaluation of their self-esteem and even to suicide. ¹⁴
Sexual violence	The term talks about any act that degrades or damages the body or sexuality of the victim and therefore violates their freedom, dignity and physical integrity. It is an expression of abuse of power that implies male supremacy over women, by denigrating and conceiving the other one as an object. ¹⁴
Addictions	It is the physiological or psychological dependence on some legal or illegal psychoactive substance, caused by abuse in consumption, that causes an anxious search for it. ¹⁵
Sexual and reproductive health	It is a state of physical, mental and social well-being in relation to sexuality. It requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasant and safe sexual experiences, free from all coercion, discrimination and violence. ¹⁶

leisure and sleep were analyzed in athletes and non-athletes. The results showed that the athlete subjects have better academic performance, better study habits and dedicate less time to sedentary leisure.²⁰ It was found that within study habits, sports subjects plan their free time better and present a better attitude towards studies. In an analysis carried out in Ecuadorian youth, the variables were described: weekly frequency of sports practice, consumption of alcohol, tobacco, television, failed subjects, and socioeconomic level of the parents and their relationship with school grades.⁵

From the multivariate analysis it was concluded that the negative variables associated with academic performance are: alcohol and tobacco consumption, low socioeconomic status, watching television more than two hours a day. On the contrary, those that have a positive relationship with academic performance are practicing sports at competition level, practicing sports more than two days a week and belonging to the female gender.²¹

It has been reported that there are instruments that allow the evaluation of lifestyles in university students that include aspects such as sociodemographic, socioeconomic characteristics, health status, quality of life, physical activity, tobacco, alcohol and other drug consumption, eating habits and sexual behavior. Through this instrument it was possible to conclude that the quality of life of university students may be considered good, although some habits tend to worsen in the university stage.²²

with the dropout level and the academic performance of the students. The lifestyle profile of 224 students was described and the health-promoting lifestyle was measured using the Walker's Health-lifestyle Lifestyle Profile II instrument. Academic performance was measured by evaluating the students' average scores and it was found that those who had a health-promoting lifestyle presented better levels of physical activity, better interpersonal relationships and good stress management. Also observing significant differences between men and women in the general profile. Sociodemographic variables, such as age, nationality, and marital status, showed an association with lifestyles that promote student health, regardless of income. A significant correlation was also observed between the students enrolled in the nursing program and the level of health responsibility that they present. However, there was no significant correlation between a health-promoting lifestyle and the academic performance.²³

The studies carried out in the student population of health sciences are summarized in Table 2, where different lifestyles such as: physical activity, diet, use of substances, etc.; and their relation with school performance. Among the findings, a strong correlation was reported between gender and hours spent watching television, with the risk of having poor academic performance.¹¹ Regarding unhealthy behaviours, it was found that exposure to tobacco and alcohol consumption increases in with the age,⁵ additionally, it has been reported that less than half of health science students achieve daily physical activity requirements,⁸ although some government programs have been implemented to decrease sedentary lifestyle.²⁴ It is important to add that the level of self-satisfaction with lifestyle influences the practice of physical activity and the maintenance of healthy practices.¹¹

Table 3 presents an analysis of the situation of the student community and its relationship with some lifestyles, identifying the main problems and some proposed solutions. It was highlighted the need to address the difficulties that exist in the educational system and in the same way carry out the revision of the educational legislation that promotes a model of health prevention, in addition to providing vocational guidance and educational interventions in students to achieve a comprehensive state of health.⁷

There are models proposed for the promotion of the well-being of students and teachers, through the development of the concept of university as a “healthy workplace”, which aims to develop an environment that works adopt healthy habits.⁹ It has also been observed that the family and the social group to which

Table 2. Population studies carried out in students of health sciences, evaluating lifestyles

Evaluated lifestyles	Population	Main Findings
Time spent watching television, smoking and alcohol use, school grades.	7,502 students and 9,800 parents.	It was shown that the consumption of tobacco and alcoholic beverages, age, belonging to the male gender, spending more than two hours a day watching television and belonging to a low socioeconomic group, negatively affects academic qualifications. ²¹
Physical activity and diet, consumption of tobacco or drugs	University students of health sciences.	It was reported that 40% of young university students do not practice exercise, only 44% of students practiced the recommended 30 minutes of exercise 5 days a week. In addition, inadequate eating patterns were found, and it was reported that 1 out of every 5 students presented alteration in their mental health and consumption of tobacco or other drugs. ³
Eating habits, physical activity, body weight, sleep habits, social and family relationships, physical abuse, alcohol and tobacco consumption, sexual activity, etc.	300 students from 16 to 28 years old.	42% of young people under 19 years old reported never having smoked, on the contrary, 9% reported consuming at least 100 cigarettes throughout their lives; however, consumption increases with age, reaching 25% in 19-year-olds. The same phenomenon is observed for alcohol consumption, since in young people between 10 and 19 years of age a prevalence of 11% occurs and at 19 years of age it rises to 31%. It is also reported that 10% of 15-year-olds consume alcohol. A serious problem of overweight and obesity was also found as of the age of 16 (one third of young people in Mexico are overweight). The main health problems registered in young people are accidents and violence. ⁵
Level of physical activity and its association with smoking.	871 Students from 17 to 33 years old.	There was no difference in sedentary lifestyle in smokers and non-smokers, however, a high prevalence of physical activity was observed, associated with national programs, and its long-term maintenance is considered necessary. ²⁴
Body weight and quality of diet.	184 university students.	Groups of students from the Nutrition and Nursing programs were compared. Within the group of Nutrition students, the following distribution was found according to the nutritional status by BMI: low weight 2.1%, normal weight 80.2% and overweight 12.5% and obesity 4.2%. With respect to Nursing students, the following distribution was observed: low weight 5.7%, normal weight 79.5% and overweight 13.6% and obesity 1.1%, therefore, it is proposed to emphasize the care of the adolescent diet, to avoid future illnesses. ²⁵
Exercise, leisure time, self-care, diet, consumption of alcohol, tobacco and drugs, sleep, sexuality, interpersonal relationships and emotional state.	587 university students from 16 to 30 years old.	There are several unhealthy behaviors such as: the lack of exercise, the leisure time dedicated to unhealthy practices, the consumption of fast foods, taking carbonated beverages, the consumption of drugs or products to lose or gain weight, dieting without medical supervision and not drinking enough water. It was found that although a large proportion of students do not use drugs, there are some who use them once a week or even once a day. On the other hand, a good proportion of the analysis subjects reported satisfaction with their sleeping habits. ¹¹

a student belongs influences the development of his/her, as well as emotional stability, which is why it places special

emphasis on health education that improves existing social dynamics.¹⁰

A very important element to take into account is that school failure must be combated through effective vocational guidance, as well as linking with companies and workplaces, which allows preventing future social inequalities.²⁶

On the other hand, some studies insist that the relationship between mental health disorders and substance abuse must be investigated, mainly in low-income countries.²⁷ In addition, the most common risk practices were identified: bad nutritional habits, high alcohol and tobacco consumption, risky sexual behaviors, family and social factors, risk of pregnancy and sexually transmitted infections.²⁸ It is also necessary that young people may access to interdisciplinary health services through health professionals that create a pleasant and trustworthy environment.²⁹

From the analyzed bibliography, the high prevalence of overweight and obesity, the incorrect or null use of contraceptive methods and a high rate of self-medication were highlighted, which is striking because, as students of health sciences, they would be expected to practice healthy lifestyles, however, although their knowledge is current and newly acquired, they do not give them the importance they have for their personal development.^{10,27,28} In some studies, no association was found between healthy lifestyles and self-perception of school performance, since students report that non-attendance, lack of interest, lack of concentration, among others, are the cause of poor academic performance.¹⁵

DISCUSSION

It has been reported that adolescents are not fully capable of understanding complex concepts, or of understanding the relationship between a behavior and its consequences, they also do not perceive the degree of control they have regarding decision-making related to health.²

In relation to academic performance, it is described that most university students of health sciences do not apply their knowledge in their own lifestyles. For this reason, there is an urgent need to create university programs that could modify and truly promote healthy lifestyles, since students perceive themselves as invulnerable and therefore present behaviors and attitudes towards their health with respect to lifestyles.⁹

School performance refers to a student's progress in the context of a corresponding academic area and is measured by the results of a student subject to a test, or enrollment in a school,¹⁰ When a good performance is not observed, there is school failures, which are closely related to the socioeconomic level of the population, and with a negligent orientation in the classrooms

leads to low performance and will be reflected in the school dropout.²⁶

It has been reported that there is a link between lifestyles and the educational process, since in addition to the effects they may have on health, there may also be repercussions in the academic field,⁷ therefore, it is imperative to direct education towards the promotion of projects that improve the social dynamics of student populations at risk.¹⁰ It is also noted that academic performance is an element that can affect adolescent risk behavior and vice versa.²⁸

Among the information compiled, the factors that interfere with maintaining a healthy life are highlighted, which increase mortality in young people.³⁰ Among the unhealthy behaviors is the lack of exercise, reported by 77% of young people, in addition to what concerns food, it was found that 80% of students report a consumption of fast foods frequently and the 71% stated drinking high amounts of carbonated beverages and 68% reported not drinking enough water.¹¹ Most of the studies consulted reported an excessive consumption of foods with a high content of saturated fats, sugars and salt, such as fatty meats, sausages, snacks, soft drinks, sweets, margarine and butter, in addition, the consumption of fruits, vegetables, legumes, nuts and whole grains is much lower than recommended.⁸ These data allow us to think about the presence of those public health problems that the WHO frames as priorities among young people in Mexican society, which is a phenomenon that has led health and educational institutions to consider palliative mechanisms from different areas of public administration.¹ This topic is relevant since it is known that performing physical exercise, having a healthy diet, eating breakfast and eating a greater number of meals a day are protective factors, in addition, the absence of physical activity is related with poor academic performance.²⁵

Table 3. Analysis of the situation of the student community in relation to lifestyles

Problems addressed	Proposed solutions	Main conclusions
Adolescent Health Care.	The health professional must be mature, with wide criteria and flexibility, possess good communication skills, and have an adequate physical space.	The clinical care of adolescents requires that the health professional may be friendly and create a pleasant and trustworthy environment that facilitates young people's access to health services. In addition, the need for interdisciplinary care is highlighted for successful treatment. ²⁹
Practice of risk behaviors in adolescents.	Carry out educational interventions on the knowledge of risk behaviors.	The most common risk practices in adolescents are: bad nutritional habits, high consumption of alcohol and tobacco, risky sexual behaviors, family and social factors, risk of pregnancy and sexually transmitted infections. ²⁸
Chronic, infectious diseases and emotional stability.	Interest in implementing health education, from the family and social groups.	Health education should be directed towards the protection and promotion of health, which implies the implementation of projects and programs to improve social dynamics and decrease risk factors in the student population. ¹⁰
Drug, tobacco and alcohol use.	Preventive actions to reduce the consumption of psychoactive substances, which generate mental disorders.	It is necessary to investigate the relationship between mental health and substance use disorders in low-income countries, mainly in the early years of adolescence, to avoid the development of disorders that affect academic performance. ²⁷
General health status, physical activity, psychosomatic complaints and life satisfaction.	Promotion model of the context-based health "Settings-based approach to health promotion".	It is necessary to promote the health, well-being and quality of university life of students, teachers and staff. A concept of university as a healthy, supportive workplace must be developed and physical environments that function as support resources must be created. ⁷
School failure.	To provide vocational guidance and carry out the connection with work centers.	School failure comes mainly from social inequality, and is influenced by poor or non-existent vocational guidance, which is why its implementation in the classroom is necessary, in addition to linking students with the business and productive sector, to avoid student dropout. ²⁶
School coverage, assessment, failure and dropout rates, and government policies.	Review of educational legislation, teacher training and society participation.	There are many difficulties in the current educational system that must be addressed, not only by the government, but also by civil society, to break the monopolization of knowledge. ⁷

Another factor that is related to the deterioration of health is the consumption of substances, since it has been reported that up to 71% of young people have used drugs or products to lose or gain weight, and 61% have made diets without medical supervision. Regarding substance use, it was found that 82% of students do not use drugs, 11% do so occasionally, 2% once a week and 2% once a day. (11) These practices, in turn, lead to others of equal or greater risk to health, such as non-responsible sexual behavior (having multiple sexual partners or the absence of contraceptive methods), increasing the risk of pregnancy and sexually transmitted diseases.²⁸

On the other hand, sleep behaviors greatly influence school performance, as there are few students who report having a restful sleep, only 39% were perceived as highly satisfied and 12% were not satisfied with their sleeping habits.¹¹ Finally, the great impact that Information and Communication Technologies (ICTs) have on university students is recognized, and their use is recommended for the design of disease prevention and health promotion programs, bearing in mind that they facilitate fast and reliable dissemination of useful information.¹⁶

Returning to the aforementioned concepts, the need for schools to implement the concept of "university as a healthy workplace" is recognized, in order to achieve the improvement of habits that positively impact academic performance, promoting health, well-being and the quality of university life for students, teachers and staff,⁹ and it is highlighted the urgency of creating university programs that contribute to the prevention of diseases and, once implemented, it is suggested that research be carried out with the objective of analyzing possible changes in lifestyles according to the moment of their formation they are at.

It will also be necessary to continue studying the relationship between lifestyles and academic performance, to understand their association, in addition, the perception of the health of university students still little explored, so it is recommended for future research to include studies of mixed methodology that allows to deepen in those subjective aspects of health facilitating the design of adjusted programs for the characteristics of the population.⁷

CONCLUSION

Lifestyles and school performance are a problem that deeply worries students, parents, teachers and authorities; not only in our country, but also in others. From a humanistic approach,

academic performance is the result obtained by students in schools and is expressed through school grades. However, today, we can confirm through various research studies that there are many factors that interfere with this performance. It will be important, as already mentioned, to continue with the investigation of the problems that unhealthy lifestyles represent, to provide students, teachers and parents with the necessary tools for adequate school and personal performance, during a stage as complex as adolescence and university life by itself.

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