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Health status of incoming students at FES-I

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Abstract

Introduction: The health diagnosis performed by the POSALUD service, in the EMA to incoming students, allows the development of protocols for care and prevention of diseases and habits that may jeopardize the health of students and thus their academic performance. **Objective:** To analyze the state of health with which first-year students enter FES-I.

Methodology: Based on Supo's taxonomy, this is an observational, cross-sectional, analytical and prospective study. Dietary habits, oral hygiene, consumption of harmful substances, recreational activities, sleep quality and contraceptive use were analyzed by frequency according to gender.

Results: Women reported a significantly higher prevalence ($p < 0.050$) in the consumption of food prepared at home, oral hygiene, alcohol consumption and smoking. They also reported a low frequency of physical and cultural activities. The majority of the students reported a good quality of physiological sleep, finally the students with sexual life, the majority reported using a contraceptive method almost always, in the latter there was no statistical significance.

Conclusion: The studies provide a diagnosis that allows the university health programs to provide integral attention to the students, promoting prevention as the main working tool in the PROSALUD service.

Keywords: Eating habits; Oral hygiene; Smoking; Alcoholism; Students

1. Introduction

Mexican society has been marked by a transcendental change, where the rhythm of daily life revolves around the economic prism. This has had a direct impact on eating habits and recreational practices. These new lifestyles, by potentiating unhealthy behaviors, favor the development of chronic degenerative diseases. This impact is also seen in new university students, since this stage will represent a significant change, as they will have to invest more time in their academic preparation, which will favor unhealthy hygienic-dietary habits, infrequent practice of sports or cultural activities, and increase the risk of consuming harmful substances, or practices that may cause deterioration of their overall health [1–3].

Obesity and overweight are considered as diseases of multifactorial and complex cause in which genetic, behavioral and environmental problems intervene, the last two are conceived as the result of the imbalance between energy intake and expenditure and represent in itself as a risk factor for developing diabetes mellitus, arterial hypertension, dyslipidemias, joint and cardiovascular diseases [4].

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Factors that favor these pathologies are the availability, accessibility and commercialization of fast, processed foods with high sugar and fat content, in addition to the loss of the traditional Mexican food culture. For university students, also contributes, the hours of the day sitting, inside classrooms, transportation, library, at home doing homework, in faculty gardens, space where they also sleep to recover from the fatigue produced by the pace of daily activities and with limited time. This leads to a considerable decrease in the frequency of physical exercise or recreational activities. Studies have shown that young people who are overweight and obese are risk factors that potentiate the development of degenerative diseases such as Diabetes Mellitus Type 2, HAS, ECI in their mature age [5].

It is interesting to note that in studies conducted by health personnel (doctors and nurses), related to chronic degenerative diseases, prevalence of diabetes and obesity levels are higher than those of the general population, and they also showed little culture of prevention and self-care for their health⁶. This lack of culture is reflected in other aspects outside of eating habits, such as oral health, which is a fundamental component in the integral health of the students [6].

It is also important to practice recreational activities, such as belonging to a sports team, doing physical activity or attending an artistic workshop or cultural event that allows coexistence and represents a time of relaxation for students. With the beginning of university life, the time for recreation and rest is reduced in a considered manner, coupled with the increase in academic activities and the stress that these generate, university students are more likely to consume substances that are harmful to health, such as alcohol and tobacco, which according to the latest report of the ENCODAT 2017, this has shown an increase since 2017, both in men and women in young adult age (18-30 years) [7–9].

From the aforementioned arises the importance of evaluating the health status of incoming students, who are about to start their professional studies at FES Iztacala, UNAM; and thus be able to raise comprehensive health strategies and prevention in favor of the welfare of the student body.

2. Methodology

Based on Supo's (2012) taxonomy, this was a cross-sectional, analytical, prospective, and comparative study. The variables of interest were age, frequency of food to consume at school, frequency of food consumption in the morning and afternoon, frequency of oral hygiene, frequency of sports activity, frequency of cultural activity, frequency of alcohol and tobacco consumption, condom use, and perception of sleep quality. This study was conducted with new students of the Facultad de Estudios Superiores Iztacala, who took the Automated Medical Examination (EMA). A non-probabilistic sampling was used, in which the new students of the year 2018 who attended the Automated Medical Examination participated. They were given informed consent, so after accepting and signing, they were given the assessment instrument. All the surveys that did not have complete information were eliminated; in the end, a total of 2,570 participants were obtained, from the six careers taught at the school (medicine, nursing, biology, optometry, psychology and dentistry).

The instrument was validated internally, under the criteria of Supo (2013), so the test was validated for content (literature), construct (correlation and variances unequal to zero) and reliability (Cronbach's alpha). Subsequently, the information collected was evaluated; within the statistical analysis plan, the type of distribution of the variables was evaluated by means of the K-S test. The Chi-square test was used, and alpha 0.05 was taken for significance level.

3. Results

The results shown below, are the product of the data collected in the Automated Medical Examination, in the 2018 incoming students of the year 2018, of the FES-Iztacala. During the validation process there was no need to eliminate any item, to the Cronbach's Alpha analysis, a value of 0.720 was obtained, so the reliability was good. We worked with a total of 2570 already valid medical records, of which 1346 were women, representing 66.8% of the sample (18.2 ± 1.3) and 666 were men, representing 33.1% of the sample (18.7 ± 1.9). Information was obtained from the six careers taught in the faculty, the career with the highest representation was Psychology with 24.7%, the rest of the prevalences are shown in Table 1.

Table 1 Percentage of men and women who attended the Automated Medical Examination, disaggregated by career. (n=2570)

			MEN	WOMAN	TOTAL	P	
Academic studies	Surgeon	Count	166	357	523	0.001	
		%	6.5%	13.9%	20.4%		
	Dentist	Count	192	342	535		
		%	7.5%	13.3%	20.8%		
	Psychology	Count	225	410	635		
		%	8.8%	16.0%	24.7%		
	Nursing	Count	118	294	414		
		%	4.6%	11.4%	16.1%		
	Biology	Count	142	206	348		
		%	5.5%	8.0%	13.5%		
	Optometry	Count	55	60	115		
		%	2.1%	2.3%	4.5%		
	Total		Count	898	1669		2570
			% of total	34.9%	64.9%		100.0%

Table 2 Eating habits and oral hygiene, of new students, according to gender, FES-I, UNAM

Dimension Feeding and hygiene Bucodental		Sex		Total	P	Correlation	Variance
		MEN	WOMAN				
Frequency of meals in the morning or afternoon	No	61	142	203	0.595	0.469	1.183
	Occasionally	251	482	735			
	1 to 3 times a week	113	239	352			
	4 to 5 times a week	473	804	1278			
Hábito de llevar alimentos durante la estancia escolar	No	207	252	459	0.000	0.441	1.375
	Occasionally	281	475	756			
	1 to 3 times a week	135	336	471			
	4 to 5 times a week	275	606	882			
Frecuencia de higiene bucodental	No	9	33	42	0.001	0.393	.805
	Occasionally	125	193	319			
	1 to 3 times a week	150	200	362			
	4 to 5 times a week	614	1241	1855			

Regarding eating habits and oral hygiene (Table 2), it was found that most students usually eat their breakfast and lunch throughout the week, with a higher frequency reported by females. Regarding the habit of taking food to school, this shows bipolarity, the first and higher frequency reports that most students take food prepared at home, for consumption at their schools, the other shows us that at least 756 students take "from time to time" food for consumption at school. Regarding the frequency of oral hygiene, it is observed that the majority of students (1855) have a high frequency of oral hygiene, however, it is noteworthy that a small number of students [42] reported having no cleanliness at all. With

the exception of the first item, there is a higher prevalence in females compared to males and they show statistical significance ($p < 0.050$). Likewise, the construct validation of each of the items of the instrument is shown, where it is observed that they have strength in the correlation and variances different from zero, so that the reliability analysis could be performed.

Table 3 Harmful substances of new students by gender, FES-I, UNAM

Dimension Harmful substances		Sex		Total	p	Correlation	Variance
		MEN	WOMAN				
Alcohol consumption	No	313	621	934	0.000	0.445	.987
	Sporadically	360	783	1146			
	Each month	118	137	245			
	Each 15 days	62	87	189			
	Once a Week	44	40	84			
Cigarette consumption	No	591	1228	1819	0.000	0.435	1.421
	Sporadically	187	280	457			
	Each month	12	36	50			
	Each 15 days	28	46	74			
	Once a Week	79	77	156			

Regarding alcohol consumption, most of the students reported no or sporadic consumption, with women reporting more frequent consumption than men ($p < 0.000$). Regarding the frequency of tobacco use, more than 50% reported that they still do not use it; likewise, there is a higher use among women compared to men ($p < 0.000$). The construct analysis for internal validation of the instrument showed correlation in the items, as well as variances different from zero.

Table 4 Recreational activities of new students by gender, FES-I, UNAM

Recreational activities dimension		Sex		Total	p	Correlation	Variance
		MEN	WOMAN				
Sport activity	No	199	590	790	0.000	0.442	1.251
	Occasionally	251	483	734			
	1 to 3 times a week	218	273	539			
	4 to 5 times a week	230	273	503			
Cultural activity	No	295	473	768	0.275	0.424	.942
	Occasionally	402	850	1252			
	Each month	121	238	359			
	Every fifteen days	55	61	116			
	Once a week	19	40	59			

As far as physical activity is concerned, it is observed that almost 50% of the new students do not engage in physical activity or do it very sporadically; with respect to prevalence, there is a greater practice on the part of women ($p < 0.000$). In the frequency of cultural activities, more than 50% of the population has no or little participation in these activities.

No statistical significance was found in the frequency by gender. Regarding the construct validation, the correlation of the items is shown, as well as the variances different from zero, so that they were viable for the reliability analysis.

Table 5 Sleep quality and contraceptive methods of new students, according to gender, FES-I, UNAM

Dimension Sleep quality and use of contraceptive		Sex		Total	P	Correlation	Variance
		MEN	WOMAN				
Sleep quality	Very low	7	8	15	0.987	0.999	.401
	Low	58	99	157			
	Good	721	1353	2074			
	Very Good	107	203	310			
Use of condoms	Always	465	675	1142	0.685	0.400	.240
	Usually	148	268	416			
	Sometimes	3	9	50			
	Rarely	1	0	74			
	Never	1	0	156			

Regarding the quality of sleep, a large number of students (2174) reported having a good quality of sleep; regarding the use of condoms, only students who have already begun their sexual life were quantified, in which more than 50% reported using some contraceptive method in their sexual relations. In both items, there is no statistical significance between gender. The analysis of the construct showed correlations in each of the items and variances unequal to zero; however, the item "condom use" had the least variability in the instrument.

4. Discussion

The analysis of food consumption per day shows that more than 50% of the population consumes their food in the mornings and afternoons, this result agrees with Montero and Ubeda (2006), where it is reported that, of the university students surveyed, 46% have their three meals a day, of which the rest have snacks, consisting of junk food, fried foods and sugary drinks. Karlen (2011) reported that 95% of the population studied are not attached to breakfast because they find it more like a family habit, of this population only 15% have a healthy and complete breakfast, this may affect academic performance.

Regarding the consumption of food prepared at home, it can be noted that most of the university students of FES-I, take prepared food from home to eat during their school stay, however, it is noteworthy that another large portion only takes food twice a week, these results are consistent with the study of Ponce and colls. (2011) where students suffering from obesity ate away from home and consumed fast food [1].

When analyzing the results regarding the consumption of alcohol and tobacco by gender, a greater increase in consumption is noted in women, this is consistent primarily with the National Survey of Addictions [8], these data are contrary to Sonia C, and her colls, because although they found statistical significance, the highest frequency of consumption was in men. [10] Another study conducted in health sciences students, showed that a high percentage of students begin the consumption of harmful substances before the age of majority and therefore before entering college, in addition to the high frequency of consumption, an event that differs in our population evaluated, however, does not escape our analysis that should be deepened the type of beverage consumed in addition to the quantities, the main factor that stands out in various authors is the social environment, so the participation of the guild of psychology is essential in the comprehensive care of students [11, 12].

Regarding physical activity, it is worrying to see that in both men and women more than 50% do not perform physical activity or perform it sporadically, Perez G in his study reported that more than 90% of students of health sciences

perform physical activity with high frequency, in addition to showing a correlation with good academic performance and health status, as well as the decrease or infrequency in the consumption of harmful substances [13]. Another study by Caballero L and cols, also reported that almost 100% of their study population practices exercise and complies with WHO guidelines [14]. Of the cultural activities, the low consumption of the same stands out; most of the population assessed reported having almost no cultural consumption. Considering the dual analysis of these variables, it is possible that there is a relationship with the high consumption of alcohol and tobacco.

In terms of rest, both sexes reported having a good quality of sleep, these results are very positive since some authors such as Maya S. and her cols, report that 70.3% of the university students studied have a poor quality of sleep [15]. Like Cornejo J. who also reported a poor quality of sleep in his students, the importance of physiological rest should be emphasized, since it has an impact on academic performance, however, the possible causes related to this, such as work or attending to their family for those who are already parents, should be studied in more depth [16].

Finally, regarding the use of contraceptives, most of the students surveyed reported using condoms in their sexual relations, this data is favorable since other studies indicate that only 11-35% of the sexually active population uses condoms in their relations [17, 18]. It is important to remember that university students are at the peak of their sexual life, so healthy sexual behaviors, such as condom use, help prevent sexually transmitted infections and pregnancies

5. Conclusion

In this research a comparative study was carried out between two generations, to evaluate their health status, in general and by disaggregated groups, in this case sex. The health diagnosis of the students included variables that allowed a comprehensive assessment, such as hygienic-dietary habits, oral and dental health, recreational activities, consumption of harmful substances, rest and sexual life. It is important to know the state of health with which students enter the university, because it allows specific interventions and channel students to different health services according to their needs.

FES-Iztacala, has the PROSALUD program, which is dedicated to disease prevention, care, promotion and health education of all university students of the faculty, of its six careers, with the data obtained it is clear that the health strategies that have been carried out at both federal and local level should be rethought, to truly have significant results, to ensure a more promising health status for students, in their academic life and in their adult future.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest.

Statement of informed consent

“Informed consent was obtained from all individual participants included in the study.”

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