



Level of knowledge about the harmful effects of tobacco in adolescents

Nivel de conocimiento sobre los efectos nocivos del tabaco en los adolescentes

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ABSTRACT

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Introduction: the World Health Organization states that tobacco is the most consumed drug worldwide after alcohol. In addition, it is a risk factor for diseases such as cancer, heart attack and others.

Objective: to identify the level of knowledge about the harmful effects of tobacco in adolescents from Clinic 39, Samuel Fernández Álvarez Teaching-Community Polyclinic, Matanzas.

Methodological design: a descriptive cross-sectional study was carried out, the universe consisted of 224 adolescents from Clinic 39. A questionnaire developed by the authors was used to collect the information.

Results: adolescents aged between 17-19 years predominate in the study, of this group 104 correspond to smokers and those aged 10-13 years, 35 correspond to non-smokers. The majority of young people began using cigarettes or tobacco between the ages of 11-14. The presence of smoking friends was the main reason for starting to smoke. The amount of cigarettes or tobacco consumed was equivalent to one box. In the adolescents studied, the medium level of knowledge about the harmful effects of tobacco predominated.

Conclusions: smoking is an important health and social problem in adolescents. Likewise, the majority of these began smoking in early adolescence. The presence of smoking friends was the main reason for starting to smoke. The level of knowledge about the harmful effects of tobacco is average in the population studied.

Keywords: Adolescents; Substances Harmful to Health; Risk factor's; Smoking

RESUMEN

Introducción: la Organización Mundial de la Salud plantea que el tabaco es la droga más consumida a nivel mundial después del alcohol. Además, es un factor de riesgo de enfermedades como cáncer, infarto cardiaco y otras.

Objetivo: identificar el nivel de conocimiento sobre los efectos nocivos del tabaco en los adolescentes del Consultorio 39, Policlínico Docente-Comunitario Samuel Fernández Álvarez, Matanzas.



Diseño metodológico: se realizó un estudio descriptivo de corte transversal, el universo quedó constituido por 224 adolescentes del Consultorio 39. Para la recogida de la información se utilizó un cuestionario elaborado por los autores.

Resultados: en el estudio predominan los adolescentes con edad entre 17-19 años, de este grupo 104 se corresponden con los fumadores y los de 10-13 años, 35 corresponden con los no fumadores. La mayoría de los jóvenes iniciaron el consumo de cigarro o tabaco entre los 11-14 años. La presencia de amigos fumadores fue el principal motivo para comenzar a fumar. La cantidad de cigarros o tabaco consumida fue equivalente a una caja. En los púberes estudiados predominó el nivel de conocimiento mediano sobre los efectos nocivos del tabaco.

Conclusiones: el tabaquismo es un importante problema de salud y social en los adolescentes. Asimismo, la mayoría de estos iniciaron el consumo de tabaco en la adolescencia temprana. La presencia de amigos fumadores fue el principal motivo para comenzar a fumar. El nivel de conocimiento sobre los efectos nocivos del tabaco es medio en la población estudiada.

Palabras clave: Adolescentes; Sustancias Perjudiciales Para La Salud; Factores De Riesgo; Tabaquismo

INTRODUCTION

Today, tobacco consumption is a risk factor for chronic non-communicable diseases (NCDs), including cancer, diabetes, cardiovascular and respiratory diseases. In addition, smoking is a complex addiction with physical (chemical), psychological and social factors. ^(1,2)

It is considered a universal epidemic and a burden that affects the individual, the family and society. There has never been so much concern about the harmful effects on human health, nor have so many global actions been undertaken to reduce its consumption. ⁽³⁾

Experts from the World Health Organization (WHO) declare that smoking is one of the greatest threats to public health that the world has had to face. It kills more than 8 million people a year, of which more than 7 million are direct consumers and around 1,2 million are passive smokers. ⁽⁴⁾ Smoking increases poverty, because people spend money that could be spent on basic needs such as food and housing. The strong dependence on this product makes it difficult for them to correct this expenditure. ⁽⁵⁾

In the Americas, the current prevalence of tobacco consumption decreased from 28 % in 2000 to 16,3 % in 2020, although there were variations from 29,2 % in Chile to 5,0 % in Panama. On the other hand, this reduction did not prevent tobacco consumption among women in the region from increasing faster than in other parts of the world, reducing the gap between men and women. ⁽⁶⁾

Cuba has had the highest prevalence and per capita consumption of cigarettes in the Latin American region since the 1980s. There are more than two million smokers, four out of ten men (41,4 %) and two out of ten women (23 %). 76 % of smokers start smoking before the age of 20. About 69 % of children are passive smokers. 30 % of high school students have tried tobacco at some point and 17,9 % smoke. In ninth grade, the rate is 25,6 %. ⁽⁷⁾

In the Matanzas territory and the main municipality, smoking has decreased; however, this does not seem to have had enough impact to stop the trend or move mortality from malignant tumors. ⁽⁸⁾ In addition, according to Pérez Barly et al., they suggest that tobacco consumption begins in adolescence, between 10 and 19 years of age, which is a stage in a person's life where systemic changes occur, related to the psychological, sociocultural and biological attitudes of young people. ⁽⁹⁾

Tobacco smoke contains more than 4 000 chemical substances, of which at least 250 are harmful. Of these, at least 70 are known to cause cancer, chemicals which are known as carcinogens. ^(10,11)

Due to the relevance of this topic for the world population, the objective of the research was to identify the level of knowledge about the harmful effects of tobacco in adolescents at Clinic 39, Samuel Fernández Álvarez Teaching-Community Polyclinic, Matanzas.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted from October 2021 to March 2023. The universe consisted of 224 adolescents from Clinic 39 of the Samuel Fernández Álvarez Teaching-Community Polyclinic in Matanzas.

The inclusion criteria were all adolescents who agreed to participate in the study. The exclusion criteria were those who were not residing in the health area during the study period and who did not agree to participate in the research.

The variables used were: age (10-13 years, 14-16 years, 17-19 years), smoker or non-smoker, age of onset of the habit, representation of smokers (family and friends), motivation for smoking (because I like it, because it's fashionable, to imitate my friends, to seem like an important person, to avoid stress, others), amount of cigarette or tobacco consumption, other toxic habits (alcohol consumer, coffee drinker, non-consumer), level of knowledge (adequate, average, insufficient, inadequate).

To collect quantitative information, a questionnaire prepared by the authors was used. It consists of 12 questions: two that collect personal information, and the remaining 10 are open-ended and alternative selection questions that collect other data of interest to the study.

An evaluation scale was created that was structured as follows: the items in question 11 have a value of 1 point and the items in question 12, a value of 1,4 points. Once the instrument was completed, if the score was between 20 and 15 points, the knowledge level was adequate, between 14 and 10 points, the knowledge level was medium, 9-5 points, the knowledge level was insufficient, and ≤ 4 points, the knowledge level was inadequate.

To carry out the study, each of the patients who made up the universe under study was given the "Informed Consent Model" (Annex I). Once the information was compiled, a database was created using the Microsoft Excel system of the Microsoft Office software package, which facilitated the summary and presentation of the information collected through tables.

The principle of respect for the confidentiality of the information, from the reviewed database and the clinical records, was taken into account. This study was endorsed by the Ethics Committee and the Scientific Council of the institution.

RESULTS

Table 1 shows the distribution of adolescents by age (age group) and the presence of smokers or non-smokers. Adolescents in the age group between 17-19 years are the most represented in the study with 118 adolescents. Of these, 104 correspond to those with the highest percentage of smokers with 46,42 %, compared to the total.

Table 1: Distribution of adolescents at the Samuel Fernández Álvarez Teaching-Community Polyclinic by age and the presence of smokers or non-smokers in Matanzas in the period 2021-2023

Age groups	Teenage smokers		Non-smoking teenagers		Total	
	No	%	No	%	No	%
10-13 years	9	4,02	35	15,62	44	19,64
14-16 years	43	19,2	19	8,48	62	27,68
17-19 years	104	46,42	14	6,25	118	52,67
Total	156	69,64	68	30,35	224	100

Source: Questionnaire

Table 2 shows the distribution of adolescent smokers and the age at which they started smoking. Of the smokers, 94 of these, representing 60,25 % of the total, started smoking cigarettes or tobacco between the ages of 11-14.

Table 2: Distribution of adolescents according to smokers and age of onset of smoking

Age of onset of smoking	Teenage smokers	
	No	%
<10 years	23	14,75
11-14 years	94	60,25
15-19 years	39	25
Total	156	100

Source: Questionnaire

Table 3 shows the distribution of adolescent smokers by age of onset of smoking and representation of smokers (family and friends). Of the 156 who started smoking between the ages of 11-14, the 66 youths who have friends who smoke predominate in the study, representing 42,31 % of the total. Likewise, 28 have relatives who smoke, representing 17,95 % of the total.

Table 3: Distribution of adolescent smokers by age of onset of smoking and representation of smokers (family and friends)

Age of onset of smoking	Teenagers who smoke (Smoking representation)	Total
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	Family		Friends			
	No	%	No	%	No	%
<10 years	20	12,82	3	1,92	23	14,74
11-14 years	28	17,95	66	42,31	94	60,26
15-19 years	12	7,69	27	17,31	39	25
Total	60	38,46	96	61,54	156	100

Source: Questionnaire

Table 4 shows the distribution of adolescent smokers according to their motivation for smoking. The predominant motivation for smoking was to imitate my friends in 78 young people, which represents 50 % of smokers.

Table 4: Distribution of adolescent smokers according to their motivation for smoking

Motivation to smoke	Teenage Smokers	
	No	%
Because I like it	8	5,1
For fashion	9	5,8
To imitate my friends	78	50,0
To look like an important person	16	10,3
To avoid stress	42	26,9
Others	3	1,9
Total	156	100

Source: Questionnaire

Table 5 shows the distribution of adolescent smokers according to total cigarette or tobacco consumption and other toxic habits. Of the 156 young people, 119 smoke between 11-20 cigarettes a day, which represents 76,28 % of the total. Among the other toxic habits confirmed, 126 people smoke alcohol, representing 80,76 % of the total. 34 young people were confirmed to drink coffee in addition to smoking.

Table 5: Distribution of adolescent smokers according to total cigarette or tobacco consumption and other toxic habits

Teenage Smokers		
Amount you smoke (cigarettes or tobacco)	No	%

<10	9	5,77
11 a 20	119	76,28
Over 21	28	17,95
Total	156	100
Other Toxic Habits		
	No	%
Alcohol consumer	126	80,76
Coffee consumption	26	16,67
Do not consume	4	2,57
Total	156	100

Source: Questionnaire

Table 6 shows the distribution of the level of knowledge about the harmful effects of tobacco among adolescent smokers and non-smokers. It was found that 125 of these had a medium level of knowledge about the harmful effects of tobacco, which represents 55,8 % of the total. Among non-smoking youth, those who had an adequate level of knowledge about the harmful effects of tobacco predominated with 53 of these, which represents 23,66 % of the total.

Table 6: Distribution of the level of knowledge about the harmful effects of tobacco among adolescent smokers and non-smokers

Level of knowledge about the harmful effects of tobacco	Total number of teenagers				Total	
	Teenagers smokers		Non-smoking adolescents			
	No	%	No	%	No	%
Adequate	22	9,82	53	23,66	75	33,48
Average	125	55,8	14	6,25	139	62,05
Poor	9	4,02	1	0,45	10	4,47
Inadequate	-	-	-	-	-	-
Total	156	69,64	68	30,36	224	100

Source: Questionnaire

DISCUSSION

According to the authors, the increase in tobacco consumption, especially among young people, is due to the lack of knowledge of the harmful effects on health. Likewise, smoking is considered a complex addiction, due to the

effect of nicotine on the central nervous system. This chemical substance is classified as one of the most addictive drugs (with a high "hooking" power), even more than cocaine and heroin. Taking into account this health problem, it is a priority for health professionals to increase the level of knowledge about the harmful effects of this addiction and the prevention of this disease.

Quevedo Lorenzo et al., ⁽¹²⁾ report that tobacco consumption begins in both early and late adolescence. Likewise, Martínez Pérez et al., ⁽¹³⁾ reported in their research that the average age of the sample under study was adolescents of $13,27 \pm 0,88$ years, with a minimum age of 12 years and a maximum age of 15 years. Similarly, Martínez Pérez et al., ⁽¹⁴⁾ found in their study that the average age of initiation of cigarette consumption was 14 years.

Serrano Díaz et al., ⁽¹⁵⁾ in their research on the harmful effects of tobacco found a higher incidence of smokers in the group of 60 years and older, 21,8 % of men, standing out among the female sex the group of 30 to 39 years old which is 25,0 %. In addition, Minacapilli M et al., ⁽¹⁶⁾ found in smokers that the average age was 48,72 years. Espinoza Aguirre et al., ⁽¹⁷⁾ reported in their research that those who are 45-64 years old smoke more. Likewise, Cano-Bedoya et al., ⁽¹⁸⁾ indicate in their research that the smokers studied had an average age of 45 years.

Martínez Pérez et al., ⁽¹³⁾ reported in their research that cigarette consumption began in Secondary School. Also, Jiménez Jiménez et al., ⁽¹⁹⁾ found that the respondents reported that they began to consume tobacco at the age of 16. On the other hand, Zurbarán Hernández et al., ⁽²⁰⁾ indicate in their research that the most frequent age of initiation is between 14 and 15 years. The researchers referenced found in the research that the beginning of cigarette consumption corresponds to the stage of adolescence, which coincides with this research.

Suárez Benitez et al., ⁽²¹⁾ reported in their research that most adolescents live with smoker relatives and friends who smoke. On the other hand, Frómata Rodríguez et al., ⁽¹⁹⁾ found that in smoking students, they say that they did so to imitate their classmates and not feel different within the group, due to anxiety and curiosity.

Likewise, Zurbarán Hernández et al., ⁽²⁰⁾ indicate in their research that the largest number of smoking students felt calm when smoking. Iraola Parra et

al., ⁽²²⁾ found the presence of friends and family smokers. Also, Pérez Leyva et al., ⁽²³⁾ found in their study the influence of some social models (adaptation to the group of consumers), family attitudes (consumption by parents and other family members).

On the other hand, Rodríguez Lechuga stated in his study that smoking is an addiction, related to the need to consume nicotine again. ⁽²⁴⁾ Also, Matar Khalil et al., ⁽²⁵⁾ state that tobacco addiction becomes an addictive disease that threatens the health of both smokers and people around them.

Rondón Carrasco et al., ⁽²⁶⁾ state that regarding the frequency of smoking, students who consume 2 to 5 cigarettes. Also, Iraola Parra et al., ⁽²²⁾ found in their research that students who consume 2 to 5 cigarettes. Zurbarán Hernández et al., ⁽²⁰⁾ stated in their study that most adolescents consume only one cigarette a day. In addition, Pérez Barly et al., ⁽⁹⁾ found in their research that among adolescents, daily consumption was 2,82 % for alcohol and 60,53 % for coffee.

Zurbarán Hernández et al., ⁽²⁷⁾ point out in their research that tobacco consumption is a risk factor for respiratory and cardiovascular diseases and various types of cancer, and is also harmful during pregnancy. Furthermore, it affects not only smokers, but also passive smokers.

According to Ruiz Mori et al., ⁽²⁸⁾ the main means of obtaining information on the risks associated with smoking in these three groups was television. Likewise, the disease most associated with cigarettes is lung cancer, followed by myocardial infarction. In a study conducted with 131 students from the "Argenis Burgos" Secondary School in Santiago de Cuba, the students had inadequate knowledge regarding the damage caused by the habit of smoking to general health and only 28,2 % (37 students) obtained an adequate grade, so there was greater ignorance among smokers with 76,3 %.

The results of the authors, in relation to the level of knowledge about the harmful effects of tobacco according to adolescent smokers and non-smokers are not similar to those found by: Ruiz Mori et al., ⁽²⁶⁾ in the study conducted with 131 students from the "Argenis Burgos" Secondary School in Santiago de Cuba; 69,5 % of the adolescents received information from their family about the damage caused by tobacco.

Furthermore, the majority of young people were unaware that smoking causes heart attacks and sexual dysfunction, which influenced these results. In Mexico, this research revealed other health problems related to smoking. Nicotine is a highly addictive substance. If adolescents consume it before the age of 25, it can cause addiction and alter the development of their nervous and respiratory systems. In addition, it causes abortion and preterm birth in pregnant women and, when crossing the placental barrier, it can cause hearing disorders and alter fetal development. Postnatal exposure can cause sudden infant death. ^(27,28)

The limitations of this study are related to the fact that adolescents were studied in a health clinic.

CONCLUSIONS

Smoking is a major health and social problem among adolescents. Moreover, most of them started smoking in early adolescence. The presence of friends who smoke was the main reason for starting to smoke. The level of knowledge about the harmful effects of tobacco is medium in the population studied.

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AUTHORSHIP CONTRIBUTION

JGF: Conceptualization, data curation, formal analysis, investigation, methodology, resources, supervision, validation, visualization, original draft writing, writing and editing.

YBR: Conceptualization, formal analysis, investigation, methodology, supervision, visualization, original draft writing, writing and editing.

AVC: Conceptualization, formal analysis, investigation, methodology, supervision, visualization, original draft writing, writing and editing.

LPB: Conceptualization, formal analysis, investigation, methodology, supervision, visualization, original draft writing, writing and editing.

AIMB: Conceptualization, formal analysis, investigation, methodology, supervision, visualization, original draft writing, writing and editing.



ARL: Conceptualization, formal analysis, investigation, methodology, supervision, visualization, original draft writing, writing and editing.

CONFLICT OF INTERESTS

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Annex 1

INFORMED CONSENT FOR PARTICIPANTS

Title: Level of knowledge about the harmful effects of tobacco on adolescents

I _____,
exercising my free power of choice and my will, hereby give my consent to participate in the aforementioned research and answer the questionnaire. I have had sufficient time to decide my participation, without suffering any pressure and without fear in case of rejecting the proposal, it has also been explained to me that the information I provide will only be disclosed for scientific purposes.

I am aware of my right to refuse and not answer any question that is deemed indiscreet, without having to give reasons for this and without affecting the relations with the work team that carries out the research, if I refuse to participate in the study.

For the record, I sign this consent on the _____ day of the

Month of _____ year _____

Patient's signature: _____

Physician's signature: _____



Annex 2

Questionnaire of questions

Dear participants:

The doctor at the clinic is conducting research related to the harmful effects of smoking. Your opinion on this issue is necessary and important for this. Please, your help is requested, for which it is important that you answer the questionnaire honestly, it is anonymous, general information is requested.

Thank you for your collaboration.

Instructions: In the following questions, mark with an "X" the chosen response option or fill in the blank. Mark only one response option unless something different is specified within the question..

1. Age: _____

2. What level of education do you have?

_____	Primary	_____	Intermediate technician
_____	Secondary	_____	Pre-university

3. smoker:

Yes _____ No _____

4. At what age did you start smoking _____ years?

5. Do you have any family members who smoke?

_____ Yes _____ No.

6. Who smokes in the family?

_____ Mom _____ Dad _____ Brother(s) or other family members, specify who:

_____.

7. Do you spend time with friends who smoke?

_____ Yes _____ No



8. What reasons motivated you to start smoking cigarettes or tobacco? You can select more than one option.

<input type="checkbox"/>	because he likes it	<input type="checkbox"/>	to appear to be an important person
<input type="checkbox"/>	for fashion	<input type="checkbox"/>	to avoid stress
<input type="checkbox"/>	to imitate my friends	<input type="checkbox"/>	Others (specify which)

9. How much cigarette or tobacco do you smoke a day?

<input type="checkbox"/>	10 or less	<input type="checkbox"/>	11 to 30	<input type="checkbox"/>	more than 31
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10. Do you have other toxic habits?

<input type="checkbox"/>	alcohol consumer	<input type="checkbox"/>	coffee drinking	<input type="checkbox"/>	illegal drugs
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11. Through what channels have you obtained information about the effects that cigarette or tobacco consumption has on your health?

<input type="checkbox"/>	The family	<input type="checkbox"/>	mass media (radio/television)
<input type="checkbox"/>	the unit doctor	<input type="checkbox"/>	the newspaper
<input type="checkbox"/>	other colleagues	<input type="checkbox"/>	Others. (please specify)

12. What do you think are the consequences of smoking? You can tick more than one option. You can argue with other consequences that you know.

<input type="checkbox"/>	cancer	<input type="checkbox"/>	weight loss
<input type="checkbox"/>	redness of the eyes	<input type="checkbox"/>	Tibial fracture
<input type="checkbox"/>	respiratory problems	<input type="checkbox"/>	premature aging
<input type="checkbox"/>	hair loss	<input type="checkbox"/>	sexual impotence
<input type="checkbox"/>	stains on teeth	<input type="checkbox"/>	cardiovascular problems