

Self-esteem and tobacco consumption in high school adolescents

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ABSTRACT

Introduction: The abuse of psychoactive substances is nowadays a public health problem closely linked to the adolescence stage due to the fact that both personality and self-esteem are not yet fully defined. **Objectives:** The objectives of this study are to determine the prevalence of tobacco consumption in adolescents, identify levels of self-esteem, and the relationship of the level of self-esteem with tobacco consumption. **Methodology:** This was a cross-sectional-descriptive and correlational study applied on a population of 900 adolescents with non-probability convenience sampling for a final sample of 324 adolescents of both genders. The Rosenberg Self-Esteem Scale and the prevalence of global, lapsic, current, and instantaneous tobacco consumption were used. **Results:** The average age of the participants was 13.3 years ($SD = 0.99$); 54% of the participants were females and 46% were males. The prevalence of tobacco consumption at some time in their life was 9.6%, while in the last month it was 1.9%. 62.3% of the adolescents were located in the high self-esteem range; with a higher percentage in male participants (70.5%), compared to female participants (55.4%). There was no significant relationship between levels of self-esteem and smoking ($p > .05$). **Conclusions:** The prevalence and frequency of tobacco consumption reported was very low. It was found that the highest percentage of participants in the study had high self-esteem.

Key words: Self-esteem; Tobacco consumption; Adolescents (DeCS).

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Autoestima y consumo de tabaco en adolescentes de secundaria

RESUMEN

Introducción: El abuso de sustancias psicoactivas, es hoy en día un problema de salud pública muy vinculado a la etapa de la adolescencia por no estar aun completamente definida la personalidad y autoestima. **Objetivos:** Los objetivos del estudio fueron determinar la prevalencia de consumo de tabaco en adolescentes, identificar niveles de autoestima y la relación del nivel de autoestima con el consumo de tabaco. **Metodología:** Estudio descriptivo, correlacional y transversal, en una población de 900 adolescentes, muestreo no probabilístico por conveniencia para una muestra final de 324 adolescentes de ambos sexos. Fueron utilizadas, la Escala de Autoestima de Rosenberg y las prevalencias de consumo de tabaco global, lápsica, actual e instantánea. **Resultados:** La media de edad de los participantes fue de 13.3 años ($DE = 0.99$), el 54 % de los participantes correspondió al género femenino y el 46 % al masculino. La prevalencia de consumo de tabaco alguna vez en la vida fue del 9.6 %, mientras que en el último mes fue de 1.9 %. El 62.3 % de los adolescentes se ubicaron en el rango de autoestima alta; el porcentaje encontrado en los masculinos fue mayor (70.5 %), en comparación con el femenino (55.4 %). No se documentó relación significativa entre los niveles de autoestima y el consumo de tabaco ($p > .05$). **Conclusiones:** La prevalencia y la frecuencia en el consumo de tabaco reportada fue muy baja. Se identificó que el mayor porcentaje de los participantes en el estudio, mostraron niveles de autoestima alto.

Palabras clave: Autoestima; Consumo de tabaco; Adolescentes (DeCS).

Auto-estima e consumo de tabaco em adolescentes secundária

ABSTRATO

Introdução: Atualmente, o abuso de substâncias psicoativas é um problema de saúde pública intimamente ligada ao estágio da adolescência, porque a personalidade e a auto-estima ainda não estão completamente definidas. **Objetivo:** os objetivos do estudo foram determinar a prevalência do consumo de tabaco em adolescentes, identificar os níveis de auto-estima e a relação do nível de auto-estima com o consumo de tabaco. **Metodologia:** Estúdio descritivo, correlacional e transversal, aplicado em uma população de 900 adolescentes com amostragem não probabilística por conveniência, para uma amostra final de 324 adolescentes de ambos os sexos. Utilizou-se a Escala de Auto-Estima de Rosenberg e a prevalência de consumo global, lapicico, atual e instantâneo de tabaco. **Resultados:** A média de idade dos participantes foi de 13.3 anos ($DP = 0,99$), 54% dos participantes corresponderam ao sexo feminino e 46% ao masculino. A prevalência do consumo de tabaco em algum momento da vida foi de 9.6%, enquanto no último mês foi de 1,9%. 62,3% dos adolescentes estavam na faixa de auto-estima alta; o percentual encontrado no sexo masculino foi maior (70,5%), em comparação às participantes do sexo feminino (55,4%). Não houve relação significativa entre os níveis de auto-estima e consumo de tabaco. ($p > 0,05$). **Conclusões:** A prevalência de frequência de consumo de tabaco relatadas foram muito baixas. A prevalência de frequência de consumo de tabaco relatadas foram muito baixas. Verificou-se que o maior percentual da participantes do estudo apresentava alta auto-estima.

Palavras chave: Simulação, estudantes de enfermagem, laboratório, enfermagem (DeCS).

INTRODUCTION

Tobacco consumption today is considered a serious social and public health problem. It is estimated that almost 6 million people die each year worldwide from diseases attributed to tobacco consumption ⁽¹⁾. According to data from the World Health Organization ⁽²⁾ (2018), tobacco is one of the main threats to public health in the world, since more than 7 million people die each year from its consumption; from this amount, more than 6 million are active consumers and about 890,000 are non-smokers exposed to secondhand smoke. Mainly, tobacco consumption is related to the risk of mortality from diseases such as cancer, ischemic heart disease, chronic obstructive pulmonary disease, and strokes ⁽³⁾.

At global level, according to the Global Youth Tobacco Survey published in 2016 ⁽⁴⁾, approximately 9.5 million youngsters between the ages of 13 and 15 smoke, while in the American continent, in this same age range, only 15% smoke. The South American countries show higher numbers of cigarette consumption, while in the North America area a considerable decrease in cigarette consumption was seen, from 36.4% in 1997 to 23% in 2007 ⁽⁵⁾. Regarding Mexico, according to the 2016-2017 National Survey on Drug, Alcohol, and Tobacco Use ⁽⁶⁾, 14.9 million Mexicans are smokers (3.8 million are women and 11.1 million are men) of which, 5.4 million smoke on a daily basis. While, the global prevalence of tobacco consumption in Mexican adolescents is 4.9% and the average age of initiation of daily tobacco use is 14.3 years.

There are precedents that the majority of adult smokers started smoking during the adolescent stage, as a consequence of various factors such as their emotional circumstance, which is established as a cause and effect in the literature increasingly apparent. Various studies show a relationship between tobacco consumption and emotional distress such as concerns, fear, and blue mood, although the causal relationship of this association is still unclear ⁽⁷⁾. However, there is evidence that adolescents with good emotional competencies have higher self-esteem and an adequate psychological adjustment with respect to their emotions and behavior ⁽⁸⁾.

Adolescents are the most vulnerable population segment for the initiation of tobacco consumption since approximately 90% of adult smokers have started the habit during adolescence ⁽⁹⁾. Likewise, the typical characteristics of this age, the desire to have new life experiences, and family and school problems are factors that can trigger the adolescent to try the first cigarette, the first alcoholic drink and even the first use of illegal drugs. In western countries, more than half of adolescents have had the experience of using tobacco during middle school ⁽¹⁰⁾. Some illegal drug studies show that casual or permanent use of alcohol and tobacco, alone or in combination, is common among ado-

lescents, with prevalence mostly in men ⁽¹¹⁾ and with a higher number of users of alcohol than of tobacco ⁽¹²⁾.

Adolescence is considered an especially relevant stage for the formation of self-esteem, due to the biological, psychological, social, and cognitive changes that occur during this cycle. Adolescence is an important period for the development of the individual, and it is a stage in which his personality takes hold and consolidates, which is why the transmission of healthy habits that act as protective factors in the transition to adulthood is important ⁽¹³⁾.

Rosenberg ⁽¹⁴⁾ defines self-esteem as the set of thoughts and feelings of an individual about their own value and importance. This definition reflects the notion of "global" or "general" self-esteem. Self-esteem is an important part of the self-understanding of adolescents, and it is likely to be a dynamic and fluctuating construction process, susceptible to internal and external influences. A high level of self-esteem is considered a protective factor that separates the subject from unhealthy influences, but on the contrary, low self-esteem implies self-rejection, self-discontent, and self-contempt and in this way the individual lacks self-esteem, which can place the subject in vulnerability to risky behaviors such as substance use.

The existing literature that addresses the relationship between self-esteem and healthy lifestyles is still confusing and contradictory. On the one hand, various studies support the hypothesis that the higher the level of self-esteem, the lower the risk of unhealthy behaviors such as substance abuse ^(15, 16). A study carried out with the aim of studying the psychosocial factors that are associated to the consumption of substances such as tobacco, alcohol, and marijuana in a sample of Mexican and Colombian university students, identified positive self-esteem as a protective factor against substance abuse ⁽¹⁷⁾. In this sense, previous studies identified that in the face of a low level of self-esteem, the greater the risk of consumption of various types of psychoactive substances ^(18, 19). This could confirm the fact that having a high or moderate self-esteem is useful to prevent showing behaviors that harm the health of the adolescent, such as the use and abuse of both legal and illegal drugs. Nevertheless, a study carried out on a sample of adolescents in Cartagena Colombia indicated that there was no significant association between low self-esteem and cigarette smoking⁵.

Based on the aforementioned, the need to go deeper in the study of the phenomenon described is identified and the following objectives for this study were proposed: determine the levels of self-esteem in middle school adolescents, identify the global, lapsic, current, and instantaneous prevalence of consumption of tobacco in middle school adolescents, and verify the relationship between self-esteem and tobacco consumption.

METHODOLOGY

The design of this study was cross-sectional-descriptive and correlational with non-probability convenience sampling. The population consisted of 900 middle school students and the sample was represented by 324 adolescents of both genders who met the inclusion criteria, that is, being enrolled in the 2017-2018 school year and who agreed to participate in the study.

Instruments

A Tobacco consumption and Personal Data Card (CDPCT for its Spanish acronym) and an instrument of measurement were applied; the CDPCT was comprised by personal information of the participant such as age, gender, school grade, marital status, and occupation. It also includes 5 items that measure the age in which the consumption started, as well as the prevalence of global, lapsic, current and instantaneous tobacco consumption.

To measure self-esteem, the Rosenberg Self-Esteem Scale (1965)⁽¹⁴⁾ was used. This Scale allows exploring personal self-esteem which is understood as feelings of personal worth and self-respect. It is composed by ten questions, five of which are stated in a positive way (questions 1 to 5), while the questions that are rated negatively are questions 6 to 10.

The scale has a maximum global score of 40 points and a minimum of 10 points, where the higher the score the higher the self-esteem. According to the scale, the level of self-esteem is classified according to three cut-off points, that is, high or normal level of self-esteem if 30 to 40 points are obtained; average self-esteem if 26 to 29 points are obtained, and it indicates that no serious self-esteem problems exist, however it is recommended to improve it; finally, if the score obtained is lower than 25 it is considered a low level of self-esteem and indicates that there are significant self-esteem issues. This scale has been used to measure self-esteem in Mexican adolescents from middle school²⁰, reporting an acceptable reliability of .89, as well as in a sample of university students from Mexico City⁽²¹⁾ reporting a Cronbach's Alpha of .79.

Data collection procedure

The approval of the Research and Ethics Committee of the Matamoros Academic Multidisciplinary Unit-UAT (registration number 054) was obtained, as well as the approval of the educational institution where data were collected. The students were accommodated in a space where they were comfortably seated, the objective of the study was explained to them and the granting of informed consent for adolescents and parents in case they decided to be part of the study; they were told that they had the freedom to withdraw from the study when deemed necessary. Subsequently, they were given an envelope containing the Tobacco Consumption and Personal Data

Card (CDPCT) and the instrument for measuring the variable of study. At the end of the study they were thanked for their participation.

Ethical considerations

The study adhered to the provisions set forth by the General Health Act on Health Research (Ministry of Health, 1987)²², Title II, Chapter I. Pursuant to article 13, the dignity of the subjects was respected through a respectful and professional treatment and the protection of their human rights. In accordance with the provisions of Article 14 (Section V, VII, and VIII), the study was adjusted to scientific and ethical principles. Moreover, the informed consent of the parent or guardian and participant was obtained, they were guaranteed that they would receive answers to any questions regarding the procedures, and received the assurance that the subject was not going to be identified and that the confidentiality of the information related to his privacy was going to be maintained. Likewise, the participant would have the opportunity to withdraw their informed consent at any time (Article 21, Sections I, II, IV, VI, VII, and VIII).

Analysis of the results

The collected data was processed through the SPSS statistical program version 22.0. First, the internal consistency of the Rosenberg instrument was checked through the Cronbach's Alpha Reliability Coefficient. Descriptive and inferential statistics were subsequently used. Descriptive analysis of continuous and categorical variables was performed using frequencies, proportions, and measures of central tendency and variability. Pearson's Chi-Square was used to determine association.

RESULTS

To determine the internal consistency of the Rosenberg's Self-Esteem Scale (1965), the Cronbach's Alpha Coefficient was estimated, obtaining a reliability of .81. In relation to the sociodemographic variables of the participants in the study, they showed an average age of 13.3 years (SD = 0.99) with a minimum of 12 years and a maximum of 15 years. Regarding gender, 54% were females and 46% were males; regarding the level of schooling 43.8% of the participants were in the third year of middle school, 34.9% were in the second year, and 21.3% answered that they were in the freshman year at the time of the interview; 99.4% said they were students only. An important fact to highlight is that all the participants said they lived with their parents.

Table 1 shows that according to the levels of self-esteem classified by the Rosenberg scale, the scores obtained by

Table 1. Level of self-esteem among middle school students

Level of self-esteem	<i>f</i>	%
Low self-esteem	51	15.7
Moderate self-esteem	71	21.9
High self-esteem	202	62.4
Total	324	100

Source: Rosenberg's Self-Esteem Scale

n = 324

Table 2. Prevalence of tobacco among middle school students.

	Yes		No		IC	
	<i>f</i>	%	<i>f</i>	%	<i>LI</i>	<i>LS</i>
Some point in life	31	9.6	293	90.4	6	13
In the last year	9	2.8	315	97.2	1	5
In the last month	6	1.9	318	98.1	0	3
In the last 7 days	2	0.6	322	99.4	0	1

Source: CDPCT

n = 324

Table 3. Relationship between levels of self-esteem and tobacco consumption among middle school students

	Value	<i>gl</i>	<i>p</i>
Pearson's Chi-Square	1.069	2	0.59

Source: Rosenberg's Self-Esteem Scale and CDPCT

n = 324

the total of the subjects, place most of them (62.4%) in the range of high self-esteem; however, 15.7% (51) of them were located in the low level of self-esteem. Additionally, with respect to the level of self-esteem by gender, the highest percentage of adolescents, both male (70.5%) and female (55.4%), have a high level of self-esteem, while the low level of self-esteem for the male gender was 10.1% (15) and for the female gender was 20.6% (36).

Regarding tobacco consumption, Table 2 shows that a very low percentage in the prevalence of tobacco consumption at some time in life was found, since only 9.6% (31) of the surveyed stated that they had used tobacco at some point in their lives, and the remaining 90.4% answered that they never used tobacco. Similarly, a significant decrease in the percentage of tobacco consumption in the last month was observed in 1.9% (6). The average age of the consumption onset was 12 years old (SD = 1.5).

To respond to the third objective of the study, which is to verify the relationship between self-esteem and tobacco consumption, Table 3 shows that there is no statistically significant relationship between self-esteem levels and tobacco consumption ($p > 0.05$).

DISCUSSION

Within this study it was possible to determine the relationship between self-esteem and tobacco consumption in a sample of 324 adolescents, who were studying middle school at a public institution in the urban area of the city of Matamoros, Tamaulipas, Mexico.

The findings show that 12 years of age is the onset of consumption reported by the participants in the study; this age is lower than the one indicated by the National Addictions Survey (2011) ⁽²³⁾, which states that the adolescent begins consumption at an average age of 14 years; this same survey identifies this population group as the group with the highest vulnerability and risk in the face of tobacco epidemic, since 12.3% (1.7 million) of adolescents in Mexico are active smokers. The literature describes that the beginning of secondary education marks the beginning of experimental substance use ⁽²⁴⁾, since it is in the early stage of adolescence when the youth begins to feel curiosity about new feelings ⁽²⁵⁾, as well as to challenge and break established social norms ⁽²⁶⁾.

In relation to the first objective of the study, which is to determine the self-esteem levels in middle school adolescents,

it was determined that the highest percentage of adolescents (62.3%) was located in the high self-esteem range, similar to what was found in a study carried out in Mexican adolescents⁽²⁷⁾. This could be explained because adolescence is considered an especially relevant stage for the development and consolidation of self-esteem. Regarding the levels of self-esteem by gender, even though the highest percentage of adolescents of both genders showed a high level of self-esteem, in the case of males the percentage was higher (70.5%), compared to the participants of the female gender (55.4%). This information is consistent with the literature when pointing out that during childhood self-esteem levels are similar in both genders; however, in adolescence a difference begins between them, indicating that men's self-esteem is higher and more stable in comparison with women's⁽²⁸⁾. Additionally, previous research mentioned that the self-esteem of adolescent males depends on their personal and social achievements, and a high level of self-esteem in adolescents results in life satisfaction⁽²⁹⁾.

Regarding the second objective, which is to identify the prevalence of global, lapsic, current and instantaneous tobacco consumption in high school adolescents, results obtained show that a very small percentage of the surveyed (9.6%) mentioned that they smoked tobacco at some point in their lives. This percentage is lower than that reported by the National Addictions Survey in 2011⁽²³⁾ and by the WHO in 2015⁽³⁰⁾, which respectively said that 12.3% and 22.0%, of adolescents are regular smokers. However, the aforementioned percentage is similar to the percentage reported by Spanish researchers, who studied impulsiveness and tobacco consumption in a sample of middle school adolescents⁽²⁵⁾. An important fact to highlight is that the results of this study showed that the percentage of adolescents who said they smoked at some time in their life is very small, in addition to the fact that consumption is decreasing in every one of the prevalences, which means that of the total of adolescents who had a first contact with tobacco, not all are hooked on regular consumption. This could be due to the fact that the average age of the study participants is one year younger than the age adolescents start daily tobacco consumption as reported by the Global Youth Tobacco Survey⁽⁴⁾, or to the fact that all the adolescents surveyed reported living with their parents. This situation indicates that they were under the supervision of their parents, which acted as a protective factor against tobacco consumption⁽²⁴⁾. Another explanation may be that adolescents avoid smoking because they perceive that smoking is something dangerous for their health and physical performance⁽³¹⁾.

Regarding the third objective, which is to determine the relationship between self-esteem and tobacco consumption in middle school adolescents, the results indicate that there is no significant relationship between levels of self-esteem and tobacco use. The result may be due to the fact that more than 80% of the participants reported high and medium levels of self-esteem, which in the literature is identified as a protective factor against substance use⁽¹⁵⁾. In addition to the above,

the total of adolescents who participated in the study lived with both parents, and according to the existing literature, keeping effective communication with parents and perceived family support act as a protective factor against smoking^(32, 33). Likewise, a mediating function of self-esteem and the characteristics of family functioning have been identified, and both conditions act as a protective factor against substance use in adolescents, i.e., a high level of self-esteem and a positive family environment reduces the risk of substance use in this population⁽³⁴⁾.

CONCLUSIONS

From the results obtained and regarding the objectives of the study, it can be concluded that with respect to tobacco consumption, the prevalence and frequency of tobacco consumption was very low. It was found that the highest percentage of participants showed high self-esteem level. With regard to levels of self-esteem by gender, the highest percentage of adolescents of both genders showed a high level of self-esteem, with male gender standing out with a higher percentage. It was found that a higher percentage of the participants in the study showed high self-esteem levels. Regarding levels of self-esteem by gender, it was found that a greater percentage of adolescents of both genders showed high self-esteem levels, with the male gender standing out with the highest percentage. With regard to the school grade, the highest percentage corresponds to third grade students. No significant correlation was found between self-esteem and tobacco consumption at some point in their lives.

RECOMMENDATIONS

Although the results of this study showed a very low percentage of tobacco consumption, it is considered necessary to continue and increase the design of interventions that promote and reinforce healthy behaviors in adolescents. Furthermore, strategies that allow adolescents analyzing and becoming aware of the negative consequences of early tobacco consumption must be implemented, as well as to develop permanent prevention and health promotion actions in this segment of the population who is considered vulnerable due to the specific characteristics of the adolescent stage.

CONFLICTS OF INTERESTS

The authors state there were no conflicts of interest.

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