International Journal of Current Advanced Research

ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: 6.614

Available Online at www.journalijcar.org

Volume 9; Issue 06(B); June 2020; Page No.22467-22474 DOI: http://dx.doi.org/10.24327/ijcar.2020.22474.4433



RISK EATING BEHAVIORS, LIFESTYLE AND LEVEL OF RESILIENCE IN HIGH SCHOOL STUDENTS OF PUBLIC INSTITUTIONS

¹L.C.N. Ramon Francisco Bajeca Serrano ,²*Dra. Blanca Lilia Reyes Rocha , ³Dra. Juana Elizabeth Elton Puente and ⁴Med. Esp. Felipe de Jesús Dávila Esquivel

¹Tesista, Estudiante de la Maestría en Nutrición Clínica de la UAQ, Docente en la Universidad de Leon, supervisor de Implementación del Sistema de calidad en el servicio de Alimentos, Manejo de personal y atención al cliente.

² *Profesora Investigadora de Tiempo Completo en la Facultad de Ciencias Naturales de la UAQ, Perfil PRODEP, Participa en Diferentes Proyectos de INVESTIGACIÓN como Investigador principal y Co-investigador, Líder del Cuerpo Académico Bienestar y Salud en Trabajo con Reconocimiento de PRODEP UAQ-CA-136, en CONSOLIDACIÓN* Autor Corresponsal

³ Profesora Investigadora de Tiempo Completo en la Facultad de Ciencias Naturales de la UAQ, Perfil PRODEP y Miembro del Sistema Nacional de Investigadores como Candidato, Participa en Diferentes Proyectos de Investigación como Investigador Principal y Co-Investigador, ha Publicado Artículos Originales en Revistas indexadas y Capítulos de Libros.

⁴ Profesor Investigador de Tiempo Completo en la Facultad de Medicina de la UAQ, Participa en diferentes Proyectos de Investigación como Investigador principal y Co-Investigador, ha Publicado Artículos Originales en Revistas Indexadas y Capítulos de libros, es integrante del Cuerpo Académico Bienestar y Salud en Trabajo con Reconocimiento de PRODEP UAQ-CA-136, en Consolidación

ARTICLE INFO

Article History:

Received 14th March, 2020 Received in revised form 29th April, 2020 Accepted 05th May, 2020 Published online 28th June, 2020

Key words:

risky eating behaviors, lifestyle, resilience.

ABSTRACT

Adolescents have heterogeneous health problems; Currently, the presence of risky eating behaviors CAR (for its acronym in Spanish) and unhealthy lifestyles in young people has increased, contributing to the figures of overweight, obesity and problems such as eating disorders and food ingestion. Objective. Determine the relationship between risky eating behaviors, lifestyle and resilience level of upper secondary education students from public institutions in the municipality of Santiago de Querétaro. Methodology. It was a crosssectional and analytical study, where 385 adolescents enrolled in public schools of 14-19 years, both sexes, were included. Weight, height was measured and the body mass index for age was calculated. A battery of instruments was applied to measure the variables risk eating behaviors, lifestyle, and level of resilience. Descriptive statistics were used for data analysis. The relationship of the study variables was determined with the X^2 test. **Results:** The findings show that 23.4% of adolescents were overweight (men 23.5%; women 23.2%) while 9.4% were obese (men 8.0%; women 10.6%). Risk eating behaviors are related to the level of resilience regarding the dimensions, social competence (X2 = 13.03) and personal competence (X2 = 9.86), as well as with the lifestyle in the feeding dimensions (X2 = 8.64) , drug use (X2 = 7.09), sleep (X2 = 5.91) and self-perceived emotional state (X2 = 8.51). Conclusions A low and medium level of resilience in dimensions of social competence and personal competence is related to the adoption of CAR. Adolescents who presented CAR tend to carry out unhealthy lifestyle practices in dimensions of diet, drug use, sleep, and self-perceived emotional state.

Copyright©2020 L.C.N. Ramon Francisco Bajeca Serrano. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

The World Health Organization (WHO) considers adolescence as a stage of the life cycle from 10 to 19 years old (WHO, 2018). At the Latin American and Caribbean level, adolescents have a significant participation in society, since they represent 30% of the population (PAHO, 2013). According to the National Health and Nutrition Survey Medio Camino 2016 (ENSANUT), for the year 2016 in Mexico, there were 18, 492, 890 adolescents (INSP, 2016).

*Corresponding author: Dra. Blanca Lilia Reyes Rocha

Profesora Investigadora de Tiempo Completo en la Facultad de Ciencias Naturales de la UAQ, Perfil PRODEP, Participa en Diferentes Proyectos de INVESTIGACIÓN como Investigador principal y Coinvestigador, Líder del Cuerpo Académico Bienestar y Salud en Trabajo con Reconocimiento de PRODEP UAQ-CA-136, en CONSOLIDACIÓN* Autor Corresponsal

weight. These types of unhealthy behaviors have become, to a certain extent, a daily habit among young people without them being clear to what extent they are healthy or unhealthy (Unikel *et al.*, 2017).

The clinical practice guide for eating disorders of the National Institute of Psychiatry "Ramón de la Fuente Muñoz" recognizes that CAR are more frequent than eating disorders and food ingestion (Unikel& Caballero, 2010). Various authors point them out as a prior stage for the development of an eating disorder and food ingestion such as anorexia, bulimia or binge eating disorder (Nuño *et al.*, 2009); situations that

usually coexist with anxiety, depression and / or substance abuse problems (WHO, 2018).

The figures at the national level of CAR show a progressive increase, going from 0.8% in 2006 to 1.3% in 2012. Research carried out on the adolescent population of the city of Querétaro, reports figures from 8.7% in adolescents and young adults (Ortiz, 2016), up to 19.5% in adolescents from 14 to 19 years old (Barajas, 2018).

The multiple and significant physical, psychological and social changes, including exposure to factors such as poverty, abuse or violence, are different scenarios that make adolescents vulnerable to the development of physical and mental health problems (WHO, 2018).

A resilient adolescent is capable of facing such adverse situations for their health and strengthening their interpersonal relationships (García *et al.*, 2016). Resilience is defined by Ruvalcaba *et al.* (2015) as a "protective factor that through a process or mechanism contributes to a good result". His study in the adolescent population has focused on elucidating aspects such as level of adaptation due to tasks of this life cycle, school performance or establishing social relationships (Leiva *et al.*, 2013).

Knowing aspects such as eating behavior, lifestyle and resilience of adolescents can help protect them and enhance prosperity and well-being in adolescence and later in adulthood, regarding physical and mental health (WHO, 2018). The WHO considers it a priority to address the current epidemiology of eating disorders and food intake in the adolescent population, because they are a vulnerable age group and the appearance of CAR or mental illness, such as anorexia, bulimia or binge eating disorder, have a considerable impact on the health and quality of life of those who suffer from them (Gil et al., 2003). It is recognized that these mental problems rank third (5%) among the most frequent chronic diseases in adolescents. The detection and early care of adolescents who perform CAR will significantly improve the prognosis of health complications (Gaete et al., 2012) and will help prevent unhealthy habits, acquired early in the life cycle.

Identifying eating behaviors and practices related to eating disorders and food intake, as well as aspects of lifestyle and components of resilience, helps to characterize and focus the critical points in which adolescents are compromising their health condition.

The following hypotheses were managed

Hypothesis 1

Adolescents with a low and medium level of resilience have moderate and high-risk eating behaviors.

Hypothesis 2

Adolescents with moderate risk and severe risk eating behaviors present unhealthy practices in the dimensions of interpersonal skills, coping and perceived emotional state of lifestyle.

The general objective was to determine the relationship between risky eating behaviors, lifestyle and level of resilience in upper secondary education students from public institutions in the Municipality of Santiago de Querétaro, Querétaro.

METHODOLOGY

A cross-sectional and analytical study was carried out, the universe was made up of students from upper secondary education, from public, urban educational establishments, with a school system, from the municipality of Santiago de Querétaro, Querétaro. A multi-stage sampling was carried out. The schools were randomly selected from the Querétaro state education secretary register for upper secondary education for the 2017-2018 school year. The sample size was determined using the formula for a finite population of a universe of 23,897 adolescents, with a confidence interval of 95%, obtaining for this study a sample of 264 adolescents. The sampling frame was obtained through a proportional sampling of each of the participating schools. For the selection of the analysis units, a convenience sampling was applied.Data collection was carried out at each school in time and facilities provided by the academic authorities so as not to affect the student's school activities.

The applied instrument consisted of two sections. The first corresponded to sociodemographic data, inherited family and pathological personal history; The second included the questionnaires to measure the variables of risky eating behaviors, lifestyle, and level of resilience, which have values of reliability and validity appropriate to the objective of the study.

Likewise, measurements of weight and height were made, based on the standardized method of the International Society for the Advancement of Kinanthropometry (ISAK, 2011) using a TANITA BC-568 Segmental Composition Monitor and SECA 213 portable stadiometer scale. The Z score of the Body Mass Index for age and sex was calculated using the WHO Anthro Plus v. 1.0.4.

Following the criteria of the World Health Organization (WHO, 2018), adolescents were classified according to the Z score, with low weight if they present values less than -2 standard deviations, overweight if they have values above +1 standard deviation, and obese if they have values above +2 standard deviations. The percentage of body fat in adolescents was classified using the cut-off points proposed by Escobar *et al.* (2016).

To measure the variable risk eating behaviors, the questionnaire validated by Unikel et al (2004) was applied, which consists of 10 Likert-type questions, concerning about gaining weight, binge eating, eating restriction or purging behaviors. In each question, only one answer is indicated, ranging from never or almost never, sometimes frequently, and very frequently; the sum of points of each answer was classified according to the cut-off points established by the authors and categorized as: no risk, moderate risk or high risk. For the variable lifestyles, the lifestyle questionnaire (CEVJU-R) by the authors Salazar et al. (2010) was used, consists of 68 questions, Linkert type multiple choice. It is divided into 8 dimensions: Exercise and physical activity, leisure time, food, alcohol consumption, cigarettes and illegal drugs, sleep, interpersonal skills, coping and self-perceived emotional state. Each dimension is made up of certain questions whose answers take on a certain value; the sum of points for each dimension was classified according to cut-off points established by the authors of the instrument for each dimension, categorizing lifestyle practices as healthy or unhealthy.

The measurement of the level of resilience was carried out by applying the READ Scale of Resilience for Adolescents, made up of 28 questions with Likert-type answers (strongly agree, agree, normal, disagree, strongly disagree). Assessing five dimensions of resilience: family cohesion, social competence, personal competence, social resources, and goal orientation. Each dimension is made up of certain questions whose answer takes a certain value; The sum of points for each dimension was classified according to cut-off points established by the authors of the instrument for each dimension, categorizing the level of resilience by dimension as low, medium, or high (Ruvalcaba *et al.*, 2015).

The data was analyzed with descriptive and inferential statistics using the SPSS Statistics v23.0 statistical package. In the continuous variables, means and standard deviations were used; Frequencies were used in the categorical variables. To determine the relationship between the main variables, the X^2 statistical test was used.

Study Ethics

The protocol was evaluated and approved by the Bioethics Committee of the Faculty of Natural Sciences with registration number 11FCN2017.

This investigation was carried out in compliance with the Regulations of the General Law on Health in matters of research (LGS, 2014).

RESULTS AND DISCUSSION

398 adolescents participated, of which 13 subjects were eliminated because they did not complete a 100% the battery of applied instruments.

The results correspond to 385 adolescents, 48.6% (187) were men and 51.4% (198) women, with a minimum age of 14 years and a maximum of 19 years (\Box =16.0±0.9), belonging to five public educational institutions upper middle of the municipality of Santiago de Querétaro. Of the participants, 15.6% (60) of the young people study and work, 93% have siblings and 57.1% (220) are children of working mothers. The main diseases reported in a family history were obesity (89.4%) and diabetes mellitus (83.6%) and personal was obesity (13.0%) (Table 6.2). Likewise, Table 6.3 shows the average value of the anthropometric variables of the study population.

Table 6.2 Sociodemographic characteristics, hereditary family historyand personal history of adolescents.

	fx	%	
	Men	187	48.6
	Women	198	51.4
Casia dama arranhia data	Students who study and work	60	15.6
Sociodemographic data	Students who have siblings	358	93.0
	Students born to working mothers	220	57.1
	Students born of working parents	353	91.7
	Obesity	344	89.4
II	Mellitus diabetes	322	83.6
Hereditary family history	Arterial hypertension	160	41.6
	Psychiatric illness	27	7.0
	Obesity	50	13.0
D 1111	Mellitus diabetes	0	0
Personal history	Arterial hypertension	0	0
	Psychiatric illness	6	1.6

Table 6.3 Anthropometric variables of adolescents.

Variables	General (n=385)	Men (n=187)	Women (n=198)
variables	Mean±DE	Mean±DE	Mean±DE
Weight (kg)	61.3±13.5	65.1±14.6	57.8±11.3
Height (cm)	163.7±8.8	170.2±6.	157.5±5.7
Body mass index (kg/m ²)	22.8±4.2	22.3 ± 4.3	23.2±3.9
Average of fat (%)	26.4 ± 8.1	21.4 ± 6.2	31.0 ± 6.8

Regarding risky eating behaviors (CAR), it was found that 34.8% (men 34.6%; women 34.85%) of the adolescents in the study population presented this type of unhealthy eating behavior (Table 4). Observing 21.9% of CAR with moderate risk in men and 16.6% of CAR with high risk in women.

Table 6.4 Risky eating behaviors of the study population.

Risky eating	Genera	l (n=385)	Men	(n=187)	Women (n=198)			
behaviors	fx	%	fx	%	fx	%		
Risk free	251	65.2	122	65.2	129	65.1		
Moderate risk	76	19.7	40	21.3	36	18.1		
High risk	58	15.1	25	13.3	33	16.6		

However, Ortiz (2016) in his research on young people from Querétaro reported that 8.4% (men 2.2%; women 6.3%) presented CAR; years later, Barajas (2018) in a sample with 128 adolescents found that 19.5% (men 19.2%; women 23.2%) of adolescents from 14 to 17 years old, incurred CAR, with men presenting the highest proportion of CAR with high risk (9.4%). These results are lower and differ with what was found in the study population (34.8%). Despite the variability in the figures, it should be noted that this health problem, considered in its beginnings only in women and upper-class people (Unikel *et al.* 2010), has spread notably in the adolescent population, presenting itself every more often not only in women but also in men.

According to the Body Mass Index for Age (BMI / E), it was found that 2.6% of adolescents were underweight (men 3.7%; women 1.5%), 23.4% overweight (men 23.5%; women 23.2%), and 9.4% obesity (men 8.0%; women 10.6%).

Table 6.5 Nutritional diagnosis according to the BMI / E of the study population

IMC/E	Genera	l (n=385)	Men	(n=187)	Women (n=198)		
IIVIC/E	fx	%	fx	%	fx	%	
Underweight	10	2.6	7	03.7	3	1.5	
Regular	249	64.7	121	64.7	128	64.6	
Overweight	90	23.4	44	23.5	46	23.2	
Obesity	36	9.4	15	08.0	21	10.6	

Under weight = \leq -2 DE; Regular=>-2 DE y <1 DE; Overweight= \geq 1 DE; Obesity= \geq 2 DE. WHO (2018).

The data found in the study population in relation to overweight are similar to those reported in the ENSANUT MC 2016 (22.4% men 18.5%; women 22.4%), affecting mainly women.

However, the obesity figure reported in such a survey was 13.9% (men 15.0%; women 13.9%), which indicates that it is 4.5 percentage points higher than that found in the study population; being 7.0% higher for men and 3.3% for women. Overweight and obesity are a public health problem at a national and global level, therefore, overweight and obese young people should be cared for from a comprehensive approach due to the presence of cardiovascular, endocrinemetabolic, and psychosocial complications, which they put them at a higher risk of dying at an early age. This condition also victimizes young people of social isolation, difficulty

relating to their peers, low self-esteem, stress, anxiety, and depression, as well as adopting binge-type eating behaviors (Martínez, 2017).

Regarding the percentage of body fat in adolescents, 16.9% (men 19.8%; women 14.1%) had excess body fat, and 14.5% (men 8.6%; women 20.2%) were obese due to adiposity.

Table 6.6 Body fat percentage for the age and sex of the study population.

Dody fot novembers	Genera	ıl n=385)	Men (n=187)	Women (n=198)		
Body fat percentage	fx	%	fx	%	fx	%	
Low body fat	1	0.3	0	0.0	1	0.5	
Normal body fat	263	68.3	134	71.7	129	65.2	
Excess body fat	65	16.9	37	19.8	28	14.1	
Obesity by adiposity	56	14.5	16	8.6	40	20.2	

Low body fat = \leq p3; Normal body fat => p3 and \leq p90; Excess body fat = \geq p90 and \leq p97; Obesity by adiposity = \geq p97. Escobar *et al.* (2016). 31.4% (men 28.4%; women 34.2%) of the adolescents presented a high percentage of body fat for their age and sex, considering the categories of excess body fat and obesity due to adiposity.

These data are different from what was found in the research carried out by Aguilera & Millán (2006) where it is mentioned that 72% (men 70.0%; women 74.0%) of the adolescents from public and private schools in the municipality of Santiago de Querétaro, they presented a high percentage of body fat, such situation being more common in adolescents from public schools and female population. However, it should be taken into account that during adolescence there is a considerable change in body composition according to sex and age, the effect of diet, physical activity, and disease must also be considered (González, 2013). In itself, women experience a considerable increase in body fat tissue reserves and men a greater synthesis of muscle mass (Güemes et al. 2017). What is worrying is when such an increase in both men and women is above the recommended and affects the physiological state of young people, hence the importance of not only identifying those young people with high BMI but also those with unhealthy fat percentages.

Regarding lifestyle, the dimensions with the highest presence of unhealthy practices were exercise and physical activity 38.2% (men 27.8%; women 47.9%), sleep 21.3% (men 19.2%; women 23.2%) and self-perceived emotional state 34.3% (men 28.8; women 39.9%).

Table 6.7 Lifestyle (dimensions) of the study population.

_	General (n=385)					Hombres (n=187)				Mujeres (n=198)			
Lifestyle	Healthy		No Healthy		Healthy		No Healthy		Healthy		No Healthy		
	fx	%	fx	%	fx	%	fx	%	fx	%	fx	%	
Exercise and physical activity	238	61.8	147	38.2	135	72.1	52	27.8	103	52.0	95	47.9	
Leisure time	319	82.9	66	17.1	164	87.7	23	12.3	155	78.2	43	21.7	
Feeding	341	88.6	44	11.4	166	88.7	21	11.2	175	88.3	23	11.6	
Consumption of drugs	353	91.7	32	8.3	167	89.3	20	10.7	186	93.9	12	06.0	
sleeping	303	78.7	82	21.3	151	80.7	36	19.2	152	76.7	46	23.2	
Interpersonal skills	335	87.0	50	13.0	164	87.7	23	12.3	171	86.3	27	13.6	
Coping	350	90.9	35	9.1	173	92.5	14	07.4	177	89.3	21	10.6	
Self-perceived emotional state	253	65.7	132	34.3	134	71.6	53	28.3	119	60.1	79	39.9	

The data described above coincide with that reported by Tamayo *et al.* (2015) since in his research he showed that young people in Colombia mainly presented unhealthy practices in the dimensions of the sleep lifestyle (72%), and self-perceived emotional state (50.9%). Regarding exercise and physical activity, the data is similar to that reported in the

ENSANUT MC 2016, which reported that 39.2% of adolescents from 12 to 19 years old do not perform recommended physical activity. Also, the data is similar to that found by Barajas (2018), in a sample of adolescents, 34.4% (men 26.4%; women 38.7%) presented unhealthy practices in the dimension of exercise and physical activity and 33.6% (men 28.3%; women 38.7%) in the dimension of self-perceived emotional state.

Adolescents' lifestyle involves daily actions that eventually become habits that directly impact their health, hence the importance of promoting a healthy lifestyle as a protective factor against chronic non-communicable diseases. In fact, García *et al.* (2012) mentions that carrying out unhealthy practices specifically in aspects such as diet and physical activity has been related to the presence of overweight and obesity.

The level of resilience was reported using the five dimensions that make up the measurement instrument. Las dimensiones con menor proporción de resiliencia alta fueron competencia personal (hombres 21.39%; mujeres 15.15%), competencia social (hombres 24.06%; mujeres 12.12%), y orientación a metas (hombres 20.32%; mujeres 14.14%).

Table 6.8 Resilience level (dimensions) of the study population

			General	(n=385)				Men (n=187)					Women	(n=198)	
Resilience	Low		Low Moderate		H	High		Low		Moderate		High		ow	Moderate		H	ligh
	fx	%	fx	%	fx	%	fx	%	fx	%	fx	%	fx	%	fx	%	fx	%
Family cohesion	100	26.0	208	54.0	77	20.0	36	19.2	104	55.6	47	25.1	64	32.3	104	52.5	30	15.1
Personal competence	159	41.3	156	40.5	70	18.2	69	36.9	78	41.7	40	21.3	90	45.4	78	39.3	30	15.1
Social competence	102	26.5	214	55.6	69	17.9	33	17.6	109	58.2	45	24.0	69	34.8	105	53.0	24	12.1
Social resources	119	30.9	162	42.1	104	27.0	50	26.7	83	44.3	54	28.8	69	34.8	79	39.9	50	25.2
Goal orientation	115	29.9	204	53.0	66	17.1	47	25.1	102	54.5	38	20.3	68	34.3	102	51.5	28	14.1

González *et al* (2013) in their research on the level of total resilience in children, adolescents, young adults and average adults, found that the mentioned groups had a higher prevalence of high resilience; however, adolescents (15%) and young adults (23%) achieved better figures compared to the group of children (14%) and average adults (11.3%). These data differ from that found in the present investigation because the high resilience frequency in the five dimensions evaluated ranged from 17.1% to 28.0%, figures greater than 15% reported by González *et al* (2013).

Most of the adolescents studied presented a low and medium level of resilience in aspects such as personal and social competence and goal orientation. Situation that should be considered since Dias *et al.* (2017), López *et al* (2008) and Leiva *et al.* (2013) mention that these aspects are good predictors of a high level of resilience in adolescents. The fact that young people have a high level of resilience helps them to act better in the face of the new challenges and responsibilities of adolescence, and psychosocial problems, for this reason, this characteristic should be encouraged and strengthened (Del Toro & Chávez, 2017).

To determine the relationship of the main variables, the X^2 statistical test was applied, which assumes that the distribution of the variables is normal. A statistically significant relationship was found when relating the resilience variable with risky eating behaviors, in the dimensions of social competence (X^2 = 13.03) and personal competence (X^2 = 9.86) (table 6.9).

Table 6.9 Relationship of the study variables: level of resilience and CAR.

Variable	Relation	X^2
	Family cohesion and risky eating behaviors	2.26
	Social competence and risky eating behaviors	13.03*
Resilience	Personal competence and risky eating behaviors	9.86*
	Social resources and risky eating behaviors	2.84
	Orientation to goals and risky eating behaviors	4.34

Statistical test X^2 : * Value of p < 0.05.

In the investigation carried out by Fuentes (2018) in adolescents from 12 to 14 years of age, it was not possible to establish a correlation between the variables resilience and CAR, since the Pearson's statistical correlation test yielded a value of R -0.38, with a value of of P of 0.71, which indicates that such correlation does not have a statistically significant value. Despite this, the literature recognizes that resilience is a protective factor, related to aspects of family, social support and personal attributes of adolescents, which influences the obtaining of successful results in the presence of risk situations (Salas, Hodgson, Figueroa & Urrejola, 2011).

On the other hand, when relating the variables risky eating behaviors and lifestyle, a statistically significant relationship with dimensions was found: diet (X^2 = 8.64), drug use (X^2 = 7.09), sleep (5.91), and self-perceived emotional state (X^2 = 8.51) (Table 6.10).

Table 6.10 Relation of the study variables: CAR and lifestyle.

Variable	Relation	X^2					
	Risk eating behaviors and exercise and physical activity	3.48					
	Risk eating behaviors and leisure time	1.39					
	Risk eating behaviors and feeding	8.64*					
Lifostyla	Risk eating behaviors and drug use						
Lifestyle	Risk eating behaviors and sleep	5.91*					
	Risk eating behaviors and interpersonal skills	1.63					
	Risk eating behaviors and coping						
	Risk eating behaviors and self-perceived emotional state	8.51*					

Statistical test X^2 : * Value of p <0.05.

It is currently recognized that an abnormal eating pattern followed by individuals with an eating disorder and food intake can range from fasting to overfeeding or coexist, depending on the type of disorder that occurs (López &Magaña, 2014). Salas *et al.* 2011, in their research they found a relationship between the presence of bulimia and the monitoring of low-energy diets; Since 37% of patients with such a psychiatric disorder, 25% presented unhealthy eating practices, given that they followed low-energy diets. Which coincides with what was found in the present investigation.

During adolescence, young people tend to be more susceptible to the consumption of legal or illegal drugs, in the case of tobacco consumption, according to Cruz, *et al* (2013), They are usually used as appetite suppressants and thus achieve to maintain or decrease body weight, additionally, those young people who consume alcohol have a higher amount of CAR compared to those who do not consume it. Studies such as that reported by Bisseto *et al.* (2012) delve into the relationship between CAR and the consumption of different drugs.

Sleep problems are a common situation in adolescents, especially women. A relationship has been found between the presence of anorexia with lower sleep efficiency, insomnia, shorter sleep duration and early awakening, the latter as body weight is lost (Seigel *et al.*, 2004). Guirardo&Ballester (2005) in their research found a statistically significant correlation

between the presence of CAR and presenting unhealthy practices for sleeping at night (r = 0.16; p = 0.00), consuming alcohol and drugs (r = 0.11; p = <0.00).

Finally, both Guirardo&Ballester (2005) and Castillo (sf) mention that those adolescents who do not feel happy (r = 0.09; p = <0.01) or who present sadness (f = 112.06; p = 0.00), resort to the adoption of CAR, respectively. Although the mechanism by which there is an influence between eating behavior and emotions and mood is currently unknown exactly, The following hypothesis is suggested: "unpleasant emotions induce feeding to regulate these emotions; intense emotions tend to suppress food intake; pleasant and unpleasant emotions hinder cognitive control of eating behavior; the control of food choices depends on the emotion induced by the food itself "(Macht, 2008).

CONCLUSION

Analyzing what the literature mentions and from the results obtained, it is concluded that adolescents are a population group susceptible to carrying out unhealthy behaviors and / or practices in their eating behavior.

The presence of overweight and obesity was notorious, both for the body mass index for age and percentage of body fat, which indicates that adolescents, If they do not correct these behaviors, they are at a latent risk of presenting different types of chronic non-communicable diseases such as diabetes, high blood pressure, dyslipidemias, or risky eating behaviors during their young adult stage.

The youth lifestyle was mainly characterized by healthy practices. However, the dimensions of exercise and physical activity, sleep and self-perceived emotional state were the ones that reached the highest proportions of adolescents with unhealthy practices. That is why it is important to strengthen and promote healthy lifestyles where they are promoted and propose strategies to improve this type of behavior so that lifestyle serves as a key factor for maintaining health in young and future adults.

Resilience emerges as a protective factor for adolescent health, hence the importance of seeking to promote and strengthen this characteristic in young people. In the case of the studied population, there was a greater trend towards a low and moderate level of resilience. This indicates that there are a large number of adolescents who are susceptible to situations of risk to their health. The fact of characterizing what are the behaviors and practices that adolescents are carrying out, helps to propose focused strategies for the promotion, prevention and maintenance of health in this population group, through the development of comprehensive health care programs working together in the health and education sectors.

Regarding the established hypotheses, hypothesis 1 was accepted, which mentions that there is a relationship between the presence of a low and medium level of resilience with risky eating behaviors; In this case, a statistically significant relationship was found specifically with the dimensions of social competence and personal competence. However, hypothesis 2 was rejected, since only a statistically significant relationship was found with the dimension of lifestyle, self-perceived emotional state, and the presence of risky eating behaviors, not so for the dimensions of interpersonal skills and coping.

References

- Aguilera, A., Millán, F. (2006). Mapa nutricio y riesgo de trastornos de la conducta alimentaria en adolescentes de la ciudad de Querétaro, Qro., México. Revista de salud y nutrición, 7(1).
- Altamirano, M., Vizmanos B., Unikel, C. (2011). Continuo de conductas alimentarias de riesgo en adolescentes de México. Rev panamsalud publica, 30(5), pp. 401-7.
- Ávila, M., Jáuregui, J. (2015). Dietary risk behaviors among adolescents and young people of Nuevo Leon. Revista Mexicana de Trastornos Alimenticios; 6.1-6.
- Barajas, S. (2018). Promoción de estilos de vida saludables en Estudiantes de Bachillerato. Tesis de maestría. México. Universidad Autónoma de Querétaro.
- Barcelata, B. (2015). Adolescentes en riesgo. Una mirada a partir de la resiliencia. México: Editorial el Manual Moderno.
- Barriguete, J., Unikel, C., Aguilar, C., Córdoba, J; Shamah, T., Barquera, S., Rivera, J., Hernández-Ávila, M. (2009).
- Prevalence of abnormal eating behaviors in adolescents in Mexico: Mexican National Health and Nutrition Survey 2006. Salud pública de México, 51(4), pp.S638-S644.
- Bastias, E., Stiepovich J. (2014). Una revisión de estilos de vida de estudiantes universitarios iberoamericanos. Ciencia y enfermería. 20;(2), pp. 93-101.
- Bisseto, D., Botella, A., Sancho, A. (2012). Trastornos de la conducta alimentar y consumo de drogas en población adolescente. Adicciones, 24(1), pp. 9-16.
- Castañeda, O., Rocha, J., Ramos, M. (2008). Evaluación de los hábitos alimenticios y estado nutricional en adolescentes de Sonora, México. Archivos en medicina familiar, 10(1), pp. 7-9.
- Castillo, A., (s. f.). Relación entre la presencia de conductas alimentarias de riesgo con la depresión y el ambiente familiar en estudiantes de educación media y media superior. Universidad Nacional Autónoma de México. México.
- Cordozo, G., Alderete, A. (2009). Adolescentes en riesgo psicosocial y resiliencia. Psicología desde el Caribe, 23, pp. 148-182.
- Cruz, M., Pascual, A., Etxebarria, A., Echeburúa, E. (2013). Riesgo de trastorno de la conducta alimentaria, consumo de sustancias adictivas y dificultades emocionales en chicas adolescentes. Anales de psicología, 29(3), pp. 724-733.
- Del toro, M., P., Chávez, J. K. (2017). Adolescentes: el estudio de la resiliencia en un contexto escolarizado. Trabajo presentado en Congreso nacional de investigación educativa. San Luis Potosí. [En línea]. (Consultado en agosto del 2019). Disponible en: http://www.comie.org.mx/congreso/memoriaelectronica /v14/doc/2592.pdf
- Dias, P., Cadime, I. (2017). Protective factors and resilience in adolescents: The mediating role of self-regulation. Psicología educativa 23 (2017), pp. 37-43.
- Escobar, G., Correa, J., González, E., Schimdt. J., Ramírez, R. (2016). Percentil de grasa corporal por bioimpedancia eléctrica en niños y adolescentes de Bogotá, Colombia: estudio FUPRECOL. Arch argent pediatr, 114(2), pp. 135-142.

- Fondo de las Naciones Unidas para la Infancia México (s.f.).

 La adolescencia. [En línea]. Consultado noviembre del 2017)

 Disponible en: https://www.unicef.org/mexico/spanish/ninos 6879.htm
- Fuentes, B. (2018). Autoestima y resiliencia ante los problemas alimentarios en escolares de 9 a 12 años. Tesis de licenciatura. Universidad Autónoma del Estado de México. México.
- Gaete, M., López, C., Matamala, M. (2012). Trastornos de la conducta alimentaria en adolescentes y jóvenes. Rev. Med. Clin. Condes, 23(3), pp. 566-578.
- Gaete, V. (2015). Desarrollo psicosocial del adolescente. Revista chile de pediatría, 86(6), pp. 436-443.
- García, D., García, G., Tapiero, Y., Ramos, D. (2012). Determinantes de los estilos de vida y su implicación en la salud de jóvenes universitarios. Revista Hacia la Promoción de la Salud, 17(2), pp. 169-185.
- García, J., García, A., López, C., Dias, P. (2016). Conceptualización teórica de la resiliencia psicosocial y su relación con la salud. Health and Addictions, 16(1), pp. 59-68.
- Gauyoa, U., Ribeiro, R. (2014). Identificación de casos de riesgo de trastornos de la conducta alimentaria. Revista Mexicana de Trastornos Alimentarios, 5(2), pp. 115-123.
- Gil, M., Candela, J., Rodríguez, M. (2003). Atención primaria y trastornos de la alimentación: ¿Qué podemos hacer nosotros? (II). Aten primaria, 31(4), pp. 248-251.
- González, E. (2013). Composición corporal: estudio y utilidad clínica. Endocrinol Nutr, 60(2), pp. 69-75.
- González, N., Valdez, J. (2013). Resiliencia: Diferencias por edad en Hombres y Mujeres Mexicanos. Acta de investigación psicológica. 3(1), pp. 941–955.
- González, N., Valdez, J., Oudhof, H., González, S. (2009). Resiliencia y salud en niños y adolescentes. Cencia ergo sum, 1(6-3), pp. 247-253.
- Güemes, M., Ceñal, M., Hidalgo, M. (2017). Pubertad y adolescencia. Adolescere. 1(1), pp. 7-22.
- Guirardo, M., Ballester, R. (2005). Relación entre las conductas alimentarias anómalas y otros hábitos de salud en niños de 11 a 14 años. Anales de psicología, 21(1), pp. 58-65.
- Gutiérrez J, Rivera, J, Shamah, T., Villalpando, S., Franco, A., Cuevas, L., Romero, M., Hernández, M. (2012).
- Encuesta Nacional de Salud y Nutrición 2012. Resultados Nacionales. México: Instituto Nacional de Salud Pública.
- Hernangómez, L. (2018). Apego y trastornos alimentarios: implicaciones para la intervención psicoterapéutica.
- Revista de psicoterapia, 29(111), pp. 69-92.
- Instituto Nacional de Salud Pública (2016). Encuesta Nacional de Salud y Nutrición medio camino 2016. México.
- Ives, E., Peláez, I., Brotons, C., De frutos, E., Cavo, M., Curell, N. (2012). Hábitos de estilo de vida en adolescentes con sobrepeso y obesidad (Estudio Obescat). Rev pediatr aten primaria, 14, pp. 127-137.
- Lameiras, M., Calado, M., Rodríguez, Y., Fernández, M. (2003). Hábitos alimentarios e imagen corporal en estudiantes universitarios sin trastornos alimentarios. International Journal of Clinical and Health Psychology, 3(1), pp. 23-33.

- Leiva, L., Pineda, M., Encina, Y. (2013). Autoestima y apoyos sociales como predictores de la resiliencia en un grupo de adolescentes en vulnerabilidad social. Revista de psicología, 22(2), pp. 111-123.
- Lima, M., Guerra, M., Lima, J. (2015). Estilo de vida y factores asociados a la alimentación y la actividad física en adolescentes. Nutr Hosp. 32;(6), pp. 2338-2847.
- López, A., Magaña C. (2014). Hábitos alimentarios. Psicobiología y socioantropología de la alimentación. MéxicoMcGraw-Hill interaericana editores.
- López, C., Raimannt, X., Gaete, M. (2015). Prevención de los trastornos de la conducta alimentaria en la era de la obesidad: el rol del clínico. Rev. med. clin condes. 26(1), pp. 24-33.
- López, N., Valdez, J., Zavala, J. (2008). Resiliencia en adolescentes mexicanos. Enseñanza e Investigación en Psicología, 13(1), pp. 41-52.
- Lorenzini, R., Betancur, D., Chel, L., Segura, M., Castellanos, A. (2015). Estado nutricional en relación con el estilo de vida de estudiantes universitarios mexicanos. Nutrición hospitalaria, 32(1), pp. 94-100.
- Lumbreras, I., Moctezuma, M., Dosamantes, L., Medina, M., Cervantes, M., López, M., Méndez, P. (2009). Estilo de vida y riesgos para la salud en estudiantes universitarios: hallazgos para la prevención. Revista digital universitaria UNAM, 10(2), pp. 1067-6079.
- Macht, M. (2008). How emotions affect eating: A five-way model. Appetite, 1, pp. 1-11.
- Mancilla, J., Lameiras, M., Vázquez, R., Álvarez, G;, Franco, K., López, X., Ocampo, M. (2010). Influencias socioculturales y conductas alimentarias no saludables en hombres y mujeres de España y México. Revista mexicana de trastornos alimentarios, 1(1), pp. 36-47.
- Martínez, J. (2017). Obesidad en la adolescencia. Adolescere, (3), pp. 43-55.
- Nuño, B., Celis, A., Unikel, C. (2009). Prevalencia y factores asociados a las conductas alimentarias de riesgo en adolescentes escolares de Guadalajara según sexo. Revista de investigación clínica, 61(4), pp. 286-293.
- Organización Mundial de la Salud (2018). Adolescentes: riesgo para la salud y soluciones. [En línea]. (Consultado en enero del 2019). Disponible en: https://www.who.int/es/news-room/fact-sheets/detail/adolescents-health-risks-and-solutions
- Organización Mundial de la Salud. Obesidad y sobrepeso. 2018. [En línea]. (Consultado en agosto del 2019). Disponible en: http://www.who.int/mediacentre/factsheets/fs311/es/
- Organización Panamericana de la Salud (2013). Adecúan los servicios para potenciar la calidad de la oferta de salud para adolescentes. [En línea]. (Consultado en enero del 2019). Disponible en: https://www.paho.org/arg/index.php?option=com_conte nt&view=article&id=1165:adecuan-servicios-potenciar-calidad-oferta-salud-adolescentes&Itemid=225
- Ortiz, A. (2016). Factores de riesgo que favorecen trastornos alimentarios en alumnos de nuevo ingreso a la Universidad Autónoma de Querétaro. Tesis de maestría. México. Universidad Autónoma de Querétaro.
- Pamies, L., Quiles, Y., Bernabé, M. (2011). Conductas alimentarias de riesgo en una muestra de 2.142 adolescentes. Medicina clínica, 136(4), pp. 139-143.

- Pastor, Y., Balaguer, Letra., García, M. (1998). Dimensiones del estilo de vida relacionado con la salud en la adolescencia: una revisión. Rev de psicol. gral. y aplic., 51 (3-4); pp. 469-483.
- Radilla, C., Vega, S., Gutiérrez, R., Barquera, S., Barriguete, J., Coronel, S. (2015). Prevalencia de conductas alimentarias de riesgo y su asociación con ansiedad y estado nutricio en adolescentes de escuelas secundarias técnicas del Distrito Federal, México. Rev esp nutr comunitaria, 21(1), pp. 15-21.
- Restrepo, C., Vinaccia, S., Quiceno, J. (2011). Resiliencia y depresión: un estudio exploratorio desde la calidad de vida en la adolescencia. Suma Psicológica, 18(2), pp. 41-48.
- Rivera, J., Hernández, M., Aguilar, C., Vadillo, F., Murayama, C., (2013). Obesidad en México: recomendaciones para una política de Estado. México. Universidad Nacional Autónoma de México.
- Rodríguez, J., Mina, F. (2008). Prevalencia de factores de riesgo asociados a trastornos del comportamiento alimentario en adolescentes de una institución educativa en Cali, Colombia 2005. Revista colombiana de obstetricia y ginecología; 59(3), pp. 180-189.
- Rutsztein, G., Murawski, B., Elizathe, L., Scappatura, M. (2010). Trastornos alimentarios: Detección en adolescentes mujeres y varones de Buenos Aires. Un estudio de doble fase. Revista mexicana de trastornos alimentarios, 1(1), pp. 48-61.
- Ruvalcaba, N., Gallejos, J., Villegas, D. (2015). Validación de la escala de resiliencia para adolescentes (READ) en México. Journal of behavior, health & social issues, 6 (2), pp. 21-34.
- Salas, F., Hodgson, M. I., Figueroa, D., Urrejola, P. (2011). Características cínicas de adolescentes de sexo masculino con trastornos de la conducta alimentaria. Estudio de casos clínicos. Rev Med Chile, 139, pp. 182-188.
- Salazar, I., Varela, M., Lema, L., Tamayo, J., Duarte, C. (2010). Manual del cuestionario de estilos de vida de jóvenes universitarios (CEVJU-R). Colombia. Pontificia Universidad Javeriana de Cali.
- Segura, H., Aguilar, A., Fajardo, I., Pivaral, J., Sipaques, J. (2014). Caracterización de los estilos de vida saludable en estudiantes de grado de la facultad de ciencias médicas de la Universidad de San Carlos de Guatemala. Tesis de grado. Universidad de San Carlos de Guatemala, Guatemala.
- Seigel, K., Broman, J., Hetta, J. (2004). Problemas de sueño y síntomas de trastornos de la conducta alimentaria. Eur. J. Psychiat., 18(1), pp. 5-13.
- Sociedad Internacional para el Avance de la Cineantropometría (2011). Normas internacionales para la valoración antropométrica. Secretaria general ISAK. Sudáfrica.
- Soler, J., Aparicio, L., Díaz, O., Escolano, E., Rodríguez, A. (2016). Inteligencia emocional y bienestar II. España: Ediciones Universidad San Jorge.
- Tamayo, J., Rodríguez, K., Escobar, K., Mejía, A. (2015). Estilos de vida de estudiantes de odontología. Hacia promoc. salud; 20(2): pp. 147-160.
- Unikel, C., Bojórquez, I., Carreño, S. (2004). Validación de un cuestionario breve para medir conductas alimentarias de riesgo. Salud pública de México, 46(6), pp. 509-515.

- Unikel, C., Bojórquez, L., Villatoro, J., Fleiz, C., Medina, M. (2006). Conductas alimentarias de riesgo en población estudiantil del Distrito Federal: tendencias 1997-2003. Revista de investigación clínica, 58(1), pp. 15-27
- Unikel, C., Caballero, A. (2010). Guía Clínica para Trastornos de la Conducta Alimentaria. Ed. S Berenzon, J Del Bosque, J Alfaro, ME Medina-Mora. México: Instituto Nacional de Psiquiatría. (Serie: Guías Clínicas para la Atención de Trastornos Mentales).
- Unikel, C., Díaz, C., Rivera, J. (2017). Conductas alimentarias de riesgo y factores de riesgo asociados: desarrollo y validación de instrumentos de medición. México: Universidad Autónoma Metropolitana.
- Urzúa, A., Castro, S., Lillo, A., Leal, C. (2011). Prevalencia de riesgo de trastornos alimentarios en adolescentes escolarizados del norte de Chile. Revista chilena de nutrición, 38(2), pp. 128-135.
- Vinaccia, S., Quiceno, J., Moreno, E. (2007). Resiliencia en adolescentes. Revista Colombiana de Psicología. 16(1), pp. 139-146.

How to cite this article:

L.C.N. Ramon Francisco Bajeca Serrano *et al* (2020) 'Risk Eating Behaviors, Lifestyle and Level of Resilience in High School Students of Public Institutions', *International Journal of Current Advanced Research*, 09(06), pp. 22467-22474. DOI: http://dx.doi.org/10.24327/ijcar.2020. 22474.4433
