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Estudio descriptivo de las características bio-psico-sociales
de los adolescentes de la Unidad Educativa Herlinda Toral.
Cuenca – Ecuador. 2018

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Abstract: Objective: the objective of the study was to determine the bio- psychosocial characteristics of adolescents, a study that is a part of Society Involvement project of the University of Cuenca: “Approach to Adolescent Sexuality. An Integral Preventive Approach in the Educational Unit Herlinda Toral “. Based on a survey with 73 objective questions, divided into 9 categories. **Materials and methods:** a survey with 73 objective questions, divided into 9 categories corresponding to: general data, personal background, family background, family, social life, habits, sexuality, psycho - emotional situation and oral health. After the application, was taking a pilot study to validate and

too adapted to the local language. The Cronbach Alpha statistic which had a value of 0.82; the average duration of the test was 40 minutes. Results: the total amount of students was 1050, of which answered 420 (40% response rate); the female - male ratio was 2.5 to 1; 60% of students have nuclear families; family violence corresponds to 5%; conflict with the peer group of 95%, including violence at 12.4%, which explains why some adolescents feel ignored, rejected or victims of bullying; the use of social networks of 5 or more hours per day is 24%; therefore, the risk of conflict increases. **Conclusions:** it is important to know the risk behaviors in adolescence, to carry out early prevention through support programs, and promotion of a healthy adolescence that strengthens their attitudes, reduces the risk of pregnancy and allow to achieve a life project in young peop

Keywords: adolescence, social network, violence.

Resumen: **Objetivo:** el objetivo del estudio fue determinar las características bio-psicosociales de los adolescentes, estudio que forma parte del proyecto de Vinculación con la Sociedad de la Universidad de Cuenca: "Abordaje de la sexualidad adolescente. Un Enfoque Preventivo Integral en la Unidad Educativa Herlinda Toral". Realizado en base a encuesta con 73 preguntas objetivas, divididas en 9 categorías. **Materiales y métodos:** una encuesta con 73 preguntas objetivas, divididas en 9 categorías correspondientes a: datos generales, antecedentes personales, antecedentes familiares, familia, vida social, hábitos, sexualidad, situación psico-emocional y salud oral. Antes de la aplicación, se realizó un estudio piloto para validar y adaptar al idioma local. La estadística Alfa de Cronbach que tenía un valor de 0,82; la duración media de la prueba fue de 40 minutos. **Resultados:** la cantidad total de estudiantes fue de 1050, de los cuales respondieron 420 (tasa de respuesta del 40%); la proporción mujer - hombre fue de 2.5 a 1; el 60% de los estudiantes tienen familias nucleares; la violencia familiar corresponde al 5%; conflicto con el grupo de pares del 95%, incluida la violencia del 12,4%, lo que explica por qué algunos adolescentes se sienten ignorados, rechazados o víctimas de acoso escolar; el uso de redes sociales de 5 horas o más por día es del 24%. Por lo tanto, el riesgo de conflicto aumenta. **Conclusiones:** es importante conocer las conductas de riesgo en la adolescencia, llevar a cabo la prevención temprana a través de programas de apoyo y la promoción de una adolescencia saludable que fortalezca sus actitudes, reduzca el riesgo de embarazo y permita lograr un proyecto de vida en los jóvenes.

Palabras clave: conductas de riesgo, redes sociales, violencia familiar.

Introduction

Adolescence is one of the most important stages of transition in the life of the human being, characterized by an accelerated pace of growth and biological, psychological and social changes, making the adolescent susceptible to multiple risk behaviors, the product of his desire to experiment. The World Health Organization (WHO) defines this period between 10 and 19 years of age [1].

The main psychosocial changes that occur during adolescence include: body image, development of interaction with their peers, attraction to the opposite sex, search for their identity, independence and autonomy, as well as various behavioral changes, which could lead to risk behaviors [2].

"Risk behaviors in adolescence are those actions carried out by an individual or community that may result in negative or harmful consequences" [2]. These behaviors may be of a biological nature such as: beginning of early sexual relations, sexually transmitted diseases (STDs), early pregnancy; psychological factors such as: low self-esteem, family problems, lack of belonging to a peer group; or social factors such as: use of drugs, tobacco, alcohol, vandalism, gang membership and other

criminal groups; emotional factors such as: depression, anxiety, panic attacks, stress; learning disorders, eating disorders, etc [3,4,5,6,7].

The aim of the study was to determine the bio- psychosocial characteristics of the adolescents who study in the Herlinda Toral Educational Unit (Cuenca, Ecuador) in 2018, with a projection to a subsequent intervention based on the main problems detected.

Materials and methods

A characterization of the population was carried out through a structured survey with 73 objective questions, divided into 9 categories corresponding to: general data, personal background, family background, family, social life, habits, sexuality, psycho - emotional situation and oral health. The study population was comprised of 1050 students who attended the tenth year of basic education and unified general baccalaureate (BGU), in the morning and afternoon section of the Herlinda Toral Educational Unit (Cuenca, Ecuador), 420 students agreed to answer the survey (40% response rate), after signing the informed consent by their representatives and the consent of the adolescent. The variables to be considered were: sociodemographic variables: sex (Male, Female); Origin (Urban, Rural) Marital Status (Single, Stable Union, Separated); Age; Grade (tenth of basic, eleventh grade, second of baccalaureate, Third year of high school) Has children (yes, no) personal background: (Normal Growth, Normal Development, Chronic diseases, Infectious diseases, Use of medications or substances, Psychological problems, Abuse, Judicial) family: (Family psychological problems, Alcohol and drugs in the family Domestic Violence, Judicial in the family, Level of instruction of the father, Level of instruction of the mother, Live with, Family perception of the adolescent, Family and peers conflict) ; social: accepted, victim of bullying life habits: TV hours a day, Smartphone hours a day, Social Networks a day, Sport a week included, physical culture) sexual health psycho – emotional: Normal Sleep, sleep quality, Hours of sleep.: Smokes, Alcohol, Drugs, sexuality information, sexual relationships, Use contraceptives, Self - Perception (cheerful sad very shy nervous) and oral health: Brushing teeth, Use of dental floss, Use of mouthwash, Bleeding gums, appearance of the teeth (Concerned about the appearance, Wants to change the appearance, bothers the shape of the teeth)

Previously a pilot test was carried out with the students of the first cycle of the Medicine career of the University of Cuenca, for linguistic adaptation and understanding of the form, after which the validation was carried out using the Cronbach Alpha statistic which had a value of 0.82; the average duration of the test was 40 minutes. For the collection of the survey data, the students participating in the project “Approach to Adolescent Sexuality. An Integral Preventive Approach in the Herlinda Toral Educational Unit “, were trained in the management and application of the instrument. The collection was carried out during the months of January, February and March 2018.

Statistical analysis: the data was tabulated in Excel 2010 and a data quality control was performed twice, finding badly entered data and absence of data, for its correction the original forms were used, finally the data was exported to the statistical package SPSS v. 22, for statistical analysis. An analysis of absolute and relative proportions was carried out.

Control of biases: a pilot test was conducted to validate the survey, then the interviewers were subjected to training to avoid errors in the application; finally, the surveys collected were reviewed one by one by the researchers.

Ethical considerations: Being a project related to society, it did not pass through a bioethics committee, but for the application of the survey consents and informed assent were sent to the representatives and students respectively, including in the study those who signed these documents.

Results

The female - male ratio is 2.5 to 1. The majority of students are from the city and single (98.10%); with regard to age, there is no difference between middle and late adolescence, within this group only 0.7% (3 adolescents) have children (Table 1).

Variable		n=420	%
Sex	Male	119	28.30
	Female	301	71.70
Origin	Urban	343	81.70
	Rural	77	18.30
Marital Status	Single	412	98.10
	Stable Union	7	1.70
	Separated	1	0.20
Age	14 – 16 years old	224	53.40
	17 years old and older	196	46.70
Grade	tenth of basic	32	7.60
	eleventh grade	102	24.30
	second of baccalaureate	100	23.80
	Third year of high school	186	44.30
Has children	yes	3	0.7
	no	417	99.3

Table 1
Social - demographic variables of 420 adolescents of the
Unidad Educativa Herlinda Toral (Cuenca, Ecuador).

Survey database. Prepared by: authors.

More than 90% do not report family psychological problems, family violence, or judicial problems in the family; however, 11.20% report that there are alcohol and drug problems in the family. There are no great

differences between the level of education of the father and the mother. The majority of adolescents live with their parents (59.30%) and only with their mother 30%. (Table 2).

Variable		n=420	%
Family psychological problems	yes	26	6.20
	no	389	92.60
	does not answer	5	1.20
Alcohol and drugs in the family	yes	47	11.20
	no	363	86.40
	does not know	10	2.40
Domestic Violence	yes	20	4.80
	no	396	94.30
	does not answer	4	1.00
Judicial in the family	yes	20	4.80
	no	388	92.40
	does not answer	12	2.90
Level of instruction of the father	primary studies	121	28.80
	secondary studies	216	51.40
	university	64	15.20
	does not answer	19	4.50
Level of instruction of the mother	primary studies	131	31.20
	secondary studies	201	48.80
	university	80	19.00
	does not answer	4	1.00

Table 2.
Family background of 420 adolescents of the Unidad Educativa Herlinda Toral (Cuenca, Ecuador).

Survey database. Prepared by: authors.

70% have a good perception of their family. Apparently the biggest conflict is with the peers. 93% feel accepted and only 2.40% feel rejected. (Table 3).

Variable		n=420	%
Family perception of the adolescent	good	289	68.80
	regular	115	27.40
	bad	8	1.90
	there is no relationship	4	1.00
	does not answer	4	1.00
Family and peers conflict	with father	69	16,40
	with mother	36	8,60
	with brothers	57	13,60
	with friends	398	94,80
Perception of integration	accepted	391	93.10
	ignored	26	6.20
	rejected	10	2.40
	victim of bullying	16	3.80
	has boyfriend or girlfriend	156	37.10
	has friends	389	92.60
	performs group activities	350	83.30

Table 3

Family perception and perception of integration of 420 adolescents of the Unidad Educativa Herlinda Toral (Cuenca, Ecuador).

Survey database. Prepared by: authors.

It becomes apparent that, at present, the main means of leisure for students is the use of Social Networks, to the detriment of sport and other traditional leisure activities. (Table 4, Table4b).

Variable		n=420	%
TV hours a day	nothing	114	27.10
	1 – 2 hours	218	51.90
	3 – 4 hours	54	12.90
	5 hours or more	27	6.40
	does not answer	7	1.70
Smartphone hours a day	nothing	31	7.40
	1 – 2 hours	87	20.70
	3 – 4 hours	156	37.10
	5 hours or more	139	33.10
	does not answer	7	1.70

Table 4

Response of leisure activities to the week of 420 adolescents of the Unidad Educativa Herlinda Toral (Cuenca, Ecuador)

Survey database. Prepared by: authors

Variable		n=420	%
Social Networks a day	nothing	11	2.6
	1 – 2 hours	178	42.40
	3 – 4 hours	127	30.20
	5 hours or more	100	23.80
	does not answer	4	1.00
Sport a week included physical culture	any	112	26.70
	1 – 2 hours	177	42.70
	3 – 4 hours	72	17.10
	5 hours or more	55	13.10
	does not answer	4	1.00

Table 4b
Response of leisure activities to the week of 420 adolescents of the Unidad Educativa Herlinda Toral (Cuenca, Ecuador)

Survey database. Prepared by: authors

13.10% of adolescents smoke, 28.60% consume alcohol and 6.7% consume drugs. The most frequent starting age is between 14 - 16 years, for the use of tobacco, alcohol and drugs. (Table 5).

Variable		n=420	%
Smokes	yes	55	13.10
	no	365	85.90
Starting age	10 – 13 years	5	1.20
	14 – 16 years	29	6.90
	17 years or more	15	3.60
	does not answer	8	1.90
Alcohol consumption	Yes	120	28.60
	no	300	71.40
Starting age	10 – 13 years	11	2.60
	14 – 16 years	68	16.20
	17 years or more	33	3.60
	not answer	10	1.90
Drugs consumption	Yes	28	6.70
	no	392	93.30
Starting age	10 – 13 years	4	1.00
	14 – 16 years	15	3.60
	17 years or more	5	1.20
	does not answer	4	1.00

Table 5
Response of tobacco, alcohol and drug use of 420 adolescents of the Unidad Educativa Herlinda Toral (Cuenca, Ecuador).
 Survey database. Prepared by: authors

1 out of every 4 students has had sexual relations, the most frequent starting age was between 14 and 16 years old (70%). The main reason for the start, was out of curiosity. (Table 6).

Variable		n=420	%
Has had sexual relations	yes	108	25.70
	no	304	72.40
	does not answer	8	1.90
		n=108	%
Start age (affirmative answer)	10 – 13 years	10	9.25
	14 – 16 years	69	63.88
	17 years or more	27	25.00
	does not answer	13	12.03
		n=108	%
Sexual relations due to	incitement of médium	6	5.55
	couple pressure	9	8.33
	friends pressure	1	0.92
	curiosity	92	85.18

Table 6
Information about sexual relationships in 420 adolescents of the Unidad Educativa Herlinda Toral (Cuenca, Ecuador).

Survey database. Prepared by: authors

Almost 60% are concerned about their dental appearance, 54% would like to change and it bothers them at 54% (Table 7).

Variable		n=420	%
Concerned about the appearance	yes	241	57.40
	no	143	34.00
	does not answer	36	10.70
Wants to change the appearance	yes	227	54.00
	no	148	35.20
	does not answer	45	10.70
bothers the shape of the teeth	yes	140	54.00
	no	148	35.20
	does not answer	87	20.71

Table 7
Response on the appearance of the teeth 420 adolescents of the Unidad Educativa Herlinda Toral (Cuenca, Ecuador)

Survey database. Prepared by: authors

Discussion

The results of the present study show a female - male ratio of 2.5 to 1, because traditionally this educational unit was exclusively feminine; in recent years, due to changes in Ecuador's public policies, all educational units must be mixed; in this distribution the majority of the students were

single and from the city; students who attended the tenth year of basic education and baccalaureate, with an age between 14 to 19 years were considered. 0.7% of the surveyed students, have children, this apparently low percentage would be explained because in Ecuador, 44.3% of women who became pregnant (15 to 24 years old) interrupted their studies and did not return to studying, according to the reports of the National Health and Nutrition Survey [8].

With respect to the personal background, the answers are only based on self-assessments, since the physical and psychological examination has not been possible due to ethical and logistical factors. Family history responses are also self-assessments. 60% of students have nuclear families, 30% live alone with their mother and only 3% only with their father, which coincides with Ecuadorian society [9]. The family perception of the adolescent is mostly good, however there are family conflicts mainly with the father and siblings, which is similar to what is reported by the Survey of Children and Adolescents within the Framework of Intergenerationality, 2015 [10]. In this report, family violence corresponds to 5% and according to the 2016 report presented by the OMS 33% of children and adolescents have been beaten by their parents, therefore the low percentage of response would be explained by the shame which represents accepting that they are mistreated [10]. The 95% response on conflict with the peer group is relevant, which would include violence at 12.4%, which is reflected because some adolescents feel ignored, rejected or victims of bullying. It is observed that the level of violence is lower than the national figures reported in 2015 [8]. This study is similar to another one conducted in Mexico, where 24% was reported [11].

It is found that the use of social networks of 5 or more hours is 24%, a low percentage compared to the National Institute of Statistics and Censuses of Ecuador report, which is 6.14 hours on average [12]. It is important to consider that the use of television has decreased in recent years, in relation to the use of social networks, which is currently considered the parameter of the use of free time in adolescents [13], which could be related to that reported in this study in relation to conflict with friends (95%), this indicates that a large part of their social life is mediated by social networks, coinciding with what was stated by Del Río, et al. 2010 [14]. and Luengo López (2004) [15]. Ko, et al. 2009, mention that the Internet generates problems of aggressive behavior, likewise coincide Cao, et al. (2011) [15,16].

Regarding sleep disorders, approximately 1 out of every 4 adolescents report having poor quality sleep; (insomnia, little sleep or not refreshing sleep at all: 28.1%), comparing with the study by García Jimenez, et al. 2004,[17] which report 38.55% poor quality sleep and 9.9% with insomnia, in this study we report 3,30% of adolescents with insomnia, presenting values 3 times lower, this is because it is of a self-report, so it could be an undervaluation of this disorder, which should be investigated with appropriate tools [18]. 13.10% of adolescents smoke, which is high according to the researchers' concept, but in reference to previous times,

it has decreased, as reported by the Pan American Health Organization, in Ecuador, in 2012, 23% of male adolescents and 18.1% of female adolescents smoked, noting a decrease that could be due to public policies: a rise in the cost of cigarettes, a ban on the sale to minors of age and social pressure; the starting age of smoking is between 14 - 16 years; age at which adolescents seek the sense of belonging [18].

Regarding alcohol consumption in the last 30 days, the Inter-American Drug Abuse Control Commission reports 30.7% of adolescents, compared to the present study does not differ much (28.6%). With regard to drug use, Inter-American Drug Abuse Control Commission reports 9.6% of consumption in adolescents, compared to this research that is 6.70%, the difference could be due to a lack of sincerity in the response [19].

With regard to body image, it has been found that 67% of the surveyed students are dissatisfied with their image, results that coincide with a study conducted in Bogotá in which they assessed the perception of body image in adolescents of 14 to 16 years, finding that 83% (66 students) do not feel comfortable with their body image however [20]. they contrast with those results found in a study conducted by Trejo et al in Mexico in 2010, which reported dissatisfaction rates of 18% in Mexican adolescents, also mentions that this problem is greater in women because the social pressure is greater towards a certain image, in addition to the acquisition by adolescents of cultural ideas of thinness since "the women are the biggest consumers of lucrative business related to physical appearance", therefore the dissatisfaction is intimately related to the body mass index (BMI) of the individual; adolescents with higher BMI and females have greater susceptibility to dissatisfaction with body image.

It is worth mentioning that approximately 2 out of 10 adolescents are dissatisfied with their body image, this affirmation translates into an increased risk to develop risk behaviors that can alter the health of the individual [21].

Although 70% of students consider themselves to be happy in their self-perception, 30% report feeling sad, shy and nervous, so it is important to mention that adolescence is a period of transition from childhood to adulthood, for this reason this stage is marked by an emotional instability of the individual, during this period life ideals are configured, autonomy is sought and a feeling of belonging to the peer group is developed, so the emotional changes are frequent due to the romanticism of the stage as well as the duels of loss of infantile body, renounce dependency, loss of the parents as refuge and protection, all these can take to feelings of sadness, it has been observed that the sadness increases with the age since the adolescence can be related with the loss of childish ingenuity.

This stage implies a sudden change in their personal and social development, which is why adolescents report feeling more insecure and with greater fears compared to children.

It has also been observed that women tend to feel more often feelings of sadness compared to men, this can be explained by the presence of stereotypes and different educational attitudes in women which gives

adolescents greater capacity to identify their feelings of sadness compared to men who are more able to show feelings of anger [22].

A study conducted by Enríquez et al. (2016) determined that almost a third of adolescents had a wrong perception of their weight and body size, reasons that represent dissatisfaction with their body image [23].

Within the dental field, it is observed that the appearance of the teeth is very important for the well-being of the adolescents since 57% of the respondents report some concern about their dental status, it is important to emphasize that 54% of the students are dissatisfied with their teeth.

A study by Loaiza (2009), applied to the fifth-grade students, concluded that “poor dental positions, as well as alterations in tooth color are the main reasons for the average, low and very low self-esteem levels, which affect young people directly in their quality of life, since they influence their security to develop in the environment “ [24]. . In addition, several studies have shown significant correlations between bad normative occlusion and self-perceive, increased dissatisfaction with bad occlusion, according to the greater severity of the case and increased age. [25,26, 27].

These results can be explained with the statements of Hechavarria et al. in their study, where they mention that adolescence is a period where personal projects predominate, efforts to achieve autonomy, leaving aside old norms and the search for new models, in this effort this population group tends to make decisions that are not always responsible as a consequence can lead to carelessness in their oral health, a statement that is demonstrated with clear voluntary absenteeism of adolescents in consultation with their dentist, as well as a negative response to the different preventive campaigns by the professional. [28].

The appearance of diseases such as caries, gingivitis, periodontitis, among others can generate psychosocial problems associated with aesthetics and self-esteem, adolescents have been considered within a risk group since they have certain characteristics that facilitate the establishment of oral diseases, coinciding also with the completion of the change of the temporary dentition with the permanent one. The mouth fulfills different functions such as facial expression, speech, chewing, among others, by these functions, the oral cavity becomes a great indicator of the individual's health, his quality of life and individual and social well-being. [29].

It is important to mention that hormonal changes, diet, inadequate hygiene habits and other factors such as anxiety, low self-esteem, psychosocial problems make the adolescent a person susceptible to low oral health [29].

There are aspects related to orthodontic treatments in which the difficulty of oral hygiene that can lead to an accumulation of bacterial plaque causing tooth decay and dental loss, all these are closely related to the psychosocial factor that triggers an aesthetic dissatisfaction in the individual [29]. It is imperative to sensitize adolescents in the maintenance of proper oral health through preventive actions, regular visits to the dentist (6 months), identifying eating patterns and harmful

habits in order to achieve an optimal oral health status that increases adolescent conformity with respect to their health and dental appearance [28].

Conclusions

The authors believe that this manuscript is appropriate for publication, since it is important to know the risk behaviors in adolescence, to carry out early prevention through support programs, and promotion of a healthy adolescence that strengthens their attitudes, reduces the risk of pregnancy and allow to achieve a life project in young people. This article creates a paradigm for future studies in adolescents, such as their relationship with the family, resilient behaviors, contraception, depression, low self-esteem and use of social networks. Besides the use of substances in adolescence is varied, in terms of what they drink, how much and how often, as well as the type of substances they consume and the problems they cause.

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