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Research Article

Family Dysfunction as a Risk Factor for Abortion in Adolescents Attended in the High-Risk Obstetric Service (Aro I) Hospital Escuela Orcar Danilo Rosales Arguello Heodra Leon Nicaragua

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Abstract

Objective: To determine the degree of family dysfunction as a risk factor associated with abortion in adolescents attending the High Risk Obstetric Service (AROI) at the Oscar Danilo Rosales Teaching Hospital in León, Nicaragua, during the period August 2007-2008.

Methods: A case-control study was conducted, in which adolescents (10-19 years old) who presented with uncomplicated abortion at the León hospital were defined as cases; adolescents with the same characteristics but who carried their pregnancy to term and were in immediate physiological puerperium in the maternity ward of the same hospital were defined as controls.

Sample size of 330 surveys, with a confidence level of 95%.

The study consisted of 120 cases and 220 controls, for a ratio of 2:1. Each adolescent was given a survey consisting of general and sociodemographic data, including the family APGAR, which is an instrument designed to assess the systemic functioning of the family.

Results: The sociodemographic variables analyzed with statistical significance for risk of abortion in adolescents were family dysfunction, urban origin, and family history of alcohol use. Value of ($p = 0.000$).

The most affected basic parameter of the family function was participation, with a difference between cases and controls of 68%, and the second most affected parameter of the family function was gain or growth, with a difference of 53.5%, with greater affectation of the cases.

Conclusion: Family dysfunction is a risk factor for abortion in adolescents, proving our hypothesis, it was identified that the risk is aggravated if it is associated with urban origin, and family history of liquor.

Recommendations: Mainly towards parents to devote more communication with their children, more quality time available to share with their children, demonstrations of trust, effective communication, affection.

Keywords: World Health Organization; Pregnancy; Family

Introduction

According to the World Health Organization (WHO), one of the main goals of each country is to improve the level of health of the population, referring to the "family as one of the fundamental groups in the field of health," because the family occupies an important place in the field of research, particularly because of the link between Family Health and the Health-Disease process [1].

52% of the 18 million pregnancies per year in Latin America and the Caribbean are unplanned and 23% end in abortion [2].

Within the institutional policy guidelines of the Nicaraguan Ministry of Health (MINSA), it establishes a change from the traditional model of care with a curative, fragmented and individualized approach to a model of comprehensive care that considers the family, the community and the environment as part of the health and disease process [3]. Family instability, teenage pregnancy of a sister, mother with a history of teenage pregnancy and alcoholism have also been described as social risk factors associated with the family [4].

Family functioning plays an important role, not only in the process that generates the disease, but also in the process of rehabilitation, to the extent that it fulfills its basic functions. A family is considered functional when the tasks or roles assigned to each of its members are clear and accepted by them [5].

The Family APGAR is an instrument designed to assess family systemic functioning, and is useful in identifying at-risk families. The instrument has been validated in different North American, Asian and Hispanic communities. Smilkstein of the University of Washington, Seattle, in 1978 created the Family APGAR as a response to the need to assess family function as a self-administered instrument.

Its parameters were delineated on the premise that family members perceive family functioning and can manifest the degree of satisfaction in the fulfillment of the basic parameters of family function:

- Adaptation
- Participation
- Gain or growth.
- Affection.
- Resources.

The study consists of establishing the relationship between adolescents with dysfunctional families and the risk of having an abortion, identifying the sociodemographic variables of risk of abortion in adolescents.

The relevance of the study is that it breaks with the traditional model of approach and treatment of abortion in adolescents in our institutions, which is oriented to the approach of the pathology from the biological point of view only, without taking into account the social environment and the psychological damage that this event generates.

Background

In 1967, the World Health Assembly recognized abortion as an important public health problem; however, the lack of information limited knowledge of the real magnitude of this problem. With the passage of time, the dimension of the abortion problem was documented by the WHO in 1994.

The Beijing Platform for Action notes that abortion is known to be a major complication of women's health and lives, but more research is still needed to identify and better understand the determinants and consequences of abortion, including subsequent effects on fertility, mental and reproductive health, and contraceptive practices. Therefore, research on treatment of abortion complications and postabortion care should be promoted [6].

Article 39 of the General Health Law establishes that the objectives of the comprehensive health care model are to improve the health conditions of the population, generating timely, efficient, quality and warm activities, capable of generating individual, family and community changes with emphasis on prevention and health promotion [7].

There is no other study of its kind in Nicaragua that addresses family dysfunction as a risk factor for abortion in adolescents, however during our review of the subject, we found a similar study, conducted in 2004, by the Faculty of Medicine of Mexico UNAM, on family functionality in pregnant adolescents through the application of the Family APGAR where it concludes that the family functionality of pregnant adolescents is altered in 33% of cases, because they do not have emotional maturity, do not receive support and affection from their family of origin [8].

Most studies on adolescent abortion are conducted from the perspective of maternal, fetal and ovarian causes and not on the social environment, where the family plays a fundamental role.

Study carried out in 2004, on the evaluation of an intervention program for dysfunctional families in the Ramón Heredia polyclinic

in Veguitas, Colombia, the most affected dimensions were: communication, adaptability. The most alarming positions before the intervention were communication in 92% of the families, adaptability and cohesion in 80%.

Communication is an essential source for the achievement of good intrafamily relationships. In this study it is established that 68% of the families were dysfunctional, and 32% severely dysfunctional [8,9].

According to a study conducted in Mexico, the age range in which most of the adolescents interviewed reported having had their first sexual intercourse was between 15 years of age. This result was obtained from the study on the "Needs of adolescents in a situation of spontaneous abortion", conducted by Bessna., *et al*.

Justification

The traditional model of approaching and treating abortion in adolescents in our institutions is oriented toward addressing the pathology, without taking into account the environment and the psychological damage that this event generates.

Generally we treat in our health units the final product in this case abortion (based on national standards), however there are multiple maternal, fetal, ovarian factors, very well known and studied, but nevertheless we lack to conduct research studies related to social factors, family and environment.

The admission of an adolescent with an abortion may represent a unique opportunity for contact with the health system. This contact should be used to provide access to quality, comprehensive and differentiated services to treat the biopsychosocial complications of abortion, and to investigate the family environment in order to prevent the event from recurring.

The social value of this study is centered on making known results that involve the family as one of the multiple social determinants of abortion in adolescents and to provide information with the purpose of orienting efforts aimed at strengthening households and the different social actors. As stated in the analytical summary on the social determinants of health, inaction will be judged in the decades to come as a refusal, with unforeseeable consequences, to assume a responsibility that is incumbent on all of us.

Hypothesis

Family dysfunction is associated with abortion in adolescents as a social risk factor.

General objective

To determine the degree of family dysfunction as a risk factor associated with abortion in adolescents attending the ARO I service at the Oscar Danilo Rosales Teaching Hospital in the city of León (Nicaragua) during the period August 2007- 2008.

Specific objectives

- Describe the characteristics sociodemographic characteristics of risk of adolescents presenting to the ARO I service with an abortion.
- To determine the degree of family dysfunction in adolescents with an abortion by applying the family APGAR.
- To determine the risk of miscarriage in adolescents with family dysfunction.

Theoretical framework

The family, according to its possibilities, must satisfy the basic needs of its members and is the fundamental means of transmitting cultural, moral and spiritual values to the new generations. Risk factors have been identified that can be considered to contribute to teenage pregnancy and abortion in our time:

- Less acceptance of traditional family values.
- Poor family communication, especially with the mother figure.pping out of school, early menarche.
- Low self-esteem with the consequent lack of life projects.
- ittle knowledge about contraceptive methods.
- mily dysfunctional, mothers o sisters pregnant at adolescence.
- sent father, low socioeconomic level, early integration into the workplace.
- ends who have had early sex [11].

Definition of the five parameters of the family function

- **Adaptation:** The ability to use resources for the common good and mutual support, and to use them to solve problems when the family's equilibrium is threatened.

- **Participation:** Distribution of responsibilities among family members, sharing problems and decision making in solidarity.
- **Gain or Growth:** Achievement of emotional and physical maturity, self- realization of family members, through mutual support.
- **Affection:** Relationship of care and love that exists between family members.
- **Resources:** Ability to solve the problems of the family group, sharing time, space and money among family members.

The English initials of each of these categories determine the APGAR Name [11]. Each question on the APGAR Family Test consists of four possible answers and a default value:

0 = Never, 1 = Almost never, 2 = Sometimes, 3 = Almost always, 4 = Always.

Once the total score is obtained, we proceed to the classification of family functionality:

- Good family function = 18-20 points.
- Mild family dysfunction = 14-17 points.
- Moderate family dysfunction = 10-13 points.
- Severe family dysfunction = < less than or equal to 9 points.

General indicators to measure family functionality [12]:

Efficient fulfillment of its functions: (economic, biological and cultural-spiritual).

- That the family system allows the development of the personal identity and autonomy of its members. For the family to be functional, it is necessary to maintain "clear limits" (psychological boundaries between people that allow them to preserve their vital space) in such a way that independence is not limited, nor is there excessive individuality in order to promote the development of all members and not generate feelings of dissatisfaction or unhappiness.
- That in the family system there is flexibility in the rules and roles for the solution of conflicts.
- A family is considered functional when the tasks or roles assigned to each member are clear and accepted by them. It is also important for the family to be functional that there is no role overload, which may be due to excessive demands, as could be the case of teenage mothers or single-parent households.
- The family becomes dysfunctional when generational distance is not respected, when hierarchy is inverted (for example: the mother who asks her son for permission to remarry) and when hierarchy is confused with authoritarianism.
- That in the family system there is clear, coherent and affective communication that allows problems to be shared: When we speak of distorted or dysfunctional communication, we refer to double messages or incongruent messages, that is, when the message that is transmitted verbally does not correspond or is incongruent with the one that is transmitted extra verbally.
- That the family system is able to adapt to change: The family functions properly when there is no rigidity and can easily adapt to change. The family is a continuum of balance-change. To be able to adapt to change, the family must be able to modify its limits, its hierarchical systems, its roles and rules, in short, to modify all its family ties, since they are not independent of each other.

Adaptive capacity is one of the most important components of family functionality, not only because it encompasses the whole set of family ties, but also because the family is subject to constant change. The main characteristic that a functional family should have is that it promotes a development favourable to the health of all its members, for which it is essential that it has:

Clear hierarchies, clear boundaries, clear and defined roles, open and explicit communication and adaptability to change.

In Nicaragua, the specific fertility rate among adolescents has been considered the highest in the region. This rate is higher in adolescent women in rural areas because, in addition to the lack of knowledge they have about human reproduction and little access to family planning methods, they generally get together and become pregnant between the ages of 14 and 17, through "common-law unions", forming structurally unstable families, which in turn is closely related to school dropout and perpetuation of the cycle of poverty [12].

The Nicaraguan Demographic and Health Survey 2006/2007 reports a specific fertility rate of 106 for 15-19 year olds. As can be seen, the trend is towards a reduction in the specific adolescent fertility rate in the last five years, when compared with the 2001 Demographic and Health Survey, which indicated an adolescent fertility rate of 119 per 1,000; however, both figures place Nicaragua

as the Latin American country with the highest adolescent fertility rate. Currently the total fertility rate for 2006/2007 is 2.7 [12,18].

The relationship between the level of education and fertility is evident: adolescents with no education have a fertility rate six times higher than those with higher education and almost five times higher when they have not reached the fourth grade of primary school (INEC 1999). Differences are also notorious at the level of origin, and it is observed that for every two pregnant adolescents in urban areas, there are three in the same conditions in rural areas [12].

Identified risk factors for adolescent pregnancy and abortion.

Biologicals

Age of puberty:

The age of puberty has declined from 17 years in the 19th century to around 12-13 years today. Adolescents are fertile at a younger age. Adolescents with an early age of menarche are more at risk of pregnancy. The period between the onset of puberty and economic independence has increased in our societies, allowing for a greater possibility of premarital sex.

Contraceptive use among Latin American adolescents remains low. According to data recorded by the Pan American Health Organization (PAHO, 1998), contraceptive use is extremely low in this age group; estimates show that only 1 in 10 unmarried, sexually active adolescents use contraceptives [12].

Psychosocial

Family dysfunction: poor family functioning may predispose to premature sexual intercourse. An adolescent with low self-esteem who suffers affective discrimination, receives attention and care through sexual intercourse and, in addition, may find relief from loneliness and abandonment through pregnancy, which allows her to flee a pathological home threatened by violence, alcoholism and the threat of incest. The following have been described as risk factors associated with the family: family instability, teenage pregnancy of a sister, mother with a history of teenage pregnancy and chronic illness of one of the parents.

Social

Areas of poverty, with overcrowding, stress, delinquency and alcoholism, will have a greater number of dysfunctional families, lack of resources and access to health care systems, with a consequent higher risk of teenage pregnancy and abortion [12].

Importance of sex education at home and in schools

Good sex education helps young people to clarify values and avoid risky behavior, sex education that is given in some schools as a formal education lacks an adequate approach, unquestionably sex education should start at home and it should not only be information but training to reach the change of attitudes and practice, because of the conception of sex, sexuality and sex education, will depend on our behavior. We must remember that many parents do not have the information or education to guide their children.

By providing adequate sex education, these young people begin a life of security and affection, improving their quality of life, without fear, discarding all kinds of myths and taboos, and assuming responsibility both in adulthood and in old age. Adequate sexual education is not only talking about reproductive organs but also about values, healthy lifestyles and life skills [12].

Poverty

There are 4,200,000 inhabitants living in poverty, that is, living on less than two dollars a day (total population of Nicaragua 5,600,000 people), of which 2,100,000 people live on less than one dollar a day (extreme poverty). Poverty in Nicaragua reaches 84.9 percent of Nicaraguan households. According to the United Nations 2005 Report, it will be easier to reduce poverty in countries whose governments "have put in place policies that promote equality, including initiatives to improve access to resources, income, education and employment [13].

According to the World Health Organization (WHO), adolescence comprises the age group 10-19 years and youth as the period between 15-24 years.

Maddaleno and Breinbauer (2005) disaggregate adolescence by sex to include specific developmental changes and for statistical comparisons across regions. In adolescent girls, it is usually referred to as:

- **Pre-adolescence:** The period between the ages of 9 and 12.
- **Early adolescence:** Ages 12 to 14.
- **Middle adolescence:** From 15 to 16 years of age.

- **Late adolescence:** From 16 to 18.
- **Youth:** The period from 18 to 21 years of age.
- **Young adulthood:** From 21 to 24 years of age [14].

In Nicaragua, Article 2 of Law 287 of the Code of Children and Adolescents considers adolescents to be those between the ages of 13-18 years old and considers as children those who have not reached the age of 13 [15].

Adolescent pregnancy is defined as a pregnancy that occurs during the first 2 gynecological years of a woman (gynecological age 0 = age of menarche). It has also been called the failure syndrome or the gateway to the cycle of poverty [16].

Abortion is the spontaneous or induced termination of pregnancy before the twentieth week of gestation with a birth weight of less than 500 grams.

Determinants of health

The epidemiological risk approach is a method used to measure the need for care by specific population groups.

In general terms, risk is a measure that reflects the likelihood of an event or harm to health occurring.

The risk approach is based on the measurement of that probability, which is used to estimate the need for health care or other services.

Features of risk socio-demographic y economic of adolescent girls:

Age of adolescent

The younger the adolescent, the greater the risk of miscarriage at this age.

Origin

Abortion is more common among adolescents who live in rural areas.

Schooling

Abortion is most frequently observed among illiterate adolescents and those with low levels of schooling, which deprives them of sex education in their schools.

Poverty

Adolescents in poverty and extreme poverty are vulnerable groups and at risk of abortion.

Occupation

At this age, most adolescent girls go to school and very few resort to work to improve the poor economic situation in their homes.

Gynaeco-obstetric history of the adolescents: Age at menarche

If the age is precocious, the adolescent tends to begin her sexual life at a young age, which predisposes her to abortion.

Beginning of sexual life

An early sexual debut predisposes her to unwanted pregnancies that often end in miscarriage.

Sexual partners

The mere fact of having more than one sexual partner in adolescence predisposes the adolescent, not only to pregnancy and abortion, but also to sexually transmitted diseases.

Use of contraceptive methods in adolescents

This point is of high importance in the high incidence of adolescent abortions due to the lack of knowledge about the use of family planning methods, coupled with the lack of provision of health centers.

Living children

Having children in adolescence generates the feeling of satisfied motherhood and not wanting another child.

Factors in adolescent decision making

Life project, it is interesting to know the different life projects since in this way some reasons for adolescents to abort or give birth can be identified.

Cohabitation as a couple

Generally, if she lives with her partner, the girl will feel supported in the decision she made.

Opinion of the couple

A partner's support or rejection upon discovering the pregnancy greatly influences adolescents' decisions.

Influence of people in decision making

Family members, friends, and others may have some influence on the adolescent's decision to continue the pregnancy or to abort it.

Religion:

Although the majority of adolescents practice a religion, this does not influence their decision at the time of an unwanted pregnancy [27].

Sexuality counseling, family planning methods

Counseling adolescents on sexuality issues would reduce the high rates of abortion.

Pre-natal care

Proper pregnancy care is necessary to achieve a successful pregnancy.

Counseling about the consequences of abortion:

This type of counseling would educate adolescents and make them aware of the seriousness of unsafe abortion [16].

Socioeconomic determinants of adolescent fertility

Here is what the available studies say about these three proximate determinants of adolescent fertility [18].

Global factors

The countries of Latin America and the Caribbean (LAC), including Colombia and Nicaragua, do not escape this reality. Studies indicate that one of the reasons why sex education has had a very limited impact on students in Colombian schools since 1994 stems from the restricted vision of sexuality and the human being. To this extent, it is necessary to consider that the challenge for adolescent sex education is to transcend the lectures on contraception, sexually transmitted infections and abortion, which are given in the classroom, in order to influence the sexual socialization of the population.

Socio-cultural context factors

Cultural characteristics, which are evidenced in the set of symbols, languages, shared practices, beliefs, norms, values through which a society creates the context from which individuals infer orientations for successful living, cannot be ignored as one of the socioeconomic determinants of adolescent fertility.

According to studies, they show the importance of cultural context, values, perceptions about family and children.

There is evidence in the literature on the effect of the media, especially television, on young people's attitudes towards sexual roles and sexual relations in adolescence, their beliefs about family planning methods and their expectations of sexual activity. Television, like other media, plays an important role as a socializing agent and the role models it shows strongly influence the development of adolescents' romantic and sexual cognitions.

These media satisfy the information needs of young people at a stage of their development, in which parents or educators are unfortunately no longer the main source. Young people are highly vulnerable to the media because they are at a time when they are constructing their gender roles, attitudes and sexual behaviour.

However, parents can and should contribute in this process of formation of their children through supervision and communication about the topics they see, clarifying in this way the beliefs around sexual relations, their consequences and their meaning, for that it is essential to establish a good constant communication with their children, promoting participation and trust.

Available studies - including quantitative and qualitative studies - suggest that the role of cultural and contextual factors, values, social norms and family dynamics in adolescent fertility has been underestimated [18].

Factors such as the progressive deterioration of the legal institution of marriage, the social acceptance of the earlier initiation of sexual relations prior to the formation of a legal union, the perception that adolescent sexual activity is common, and the social tolerance of adolescent unions without the formation of marriage, promote the loss of values and greater exposure to sexual relations, without risk prevention education, and consequently, greater teenage pregnancies and abortions.

Individual and household factors

In general, it can be stated that a low level of education of the mother, a low educational climate in the home, the development of the adolescent in a single- parent home, previous experience of adolescent fertility in the family, physical and verbal aggression, the level of violence in the home, the type of union established by the mother, a low level of communication established by the mother and a greater flexibility of the parents in the control and supervision of the young people significantly increase the probability of initiation of sexual relations, as well as pregnancy and abortion in adolescents [18].

According to the Department of Planning and Strategies for the Reduction of Adolescent Fertility and Poverty in Colombia, the communication established with adolescents should be clear and direct, however, the problem is that mothers provide partial messages, that is, they assume a protective behavior, The family dialogue is usually directed more towards prohibitions, restriction of actions and negative warnings of pregnancy, but very little information is provided to young girls about their bodies, menstruation, or about the process of reproduction itself.

Status of adolescent policies adopted by Costa Rica with a focus on results

One of Costa Rica's experiences in reducing adolescent fertility is the actions taken in the country's policies to reduce adolescent pregnancy, which involve the families of young people. This linkage of the family is given because the family environment has a significant impact on the behavior of adolescents, but also the parents, being uninformed and not being trained to address the sexuality of their children, may react negatively to the development of sex education programs, because they fear that their children are encouraged to initiate sexual activity before the information they are offered on the subject.

Therefore, one of the ways to train them is to inform them about the effectiveness of sexual education programs in the healthy development of sexuality in adolescents. Also promoting the participation of teachers in training workshops on gender, sexuality and violence.

In methodological terms, within the tools used, information plays a dual informative and formative role: information must fill the knowledge gap, but at the same time it must generate attitudes in adolescents [18].

Situation of adolescent policies adopted by Nicaragua with a focus on results

The strategies and policies adopted by Nicaragua for the prevention of adolescent pregnancy include the following main lines of action: Education, skills development, abstinence.Education for adolescents on sexual and reproductive health, responsible parenthood, values, self-esteem and life skills.Strengthening and prevention of early pregnancy and comprehensive care in health services.Strengthen the relationship between adolescents and their family and community.Implementation of youth development and school training programs. Teen Club [18]

- Education for adolescents on sexual and reproductive health, responsible parenthood, values, self-esteem and life skills.
- Strengthening and prevention of early pregnancy and comprehensive care in health services.
- Strengthen the relationship between adolescents and their family and community
- Implementation of youth development and school training programs. Teen Club [18]
- However, one of the weaknesses lies in the sustainability of the interventions and the lack of follow-up of the strategies by the different governments in office.

Another of the trends identified is that we measure through descriptive qualitative results of the interventions and not quantitative ones, with emphasis on improvement in education, behavioral changes.

A study carried out in León, Nicaragua in February 2001, which included adolescents, parents and educators in relation to knowledge about family planning and the prospects of teenage pregnancy, concluded that there is a prevalence of ignorance and a series of myths among parents and teachers about contraceptive methods and sex education. The information that parents and teachers have about family planning is scarce and incorrect [19].

Sexual and reproductive health education in Nicaragua

According to the Demographic and Health Survey ENDESA 2006/2007, Nicaragua's sexual and reproductive health behaviour states that poorly oriented sexual education leads to problems such as early initiation of sexual relations without responsibility and teenage motherhood.

Without adequate information it is difficult to prevent and control unwanted pregnancies or to delay the onset of sexual relations. However, well-planned sexuality education should guide young people through the processes of development and maturity with high standards of sexuality and sexual and reproductive health.

According to the ENDESA 2006/2007, 67% of women aged 15-24 years have received information on sex education, of which 49% of sexual information was received at school.

It is relevant to note at the country level that one third of women aged 15-24 years have not received formal information on sex education, being higher in rural areas with 49% than in urban areas with 21% [20].

Methodological Design

- **Type of study**: Analytical, case-control study.
- **Study Area:** High obstetric risk service (ARO I), 2nd floor of the Hospital Escuela Oscar Danilo Rosales, located in the city of Leon, Nicaragua.
- The ARO I service admits all pregnant patients from 0-20 weeks of gestation, with an obstetric or medical pathology that complicates the pregnancy.
- **Study Population**: Adolescents aged 10-19 years who attended the ARO I service with a diagnosis of abortion between August 2007 and August 2008, and adolescents with an immediate postpartum period who successfully completed their pregnancies.
- **Sample size and sampling:** Representativeness, a total of 330 surveys, using a statistical method, taking into account that the frequency of family dysfunction in adolescents is 33%, as established by other studies [11]; with a confidence index of 95%, power of 80%, which corresponds to 110 cases and 220 controls, with a ratio of 1 case/2 controls. During the study period, there was a total of 510 abortions in the service, of which 22% (118 cases) corresponded to abortions in adolescents.
- **Case definition:** Adolescent patient aged 10-19 years attending the ARO I service with a diagnosis of abortion, who agreed to participate in the study.
- **Definition of control**: Adolescent patients between the ages of 10-19 years attending the Maternal and Infant Unit (IMU) for immediate physiological puerperium (first 24 hours postpartum). The controls were selected daily; for each case of adolescent abortion presented at the ARO I service, 2 controls were selected from the maternal and infant unit (IMU) service.

The researcher selected this control group, with the purpose of applying the APGAR family test and try to classify the degree of family dysfunction in adolescents who have abortions and adolescents who successfully terminate their pregnancies, trying to prove the hypothesis.

Exclusion criteria

- Women over 19 with an abortion. Adolescents with a complicated abortion.
- Illiterate.
- Refusal to participate in the study.

Ethical aspects

At all times and stages of the study, the researcher respected confidentiality, made a previous approach with the patients, highlighting what the study consisted of and respecting the patient's right to participation and integrity. The application of the family APGAR instrument was voluntary, it is anonymous, does not have a name or address, and a requirement is that it must be filled out by the patient herself, with prior verbal authorization.

Data collection instrument

Primary Source, survey, Family APGAR, which was applied by the researcher and filled out by the patient. The five parameters evaluated in the instrument, Family APGAR:Adaptability,Participation.Affection.Growth.Resources.

Data processing

Descriptive statistics and logistic regression were applied to the results, with cross- referencing of variables identified as risk variables. Using the family APGAR test, the degree of family dysfunction in the adolescents was determined. Using the ratio of cross products or odds ratio, the risk of having an abortion in adolescents was established for each of the variables identified. The information obtained was processed using SPSS 12.0 software.

The researcher conducted a pilot test to validate the data collection instrument.

Benefits of the results

- The study made it possible to approach the problem of adolescent abortion in a different way, from a social aspect, with emphasis on the family.Information that guides us to the promotion and strengthening of communication between parents and their children, with a preventive approach.

Strengths of the study:

- The APGAR Family instrument used in the study is a validated and tested tool designed to assess systemic family functioning, and is useful in identifying at-risk families.Logistic regression analysis of the identified risk variables was performed to control for confounding factors, which allowed for greater validity of the study.Significant sample of adolescent abortions in the year (110 cases).
- The information was obtained through a survey using a primary source of information and no information from files or secondary sources was used.
- The main strength of our study is that it provides a new element to consider, namely moderate to severe family dysfunction as a risk factor for abortion in adolescents, which had not been taken into account in previous studies.

Results

- Total number of surveys carried out cases/control (110 cases/220 controls).
- The sociodemographic variables analyzed with statistical significance of risk stand out Family dysfunction, urban origin, and family history of liquor (p value = 0.000, for each of the variables).
- Family dysfunction classified as moderate and severe was present in 19% of the adolescents with an abortion, defined as a case, and was present in only 0.3% of the controls, with a difference of 18%, it was clearly identified that adolescents with abortion were more affected by family dysfunction than the controls.
- The unmarried marital status of the adolescent girl turned out to be a risk variable with statistical significance with a value of p = 0.004.
- No statistical significance of risk was found in the study for the following variables: beginning of active sexual life, value of (p = 0.1), low schooling, value of (p = 0.1), family history of abortion, value of (p = 0.46), having received information about pregnancy prevention, value of (p = 0.1), no religion, value of (p = 0.8).
- Urban backgrounds were found to have six times the risk of teenage abortion compared to rural backgrounds. Sexual debut before the age of 18 doubles the risk of abortion in adolescents (adjusted odds ratio 1.5).
- The basic parameter of family function most affected in the study was Participation, Case (79.1%) vs. Control (10.4%), for a difference between case and control of 68.7%. The second most affected family function parameter in the study was Gain or growth, Case (54.5%) vs Control (1%) for a difference of 53.5%.The third most affected family function parameter in the study was the Resources component, Case (35.5%) vs Control (1.4%), for a difference of 33.6%.The fourth most affected family function parameter in the study was Affection, Case (31.8%) vs Control (1.8), for a difference of 30%.

The fifth affected parameter of family function in the study is Adaptation, which corresponded to Case (36.4%) vs. Control (7%), for a difference of 29.4%, with greater affectation in adolescents with an abortion defined as a case.

Discussion and Analysis

Main findings

The onset of sexual intercourse in adolescents in the study occurs at an average age of 15 years, this is consistent with studies consulted both nationally and internationally, As referred by the Ministry of Health, MINSA Nicaragua in the document basic guidelines for the prevention of adolescent pregnancy; Also this same average age, 15 years of onset of sexual intercourse in adolescents is referred to by studies consulted as is the preliminary analysis of the health situation in Venezuela, and study conducted in Mexico by Bessna R. *et al*.

Studies consulted refer that the beginning of early sexual relations is currently favored, due to biological factors of early menarche, greater economic independence at a younger age, external influence of television programs, without a responsible

message of prevention or protection [10,12,15]. In our study the family dysfunction classified as moderate and severe was.

This marked difference in family dysfunction between cases and controls could be interpreted to mean that family dysfunction is more marked in adolescents who abort than in adolescents who give birth and successfully complete their pregnancies. However, one of the possible explanations for the marked differences observed in the cases is that adolescents who abort are in an emotional state of mourning and loss, which could modify their responses when applying the APGAR family test tool. The information consulted, such as the document on strategies and basic guidelines for the prevention of adolescent pregnancy, published by the Nicaraguan Ministry of Health, establishes that poor family functioning may predispose to premature sexual relations for the purpose of escaping from a pathological home, and therefore increase the risk of abortion [12].

Urban origin turned out to be a statistically significant variable, with urban adolescents having six times the risk of abortion compared to rural adolescents, with 56% of the cases in our study coming from urban areas. One possible explanation for this result is that urban adolescents have greater freedom and independence, and are more exposed to visual and television stimuli, parties with the consequent higher risk of unplanned sexual intercourse and abortion. Another probable factor that should be taken into account in urban adolescents is the greater access to drugs such as misoprostol to terminate pregnancies; they obtain it without prescription and over-the-counter, and the greater access to health services for abortion care should be added to this result.

Single marital status was a risk variable in the study (p value = 0.004). 004), occurring in 40% of cases and 57% of controls, these data are consistent with the information reviewed by the Ministry of Health MINSA Nicaragua; the document of strategies and guidelines for the prevention of adolescent pregnancy states that adolescents generally join and become pregnant between 14 and 17 years, through the "common-law union", forming structurally unstable families which in turn is closely related to school dropout and perpetuation of the cycle of poverty [12].

Low schooling defined as incomplete primary schooling was present in both cases and controls, 38% of cases and 29% of controls, with a percentage difference of 9% higher in cases, although it was not a variable with statistical significance in the study (p value = 0.1), a high percentage of low schooling is observed, which is consistent with reviewed studies [12,14], which report a higher frequency of abortion in adolescents with low schooling.

The variable religion was present in 77% of the cases and 90% of the controls, although it was not statistically significant (for a value of p = 0.7). Having a religion did not turn out to be a protective factor, which is in agreement with the review of a study conducted at the Bertha Calderón Hospital adolescent center in 2005 [14].

The family history of liquor was a significant risk variable in the study (p value = 0.00), and was present in 52% of both cases and controls. This data is interesting, indicating that more than half of the adolescents in the study were exposed to a family history of liquor; the studies reviewed correspond to our information obtained, which establishes that the factors identified as risk factors for pregnancy and abortion in adolescents include alcoholism in the family [4,12,16].

Of the five components of family functioning, Participation was the most affected, indicating that adolescents with an abortion are not taken into account or do not participate in the important decisions made in the home; the participation component was affected in 79% of the cases and only 10% of the controls, for a percentage difference of 68% of greater affectation in the cases. This result is of utmost importance, the references consulted consider family functioning as the interactive and systemic relational dynamics that occurs between the members of a family and is evaluated through the category of participation and adaptability [1,11]. The second most affected family functioning was the component of gain or growth, with the greatest impact on adolescents with an abortion defined as a case, with a percentage difference of 53%. This result indicates that the adolescents in the study with an abortion feel dissatisfied with the time they share with their family, the time they spend together on weekends and the space in the home.

This result is similar to other studies on family functionality in pregnant adolescents conducted by the Faculty of Medicine UNAM (Mexico 2004), the most affected components were growth and affection [11].

The fourth most affected family function in the study was Affection, with a greater predominance of affection in the cases, for

a percentage difference of 30%, corresponding respectively to Case (31.8%) vs Control (1.8), observing that the controls perceived greater affection from their parents. The adolescents in the study with an abortion felt dissatisfied with their family, they felt that their family does not love them, they do not express affection and love. Similar to a study on family functionality in which affection ranked first, in our study it ranked fourth in terms of affectation [11].

Conclusion

Moderate to severe family dysfunction was found to be a risk factor for miscarriage in adolescents. Adolescents with an abortion had moderate to severe family dysfunction 18 times greater than controls, proving our hypothesis. It was also identified that the risk of abortion in adolescents is aggravated if it is associated with urban origin and a family history of alcohol consumption.

Recommendations

At the Home level

Parents should promote the participation of their children in the problems of the home through the distribution of responsibilities, sharing solidarity in the problems and decision making of the home, this could be achieved with improved communication.Parents should promote the emotional and physical maturity of their children, self-realization of each member of the household through mutual support.Sharing more time with your children, quality time will allow you to solve the problems of the family group.Find out what problems your child is having, who they hang out with most of the day, who their friends are, what source of sexual information they are receiving, school, friends, internet, television.

At the first level of health care

The family APGAR test could be a useful and easy-to-use tool for adolescents attending primary health care services, to identify adolescents with family dysfunction and classify adolescents at greater risk, with subsequent referral to psychological care.

We suggest evaluating the methodological tools used for sexual health information. The information obtained at different levels, such as parents, teachers and adolescents, should have a dual informative and formative role.

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