RESEARCH

SANUS

SANUS. 2020;(14):1-11
DOI: 10.36789/sanus.vi14.170
www.sanus.unison.mx

Social health determinants and education need about sexually transmitted infections in pregnant adolescents

Silvia Guadalupe Soltero-Rivera [1]; Jesús Melchor Santos-Flores [2]; Liliana Maricela Guzmán-Rodríguez [3]; Juana Mercedes Gutiérrez Valverde [4]; Milton Carlos Guevara-Valtier [5*]

ABSTRACT

Introduction: In recent years there has been an increase and a greater precocity of sexual initiation causing an increase in the incidence of adolescent pregnancy, but its prevalence varies worldwide. Sexually Transmitted Infections are recognized as a major public health problem but can be prevented. **Objective:** Know the Social Health Determinants present for a higher risk of early pregnancy and identify education need during the adolescence stage regarding knowledge of Sexually Transmitted Infections. **Methodology:** A cross-sectional descriptive design was used. The sample was comprised by 60 pregnant adolescents ranging in age from 10 to 19 years. A scale regarding knowledge of the human immunodeficiency virus and other sexually transmitted infections was used with a Cronbach's Alpha ranging from .66 to .88. **Results:** It was found that 38.3% of the surveyed sample has a history of adolescent pregnancies in the family. Forty percent of them were unaware of the transmission methods of the Human Immunodeficiency Virus and 50% are unaware of the transmission of the Human Papilloma Virus. In general, 50% are unaware of sexually transmitted infections. **Conclusion:** The main social health determinants found were family factors such as family type (two-parent family) and history of adolescent pregnancies in the family; regarding sexual and reproductive factors there is the beginning of the first sexual relation at an early age, having more than two sexual partners, previous use of contraceptive methods, and lack of knowledge.

Key words: Simulation; nursing students; laboratory; nursing (DeCS).

[1.] PhD in Nursing Sciences. Universidad Autónoma de Nuevo León. Monterrey, Nuevo León, México.

[2.] Master's Degree in Nursing Sciences, Universidad Autónoma de Nuevo León. Monterrey, Nuevo León, México.

[3.] PhD in Education. Universidad Autónoma de Nuevo León. Monterrey, Nuevo León, México.

[4.] PhD in Nursing. Universidad Autónoma de Nuevo León. Monterrey, Nuevo León, México.

[5.] PhD in Education. Universidad Autónoma de Nuevo León. Monterrey, Nuevo León, México.

Received: 04/01/2020
Accepted: 22/06/2020

*Corresponding author: : carlos_valtier7@hotmail.com

How to cite this article
Soltero-Rivera SG, Santos-Flores JM, Guzmán-Rodríguez LM, Gutiérrez-Valverde JM, Guevara-Valtier MC. Social health determinants and education need about sexually transmitted infections in pregnant adolescents. SANUS. 2020; (14): 1-11. [Access__ __ ____]; Available at: _____.
month day year URL/DOI

Determinantes sociales de salud y necesidad educativa sobre infecciones de transmisión sexual en adolescentes embarazadas

RESUMEN

Introducción: En los últimos años ha ocurrido un incremento y una mayor precocidad del inicio sexual provocando un aumento de la incidencia de embarazo adolescente, su prevalencia varía a nivel mundial. Las infecciones de transmisión sexual son reconocidas como un gran problema de salud pública y puede ser prevenible. **Objetivo:** Conocer los determinantes sociales de salud presentes para un mayor riesgo de un embarazo a temprana edad e identificar la necesidad educativa durante la etapa de adolescencia sobre conocimiento de las Infecciones de Transmisión Sexual. **Metodología:** Diseño descriptivo transversal, la muestra fue de 60 adolescentes embarazadas de 10 a 19 años de edad, se utilizó un la Escala sobre conocimiento del virus de la inmunodeficiencia humana y otras infecciones de transmisión sexual con Alfa de Cronbach de .66 a .88. **Resultados:** Se encontró que un 38.3% de la muestra encuestada tiene antecedentes de embarazos adolescentes en la familia. El 46% desconoce los métodos de transmisión del virus de inmunodeficiencia humana y el 50% desconoce la transmisión del virus de papiloma humano, un 50% desconoce en general sobre las infecciones de transmisión sexual. **Conclusión:** Los principales determinantes sociales en salud encontrados son los factores familiares como el tipo de familia (biparental), antecedentes de embarazos adolescentes en la familia, en el factor sexual y reproductivo como el inicio de la primera relación sexual a temprana edad, tener más de dos parejas sexuales, y el uso previo de métodos anticonceptivos, y la falta de conocimiento.

Palabras clave: Conducta del Adolescente; Conocimiento; Enfermedades de transmisión sexual (DeCS).

Determinantes da saúde social e necessidade de educação sobre infecções sexualmente transmissíveis em adolescentes grávidas

ABSTRATO

Introdução: Nos últimos anos, houve um aumento e uma maior precocidade de iniciação sexual, causando um aumento na incidência de gravidez na adolescência, mas sua prevalência varia em todo o mundo. As infecções sexualmente transmissíveis são reconhecidas como um importante problema de saúde pública, mas podem ser evitadas. **Objetivo:** Conheça os determinantes sociais da saúde que apresentam maior risco de gravidez precoce e identificar a necessidade de educação durante a adolescência em relação ao conhecimento de infecções sexualmente transmissíveis. **Metodologia:** Foi utilizado um desenho descritivo transversal. A amostra foi composta por 60 adolescentes grávidas com idade entre 10 e 19 anos. Uma escala referente ao conhecimento do vírus da imunodeficiência humana e outras infecções sexualmente transmissíveis foi usada com um alfa de Cronbach variando de 0,66 a 0,88. **Resultados:** Verificou-se que 38,3% da amostra pesquisada têm histórico de gravidez na adolescência na família. Quarenta por cento de lês desconheciam os métodos de transmissão do vírus de imunodeficiência humana e 50% desconheciam a transmissão do vírus do papiloma humano. Em geral, 50% desconhecem infecções sexualmente transmissíveis. **Conclusões:** Os principais determinantes da saúde social encontrados foram fatores familiares, como tipo de família (biparental) e história de gravidez na adolescência na família; em relação aos fatores sexuais e reprodutivos, há o início da primeira relação sexual em tenra idade, com mais de dois parceiros sexuais, uso prévio de métodos contraceptivos e falta de conhecimento.

Palavras chave: Adolescente; Conhecimento; Doenças Sexualmente Transmissíveis (DeCS).

INTRODUCTION

According to the World Health Organization (WHO) [1], worldwide a large number of births, approximately 11%, occur during the adolescence, mostly in low- and middle-income countries; before they are 18, about 30% of them marry and 14% when they are 15. Likewise, worldwide birth rate in this age group is 4.9 per 100 [2]. According to the literature, in Latin American countries about a quarter of live births are children of adolescent mothers [3], in this context, Mexico ranks first among adolescent pregnancies with a rate of 77 births per a thousand of youngsters from 15 to 19 years of age. According to the National Institute of Statistics and Geography (INEGI by its acronym in Spanish) [4] Nuevo Leon is in the tenth place with 14,736 adolescent pregnancies in the country; the first place with 53,105 is held by the State of Mexico.

One of the stages of human development with important changes at social, psychological, and biological level is adolescence. During this period, unsafe behaviors that lead to dangerous and harmful consequences increase as indicated by Rosabal [5] from the perspective that youngsters and adolescents start to be involved in topics as vital as reproductive and sexual health, so in the stage of sexual maturation there is an early search for sexual relations, which is why they are exposed to several health problems [6].

The Minister of Health of Nuevo Leon [7] mentioned that Sexually Transmitted Infections (STIs) "are infections that are acquired by having sexual intercourse with an infected person"; also he stated that most of them affect men and women, but in many cases health problems are usually more serious in women, an example is the Human Papilloma Virus (HPV) infection. Additionally, if a pregnant woman suffers from STIs there is a risk that the baby may present serious health problems [8].

According to the literature, there is a high incidence of STIs that have been increasing in the adolescent population, possibly these unsafe behaviors are a product of it, as well as the prevalence of unwanted pregnancies in this population; other studies indicate that education would be a measure that can improve the prevention of unsafe sexual behaviors. According to the National Institute for Women [9], there is a certain percentage of the adolescent population (15% men and 33% women) who do not use contraceptive methods in their first sexual relation.

Vásquez [10] reports that there are physical changes at the biological level in adolescence, such as the development of secondary sexual characteristics, gonad maturation and a stimulation in the production of hormones associated to behavior changes. He also mentions that the adolescent is vulnerable and assumes certain unsafe behaviors, such as the initiation of early sexual activity, also stating that adolescents can be fertile approximately four or five years before their emotional maturation, so that early sexual initiation increases the risk of unwanted pregnancies, STIs, and practices such as abortion [10].

The United Nations Educational, Scientific and Cultural Organization (UNESCO) [11] reports that despite the evidence in favor of the benefits of a comprehensive sexuality education of excellent quality, there are few youngsters who receive life skills that empower them to take control and make conscious and responsible decisions about their sexuality and their relations.

It is important that the issues of sexual health and sexuality are put into educational practice, taught and explained in school classrooms by professionals in the field and/or teachers trained from early stages; likewise, involving families and health services could guarantee greater impact on the promotion of sexual and reproductive health [10]. Lack of information about sexual health leads young people to unsafe sexual behaviors and unwanted pregnancies. One of the predisposing causes is the lack of access to education or sexual health services and, consequently, inappropriate use of family planning methods or they are simply unaware they exist [12].

Having an STI during pregnancy can be harmful to the product. Gonorrhea and Chlamydia can cause health problems, such as eye and lung infections in newborns. Syphilis can cause miscarriages or the birth of dead child, and as for HIV, it can be contracted by the fetus in the placental environment through the umbilical cord [13]. Therefore, the general objective of the present study was to know the social health determinants that cause higher risk of an early pregnancy and identify the educational need during adolescence regarding STIs.

METHODOLOGY

The study had a descriptive cross-sectional design [14, 15]. The population was comprised by pregnant adolescents between the ages of 10 and 19 who attended the Family Medicine Unit in Monterrey, Nuevo Leon. Convenience sampling was used, obtaining a sample of 60 pregnant adolescents between 10 and 19 years of age.

Barreto's Zarit Care Burden Perception Interview (EPCCZ) in Spanish [16] was used, with 13 items that investigate sociodemographic, family, and sexual/reproductive factors that are associated with pregnancy in adolescents that are used to describe the factors that influence gestation.

The HIV Knowledge Scale and other STIs (ECVIH, ITS by its acronym in Spanish) by Espada and collaborators [17] was used, which includes 40 questions related to knowledge of HIV and other sexually transmitted infections. In turn, this scale is composed by subscales. The first subscale is called (SEVIH-ITS) and is about knowledge of HIV and other STIs; the second subscale (SEMT-VIH) is about HIV transmission mechanisms; the third subscale (SE-MPPVIH) is about protection mechanisms to prevent HIV infection; the fourth subscale (SE-MAVIH) is

Table 1. Sociodemographic factors of pregnant adolescents of a Family Medicine Unit

	f	%
Education Degree		
None	1	1.7
Elementary	2	3.3
Junior High	23	38.3
High School	34	56.7
Occupation		
Housewife	27	45
Student	8	13.3
Works	25	41.7
Marital Status		
Single	10	16.7
Married	35	58.3
Common-Law partner	15	25

Source: EPCCZ, f= frequency, %= percentage ***n*=** 60

about HIV action mechanisms in the body and HIV treatment; the fifth subscale (SE-CGGS) is about general characteristics of gonorrhea and syphilis; the sixth subscale (SE-CHBVG) is about knowledge regarding hepatitis B and genital warts (Dimensions: knowledge, HIV transmission, other STIs, and general knowledge about HIV, condom and HIV Prevention) (Cronbach's alpha from .66 to .88). To carry out this study, the approval of an educational and health institution involved in data collection was obtained.

For data collection, parents, guardians, or legal representatives and adolescents were contacted and explained about the objective of the study and the participation of female adolescents in it; once this was done, the invitation was formalized and those who accepted it were given the consent and assent to read it and sign it; the questionnaires were provided and they invested between 10 to 15 minutes in answering the questions, and in order to maintain the privacy and intimacy of the participants, there was a preventive medicine office where the adolescent and the researcher were present. Parents, guardians, or legal representatives waited in one adjoining room.

The participants were asked to be honest and answer according to their reality, and doubts that arose were clarified. The right to leave the study was respected, but nobody left the study. In addition to the above, it was informed that the results of the present study would be treated anonymously and confidentially. In this regard, the participants delivered their questionnaire in a closed and sealed envelope. This study adhered to the Regulations of the General Health Act for Health Research [18]; it was approved by the Research and Ethics Committees in Research with registration number 015-02018.

The statistical program IBM SPSS, Statistics version 23.0, was used to respond to the objective using frequencies, percentages, and measures of central tendency.

RESULTS

Sixty pregnant adolescents participated. Table 1 shows the sociodemographic factors. The average age was 17.8 years (SD = 1.20); likewise, it was found that 56.7% of the adolescents had high schools studies and the majority was married (58.3%).

Table 2 includes family factors, and it is seen that the majority have a good relationship at home with 73.3%, the majority (61.7%) had no history of adolescent pregnancy in the family, and 75% lived with both parents before pregnancy.

Table 3 shows the sexual and reproductive factor, 90% started their first sexual relation between 15 and 19 years old. 65% used contraceptive methods before pregnancy. The data indicates that 48.3% of the adolescent was expecting their first child, 38.3% was expecting their second child, and 90% had no history of abortion.

Table 4 shows in the SEVIH-ITS subscale, about knowledge of HIV and other STIs of the EPCCZ, that the adolescents answered mostly all the statements as true: "AIDS is caused by a virus called HIV" (86.7%) and "The main route for HIV transmission is through sexual intercourse" (90%).

In the second SEMT-HIV subscale, the mechanisms of HIV transmission, they answered mostly true to "Risk of contracting HIV by syringes" with 98.3%, and "HIV affects the human immune system" with 88.3%. In "The AIDS virus affects all cells of the human body" 90% of the surveyed population considers this to be true. While the question "HIV is transmitted through the air" was answered as false by 96.7%.

In the third subscale SE-MPPVIH, protection mechanisms to prevent HIV infection, the following statements predominated with the answer of "False": "The vaginal ring or the IUD is effective methods to prevent AIDS"; 85%. "Birth

Table 2. Family factors of pregnant adolescents of a Family Medicine Unit

	f	*%*
Type of family of the adolescent		
Single-parent	15	25
Two-parent	45	75
Family history of adolescent pregnancy		
Yes	23	38.3
No	37	61.7
Relationship of the adolescent with her parents		
Good	44	73.3
Regular	16	26.7
Bad	0	0
Person with whom the adolescent lived before her pregnancy		
Father	3	5
Mother	9	15
Both of them	45	75
Alone	2	3.3
Another relative	1	1.7

Source: EPCCZ, f= frequency, %= percentage ***n*** **=** 60

control pills are effective in preventing transmission of HIV in the sexual intercourse", 86.7%; "Hugging and kissing a person with the virus on the cheek implies a risk of HIV transmission", 90%; "Practicing intercourse by interrupting ejaculation is a safe way to have sex with no risk of HIV infection", 80%.

In the fourth subscale SE-MAVIH, action mechanisms of HIV in the body and HIV treatment, the statements that prevailed as true were: "The HIV detection test is usually carried out through blood test" (98.3%) and "Gonorrhea and Chlamydia are two common sexually transmitted diseases" (90%). It was detected that an important educational need corresponds to the question "When the couple has gonorrhea, it must be treated", where 55% answered false.

In the fifth subscale SE-CGGS, general characteristics of gonorrhea and syphilis, the statement "Gonorrhea or gonococia heals by itself in most cases" was considered false by 81.7% and 93.3% in the statement "It is not convenient to have sex if you have a genital herpes infection".

In the sixth subscale SE-CHBVG, knowledge regarding Hepatitis B and genital warts, the statement "Genital warts are spread during sexual intercourse" is considered true by 83.35%. In the seventh subscale Knowledge on HPV the statement "There are vaccines for HPV" was considered true by 88.3%.

DISCUSSION

The present study incorporates to the limited literature regarding social determinants of health that are present for an increased risk of early pregnancy and the identification of the level of knowledge about STIs.

In relation to the results of the study, more than half of the participants had high school education, and most of them were married and had a job, compared to other studies where the highest proportion of adolescents had studied up to junior high school, were currently single, and between 43% and 97.1% carried out house work [19, 21, 22].

The differences could be due to the geographical area where the studies were carried out, since the studies carried out by Rodríguez [19], Silva, et al., [21] and Contreras, et al., [22] took place in Mexico's southern areas and countries in South America where customs and cultures are different with respect to marriage and education [21].

Regarding family factors, 75% lived in a two-parent family, which was different to the results found by Rodríguez [19] where he reported that more than half of the female adolescents lived in a single-parent family, which is why in his study the majority were single adolescents.

According to the sexual and reproductive factor, in the present study 90% had their first sexual intercourse between 15 and 19 years of age, as for other studies these findings are similar to those of Rodríguez [19] but different from those of Silva [21] where he found that in most female adolescents the first sexual relation occurred in the range of 14 to 16 years of age; in the present study more than half had two sexual partners, while Rodríguez [19] found that 53% had only one sexual partner, and it was also found that for the majority it was the first pregnancy, similar to the result found by Rodríguez [19].

A possible explanation in relation to both family and sexual and reproductive factors is that unsafe behaviors in adolescents are social determinants regarding health and are the

Table 3. Sexual and Reproductive Factor of pregnant adolescents of a Family Medicine Unit

	f	%
Age when having the first sexual relation		
10 to 14 years	6	10
15 to 19 years	54	90
Number of sexual partners		
1	28	46.7
More than 2	32	53.3
Number of pregnancies		
First pregnancy	29	48.3
Second pregnancy	23	38.3
Multiple pregnancies	8	13.3
History of abortion		
Yes	6	10
No	54	90
Previous uses of contraceptive methods before pregnancy		
Yes	39	65
No	21	35

Source: EPCCZ, f = Frequency; % = Percentage ***n*** **=** 60

main causes responsible for early pregnancy and STIs regardless of the nation or geographic area [20].

According to the level of knowledge, the present study found that 50% has a deficient knowledge about STIs, similar to that found by other studies where the level of knowledge was regular, most of them (80%) do not have a proper knowledge about STIs [21, 22, 23].

Although HIV, due to publicity campaigns, is a well-known disease both for female adolescents and for the general population, other STIs are less known, the names of STIs and their symptoms, as well as their transmission mechanisms [28].

CONCLUSIONS

According to the results, it can be cautiously affirmed that the main social determinants in health, understanding them as the circumstances in which people are born, grow, live, work, and age, including the health system, in this study family factors such as the type of family (two parents), history of adolescent pregnancies in the family, regarding the sexual and reproductive factor such as the beginning of the first sexual relation at an early age, having more than two sexual partners, and the previous use of contraceptive methods, and regarding knowledge, being unaware of STIs, were the main determinants.

Lack of knowledge of the participant with respect to STIs is an indicator to be taken into account when planning and carrying out interventions in the field of sexual education in the adolescent population and thereby contribute to the prevention of this public health problem.

CONFLICTS OF INTERESTS

There was no financing.

FINANCING

There are no conflicts of interest.

BIBLIOGRAPHIC REFERENCES

1. Organización Mundial de la Salud (OMS). El embarazo en la adolescencia [internet]. OMS. 2018 [actualizado 23 febrero 2018, citado 19 octubre 2019]; Disponible en: https://www.who.int/es/news-room/fact-sheets/detail/adolescent-pregnancy

2. Fondo de las Naciones Unidas para la Infancia (UNICEF). La adolescencia: Una época de oportunidades [internet]. UNICEF. 2011 [citado 19 Octubre 2019]. Disponible en: https://www.unicef.org/bolivia/UNICEF_-_Estado_Mundial_de_la_Infancia_2011_-_La_adolescencia_una_epoca_de_oportunidades.pdf

3. León P, Minassian M, Borgoño R, Bustamante F. Embarazo adolescente. Rev Ped Elec [internet]. 2008 [citado 20 Octubre 2019]; 5(1), 42-51. Disponible en: http://www.enfermeriaaps.com/portal/download/SALUD%20ADOLESCENTE/Embarazo%20adolescente.pdf

Table 4. Descriptive statistics of the Scale on Knowledge of HIV and other STIs of pregnant adolescents from a Family Medicine Unit

	True		False	
Subscales	***f***	**%**	***f***	**%**
1) Differences between HIV – AIDS				
AIDS is caused by HIV	52	86.7	8	13.3
There is a difference between HIV and AIDS	33	55	27	45
Main route of HIV	54	90	6	10
Domestic animals transmit HIV/AIDS	6	10	54	90
A pregnant woman can transmit HIV to the baby	50	83.3	10	16.7
People with HIV can transmit AIDS if they are not sick	35	58.3	25	41.7
HIV is transmitted through secretions and blood	56	93.3	4	6.7
2) Mechanisms of HIV transmission				
HIV is transmitted through the air	2	3.3	58	96.7
Sharing food with people with HIV/AIDS is dangerous	14	23.3	46	76.7
Washing clothes with that of a person with HIV/AIDS	13	21.7	47	78.3
Mosquitoes transmit HIV/AIDS	19	31.7	41	68.3
Risk of contracting HIV from syringes	59	98.3	1	1.7
HIV affects the immune system	53	88.3	7	11.7
HIV/AIDS affects all cells of the body	54	90.0	6	10.0
3) Protection mechanisms to prevent HIV infection				
The window period is the time to produce antibodies	46	76.7	14	23.3
The vaginal ring or IUD prevents AIDS	9	15.0	51	85.0
Pills prevent HIV	8	13.3	52	86.7
The female condom is effective in preventing HIV/AIDS	45	75.0	15	25.0
A wet kiss is a risk of HIV transmission	26	43.3	34	56.7
Hugging and kissing involves risk	6	10.0	54	90.0
Interrupted intercourse prevents transmission of HIV	12	20.0	48	80.0
4) HIV mechanism of action in the body and HIV treatment				
HIV detection is done by blood test	59	98.3	1	1.7
It is possible to know if you have HIV the day after the risky event	28	46.7	32	53.3
Treatments reduce the amount of HIV	41	68.3	19	31.7
There is an HIV vaccine	30	50.0	30	50.0
Infections appear due to weakening of the immune system	42	70.0	18	30.0
Gonorrhea and Chlamydia are STIs	54	90.0	6	10.0
When the couple has gonorrhea, it must be treated	27	45.0	33	55.0
5) General characteristics of gonorrhea and syphilis				
Gonorrhea or gonococcia can be transmitted to women without symptoms	30	50.0	30	50.0
Gonorrhea or gonococcia heals by itself	11	18.3	49	81.7
Syphilis is not a current disease	20	33.3	40	66.7
Syphilis can leave permanent injuries	45	75	15	25

The spread of syphilis is very difficult	26	43.3	34	56.7
Genital herpes infection only produces symptoms in this area	42	70.0	18	30.0
Do not have sexual relations if you have genital herpes	56	93.3	4	6.7
6) Knowledge regarding Hepatitis B and genital warts				
Once herpes is cured there is no more risk	18	30.0	42	70.0
The use of spermicidal lotions prevents the spread of Chlamydia	14	23.3	46	76.7
Hepatitis B is an STI	28	46.7	32	53.3
The routes of transmission of Hepatitis B are not known	33	55.0	27	45.0
Hepatitis B never leaves sequelae	14	23.4	46	76.6
Genital warts are spread during intercourse	50	83.3	10	16.7
Genital warts are genetic	17	28.3	43	71.7
7) Knowledge about HPV				
The condom prevents the transmission of warts	43	71.7	17	28.3
HPV infection could be transmitted by public toilets	32	53.3	28	46.7
The condom prevents the transmission of HPV	44	73.3	16	26.7
HPV infection can predispose to cancer	41	68.3	19	31.7
There are vaccines for STIs	35	58.3	25	41.7
There are vaccines for HPV	53	88.3	7	11.7
There are vaccines for HIV	30	50.0	30	50.0

Note: *f* = Frequency; % = Percentage ***n*** **=** 60

4. Instituto Nacional de Estadística y Geografía (INEGI). Estrategia Nacional para la Prevención del Embarazo en Adolescentes [internet]. INEGI. 2018 [citado 25 Octubre 2019]. Disponible en: http://cedoc.inmujeres.gob.mx/documentos_download/MHM_2018.pdf

5. Rosabal E, Romero N, Gaquín K, Hernández R. Conductas de riesgo en los adolescentes Revista Cubana de Medicina Militar [internet]. 2015 [citado 02 Noviembre 2019]; 44(2) 218-29. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S0138-65572015000200010&lng=es&nrm=iso

6. Favier MA, Samón M, Ruiz Y, Bonal AF. Factores de riesgos y consecuencias del embarazo en la adolescencia. Revista Información Científica [internet]. 2018 [citado 02 Noviembre 2019]; 97(1): 205-14. Disponible en: http://www.revinfcientifica.sld.cu/index.php/ric/article/ view/1805/3517

7. Secretaria de Salud de Nuevo León (SSNL). Enfermedades de transmisión sexual [internet]. SSNL. 2015 [citado 03 Noviembre 2019]. Disponible en http://saludnl.gob.mx/drupal/enfermedades -de-transmisión-sexual

8. González DR, Pérez J, Sarduy M. Infección por el virus del papiloma humano en mujeres de edad mediana y factores asociados. Revista Cubana de Obstetricia y Ginecología [internet]. 2014 [citado 03 Noviembre 2019]; 40(2): 218-32. Disponible en: http://scielo.sld.cu/scielo. php?script=sci_arttext&pid=S0138-600X2014000200009

9. Instituto Nacional de las Mujeres (INM). Estrategia Nacional para la Prevención del Embarazo en Adolescentes [internet]. INM. 2019 [actualizado 07 Enero 2019, citado 05 Noviembre 2019]. Disponible en: https://www.gob.mx/inmujeres/acciones-y-programas/estrategia-nacional-para-la-prevencion-del-embarazo-en-adolescentes-33454

10. Vásquez APM, de Clavero AYS, Solaeche FML. Sexualidad en la Adolescencia. Estudio de grupos focales. Multiciencias [internet]. 2018 [citado 07 Noviembre 2019]; 17(1): 81-9. Disponible en: https://produccioncientificaluz.org/index.php/multiciencias/article/ view/23616/23916

11. Actualidadrt [internet]. Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (UNESCO). 2015 [actualizado 17 Junio 2015, citado 15 Noviembre 2019]. Disponible en: https://actualidad.rt.com/rtpedia/177856-organizacion-educacion-ciencia-cultura-unesco

12.Montes DM, Gómez L. Socialización de la educación sexual en los estudiantes de la educación básica secundaria [tesis inédita de doctorado]. Universidad de la Costa [internet]. 2019; Disponible en: http://repositorio.cuc.edu.co/bitstream/handle/11323/5760/Socializaci%C3 %B3n%20de%20la%20educaci%C3%B3n%20sexual%20en%20los%20estudiantes%20de%20la%20educaci%C3%B3n%20b%C3%A1sica%20secundaria%20.pdf?sequence=1&isAllowed=y

13. Comisión Nacional de los Derechos Humanos (CNDH). NORMA Oficial Mexicana NOM-007-SSA2-2016; Para la atención de la mujer durante el embarazo, parto y puerperio, y de la persona recién nacida [internet]. CNDH. 2016 [actualizado 07 Abril 2016, citado 19 Noviembre 2019]. Disponible en https://www.cndh.org.mx/sites/all/doc/Programas/VIH /Leyes%20y%20 normas%20y%20 reglamentos/Norma%20Oficial%20Mexicana/NOM-007-SSA2-2016%20Embarazo,%20parto%20y%20puerperio.pdf

14. Burns N, Grove SK, Gray J. Investigación en enfermería: desarrollo de la práctica enfermera basada en la evidencia. España: Elsevier. 2016. 580pp.

15. Grove SK, Gray JR, Faan PR. Investigación en enfermería: Desarrollo de la práctica enfermera basada en la evidencia. Elsevier. 2019. 520pp.

16. Barreto-Osorio RV, Campos MS, Carrillo-González GM, Coral-Ibarra R, Chaparro-Díaz L, Durán-Parra M, et al. Entrevista Percepción de Carga del Cuidado de Zarit: pruebas psicométricas para Colombia. Aquichan [internet]. 2015 [citado 25 Noviembre 2019]; 15(3): 368-80. Disponible en: http://dx.doi.org/10.5294/aqui.2015.15.3.5

17. Espada JP, Guillén-Riquelme A, Morales A, Orgilés M, Sierra JC. Validación de una escala de conocimiento sobre el VIH y otras infecciones de transmisión sexual en población adolescente. Atención Primaria [internet]. 2014 [citado 27 Noviembre 2019]; 46(10): 558-64. Disponible en: http://dx.doi.org/10.1016/j.aprim.2014.03.007

18. Secretaría de Salud (SS). Reglamento de la Ley General de Salud en Materia de Investigación para la Salud [internet]. SS. 2014 [actualizado 02 Abril 2014, citado 10 Octubre 2019]. Disponible en: http://www.diputados.gob.mx/LeyesBiblio/regley/
Reg_LGS_MIS.pdf

19. Rodríguez AE, Sucño CM. Factores que influyen en el embarazo en adolescentes en el centro de salud Pedro Sánchez Meza Chupaca [tesis inédita de bachillerato]. 2016 [citado 10 Diciembre 2019]; Disponible en: http://repositorio.upecen.edu.pe/bitstream/UPECEN/68/1/T102_47799237_T.pdf

20. Valenzuela MT, Ibarra R, María A, Zubarew G, Correa ML. Prevención de conductas de riesgo en el Adolescente: rol de familia [tesis inédita de bachillerato]. Index de Enfermería [internet]. 2013 [citado 10 Diciembre 2019]; 22(1-2): 50-4. Disponible en: http://dx.doi.org/10.4321/S1132-12962013000100011.

21. Silva-Fhon J, Andrade-Iraola K, Palacios-Vallejos E, Rojas-Huayta V, Mendonça-Júnior J. Nivel de conocimientos y comportamientos de riesgo relacionados con infecciones de transmisión sexual entre adolescentes mujeres. Enfermería universitaria [internet]. 2015 [citado 11 Diciembre 2019]; 11(4): 139-44. Disponible en: https://www.redalyc.org/pdf/3587/358741841004.pdf

22. Contreras-González R, Magaly-Santana A, Jiménez-Torres E, Gallegos-Torres R, Xeque-Morales Á, Palomé-Vega G, Perea-Ortíz G. Nivel de conocimientos en adolescentes sobre el virus del papiloma humano. Enfermería universitaria [internet]. 2017 [citado 11 Diciembre 2019]; 14(2): 104-10. Disponible en: http://dx.doi.org/10.1016/j.reu.2017.01.002

23. Llanes HM, García D, Yedra M, Vargas Y. Intervención Educativa sobre infecciones de trasmisión sexual en adolescentes. Revista Cubana de Medicina General Integral [internet]. 2016 [citado 11 Diciembre 2019]; 32(4): 1-9. Disponible en: https://doi.org/10.31434/rms.v4i4.202

24. Descriptores en Ciencias de la Salud. Descriptor: Enfermedades Transmisibles. [internet]. s/f. Disponible en:
http://decs.bvs.br/cgi-bin/wxis1660.exe/decsserver/?IsisScript=../cgi-bin/decsserver/decsserver.xis&previous_page=homepage&task=exact_term&interface_language=e&search_language=e&search_exp=Enfermedades%20Transmisibles

25. Descriptores en Ciencias de la Salud. Descriptor: Conocimiento [internet]. s/f. Disponible en:
http://decs.bvs.br/cgi-bin/wxis1660.exe/decsserver/?IsisScript=../cgi-bin/decsserver/decsserver.xis&previous_page=homepage&task=exact_term&interface_language=e&search_language=e&search_exp=Conocimiento

26. Descriptores en Ciencias de la Salud. Descriptor: Adolescente [internet]. s/f. Disponible en: http://decs.bvs.br/cgi-bin/wxis1660.exe/decsserver/?IsisScript=../cgi-bin/decsserver/decsserver.xis&previous_page=homepage&task=exact_term&interface_language=e&search_language=e&search_exp=Adolescente

27. Descriptores en Ciencias de la Salud. Descriptor: Embarazo en Adolescente [internet]. s/f. Disponible en: http://decs.

bvs.br/cgi-bin/wxis1660.exe/decsserver/?IsisScript=../cgi-bin/decsserver/decsserver.xis&previous_page=homepage&task=exact_term&interface_language=e&search_language=e&search_exp=Embarazo%20en%20Adolescencia

28. Gorrotxategi, P. Desconocimiento de las enfermedades de transmisión sexual en los adolescentes. Pediatría Atención Primaria [internet]. 2009 [citado 17 Junio 2020]; 11(41), 171-174. Disponible en: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1139-76322009000100011