Original Research Article

Educational intervention in sexually transmitted diseases.

ABSTRACT

Objective: To identify the knowledge of Sexual Transmitted Diseases (STD) in adolescents before and after an educational intervention
Study design: quasi-experimental, longitudinal study.
Place and Duration of Study: This study was conducted in the Family Medicine Unite Number 6 of the Mexican Institute of Social Security, Puebla, Mexico during January to April in 2017.
Methodology: 151 patients were included in whom the knowledge level in sexual transmitted diseases were correlated. A study **test** was used to measure the knowledge in the anatomy and sexual physiology, STDs prevention and ant conceptive. Central tendency and dispersion measures were employed for numeric variables and frequency (proportions) measures for categorical measures.
Results: A total of 151 adolescents with **prevalence in 17 years old females** (58.9%) are female 17 years of age , 97.4% without partner and 74% without sex life. The knowledge after an educational intervention increased 10.6% in comparison to before the intervention. The statistical treatment was based on the Wilcoxon, resulting in a p=0.000.
Conclusion: The knowledge of STDs in adolescents increased after an educational intervention

Keywords: Sexual education, Adolescents, Infecciones de transmision sexual, Prevention.

1. INTRODUCTION

The Sexually Transmitted Diseases (STDs) in adolescents have increased in the last years due to the indiscriminate sexual practice and early sexual activity [1]. It is important to highlight that according to the reported statistics of 2014, there was 2.9 million young residents (15-29 years old), representing the 24.9% of the total population [2]. It is estimated that, annually 357 millions of people contract one of the next four STDs: chlamydia, gonorrhea, sifilis, trichomoniasis, and about 499 millions of people between 15 and 49 years old, are infected with one of the curable STDs: Chlamydia trachomatis, Neisseria gonorrhoeae, Treponema pallidum y Trichomona Vaginalis [3].

The sexually transmitted diseases are a group of pathologies that are acquired most part from sexual activities, however, there are some of these diseases which transmission mechanism is different such as the vertical transmission, use of some articles that contain secretions of carriers and even blood transfusions [4,3]. The STDs are caused by bacteria, virus and parasites, the Mexican Institute of social Security mentions that the main sexual transmitted diseases are trichomonas, chlamydia, candida, gonorrhea, syphilis, chancroid, herpes, condylomata accuminata, viral hepatitis and HIV/AIDS [5]. These diseases have become a key role in the society and in the medical field, day by day, more than 1 million of people contract a STDs [6]. It was found to be an increase of these infections in adolescents, more especially among those associated with **to** an

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Comment [SO1]: Stop this grammar (The sample was 151 adolescents with preponderance over17 years of female sex (58.9%), 97.4% had no partner and74% without a sex life)

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Comment [SO2]: What is this syphlis Syphilis.
is a systemic disease due to Treponema pallidum, it hasbeen classified as acquired or congenital.
Acquired syphilis (usually through sexual contact) is dividedinto early and late syphilis.
Early syphilis includes primary, secondary, and latent earlysyphilis

Comment [SO3]: What is the difference between contact and infected

the difference is that one sentence speaks generally of apopulation of 357 million any age, and is not specific and theother of a specific age
there is no difference in that word was to distinguish onesentence from another by the specific age group.

Comment [SO4]: It is not a pathology it and infectious process
Pathology (the typical behaviour of a disease).

early sexual activity without the adequate information about prevention and lack of knowledge about them [7].

The adolescents are an important groups in the **priority** population for sexual and reproductive health. The sexual education in this stage is vital and the educational activities with adolescents are an opportunity for them to receive reliable information and to clarify their doubts about sexual health related topics [8]. Regarding the aforementioned situation, for the knowledge about the topic, an evaluation instrument which is based in vigesimal scale to measure knowledge [9].

The sexual education has lacked an integral vision. The transmission of biologic aspects in reproduction and sexual abstinence promotion have been priority. This type of education should not only be based on a single course or lecture of textbooks and a new teaching program should be designed for easy comprehension and accessible. For example, the involvement of technologies and communication media on the design of prevention strategies, participation of parents on their children sexual education, investment in training and sensibilization of teachers and health professional, strengthen and provide programs for adolescent parents [10].

The counseling intervention and behavioral approaches represent the primary prevention for STDs, such as integral sexual education, orientation before and after the STDs tests, recommendations for safe sexual practices and risk reduction, promotion of condom use and intervention on key population groups, including sexual workers, homosexuals, IV drugs consumers and sexual education tailored to the adolescents needs.

The main objective of this study was to inform the adolescent population on these topics, as well as to identify the knowledge of sexual transmitted diseases in adolescents before and after an educative intervention.

2. MATERIAL AND METHODS

An interventional, quasi-experimental, longitudinal, ambilective and prospective study was conducted in an adolescent population between January 1st and April 30th, 2017. Non-probabilistic sampling of incidental type yielded a total of 151 patients who fulfilled inclusion criteria: both **genre**gender, 10-19 years old, patients of both outpatient clinic shifts and willingness. Variables were: genre, age, marital status, schooling and age of first sexual relation.

A questionnaire and modified Likert test were employed. The scale includes 35 items with dichotomic answers. This scale evaluates the knowledge level regarding the sexual transmission diseases, classifying as high knowledge scores between 24-35 points, midlevel 12-23 points and low 0-11 points. Additionally, it has a reliability index with a Crombach´s alpha of 0.65, considered as moderate reliability. Once the results were obtained, the results were analyzed with the statics program SPSS V20. A univariate analysis of the dependent and independent variables was performed, with central tendency and dispersion measures for the numeric variables and frequency measures for the categorical measures. As for the bivariate analysis, the statistical objective consisted in associating with Wilcoxon for the sexually transmitted diseases knowledge in adolescents before and after an educational intervention.

3. RESULTS

A test was used on a sample of 151 adolescents before the educational intervention with the objective to know the STDs knowledge before the aforementioned. Subsequently, an educative intervention was executed and emphasizing on the sections with low scores. Once the intervention was concluded, a new test was carried put to corroborate the acquired knowledge after the intervention.

Comment [SO5]: Please explain this statement It refers to the opportunity to learn about methods of protection, about how diseases are transmitted.
Since sexual health learning is often about the physiology ofthe organism and not ab out good sexual health.

Comment [SO6]: Please explain this statement It refers to the opportunity to learn about methods of protection, about how diseases are transmitted.
Since sexual health learning is often about the physiology ofthe organism and not ab out good sexual health.

Comment [SO7]: Why what is the reason for this statement?
sexual education is often only through boo ks but notworkshops, games, interviews or eye-catching mediasuitable with experts on the subject.

Comment [SO8]: What is this create awareness

Comment [SO9]: Among aldolescent or the general population
the general population we talk equally abo ut sex workershomosexuals and injecting drug users, we only focus moreon teens being the most vulnerable population and being the population we study

Comment [SO10]: Your topic is well known but the content and the context is what is of value to any body

Comment [SO11]: How was the simple size calculated

The 151 patients are adolescents who meet the incl usioncriteria in the clinic that was carried o ut

Comment [SO12]: What type of variable is this
The answer is yes and no. By definition, th e dichotomy hastwo parts.

The sociodemographic data yielded 58.9 female patients (89), mean age was 14.04, minimum age was 10 and maximum age 18 ± 2.69 years.

The greater number of patients were without partner (n=147), high school schooling (n=51); and most patients had yet to start a sex life. (n=112) [see table 1].

Table 1. Sociodemographic characteristics

Marital status	n	%
With partner	4	2.6
Without partner	147	97.4
Total	151	100
Schooling	n	%
Elementary	50	33.1
Junior High	50	33.1
High school	51	33.8
Total	151	100
Sexual Initiation Age	n	%
Yet to start	112	74.2
10	3	2
11	12	7.9
12	1	0.8
13	4	2.6
14	3	2
15	4	2.6
16	6	4
17	4	2.6
18	2	1.3
Total	151	100

There was an increase of 10.6% in high level of knowledge when comparing the results obtained before and after the intervention [see table 2].

Table 2. Comparative analysis of STD knowledge before and after an educative intervention.

Knowledge	Before intervention		After intervention	
	n	%	n	%
Midlevel	24	15.9	8	5.3
High level	127	84.1	143	94.7
Total	151	100	151	100

The Wilcoxon delivered a p=0.000, which rejects the null hypothesis which stated that there was no difference between the STDs knowledge in adolescents before and after an educational intervention.

4. **DISCUSSION**

Currently, the knowledge of STDs in adolescents is variable. It depends on the level of education, the learning achievement and the attention on certain topics.

A trial carried out in Mexico City in 2013 about the knowledge and behavior concerning the familiar planification and STDs in nursing students with a total of 300 students between 17 and 24 years old, mean age 20 years old $\pm$ 1.6 ds (27.9% males and 72.1% female); 78.7% were single, 11.5% married, 4.9% lived together and 4.9% were divorced [12]. In our study, the total sample was of 151 adolescents with mean age of 14.04 $\pm$ 2.69 DE, due to the fact that the focus was on high risk population of contracting a STD. There was 2.6% adolescents with partner and 97.4% without partner secondary to the age differences was found in both studies; in Mexico elder age sample was taken. In both investigations we found that the major part concert to those who doesn't have couple.

The knowledge about the STD lays on the prevention and information about treatment and counselling. In the 2013 study of the National Autonomous University of Mexico (UNAM) about the knowledge and attitude of college students regarding sexuality, the participants were between 20 to 30 years old, 609 women (61.3%) and 383 men (38.7%). The results were sexual initiation age of 17.3, with minimum age 8 and maximum 28 [13]. In our study, there were 62 males (41.1%) and 89 females (58.9%) and similar to the UNAM, there was a greater female population. This demonstrates that female genre is predominant in Mexico, therefore, based on the research, a special focus on this population must be directed due to being more vulnerable. Concerning the sexual initiation age in our study, the results were minimum age 10 (2%) and maximum 18 (1.3%). In Mexico an early initiation of sex life is consequence of the great cultural difference and the lack of attention from the family members. The age of initiation is prolonged more in our study, considering this as a favorable fact for a decrease in STDs. However, the maximum age is greater in the UNAM study, which is a result of the differences of level of schooling in Mexico. Additionally, the college students have a different perception of sexual activity compared to the adolescents.

The STDs are reported worldwide, hence, it is of great importance the analysis of these pathologies in order to detect risk factors and vulnerable population. For example, in Colombia, a 2013 paper "Prevalence of sexual transmitted diseases and risk factors for sexual health of adolescent students in Medellín, Colombia" was published. With a sample of 569 students, the more frequent risk factors were sexual initiation age before 15 years old (59.9%), non- regular use of condom (58.2%) or in the last sexual relation (41.7%), lack of proper information about sexual health (39.1%) [14]. As the aforementioned studies, in this one, the early sexual initiation prevailed, with minimum age of 11 years old (7.9% n:12). Comparing results, in our study most of adolescents had yet to initiate sex life (74.2% n:112), nevertheless, bias must be considered such as false information given by the adolescents out of fear of being caught by their parents since they signed the informed consent.

In Peru, the science Professor J. Silva-Fho conducted a research about the knowledge level and risk behaviors related to STDs in female adolescents, with a total of 286 women between 12 and 19 years old. Among the participants, single female between 14 and 16 years predominated, most of them had middle schooling. Although a third of this group are already in a relationship of some kind. The 85% of this population had no proper knowledge about STDs, the percentage of mild level knowledge increases as the age increases. Regarding the risk behaviors, the majority (56.3%) had their first sexual relation between 14 and 16 years old [15]. Among the adolescents in our study, the female sex predominated with a mean age of 14.04 years old and the school level was classified in the three basic levels of education in Mexico, which explains the great difference in knowledge. There was a greater score of knowledge in our research in younger adolescents and the achievement was greater which is reflected in the score obtained in the comparison analysis of before and after the intervention; there was an increase of 10.6% in high level knowledge. The predominant in schooling group was underage adolescents, probably attributable to the greater reception and mental capacity in this sample.

The persistence and insistence of the study of the adolescent population is due to the greater risk of exposition to STDs. Hence, in the 2014 study "Educational intervention in sexual transmitted diseases on third year junior high schoolers of the Los Jazmines de Naranjal School in Lima", a similar methodology was employed. A pretest was applied, followed by an educational intervention and concluded with a test to corroborate whether there is an increase in the level of knowledge after the interventions. It was found an increase of 77% of adolescent that reached a high level knowledge about Sexual Transmitted Diseases, only 23% reached midlevel compared to the pre-test and none with low level [15]. In our study similar scores were obtained because the knowledge of Sexually Transmitted Infections pre-intervention was 84.1% and when evaluating the knowledge of Sexually Transmitted Infection post educational intervention was 94.7% with an increase of 10.6 % for high knowledge. As in the Lima study the results were positive because no qualification was obtained with low level of knowledge after the intervention this reaffirms and assumes that when performing an educational intervention that is attractive and dynamic for the teen it will increase the degree of knowledge about STDs however it must be acknowledged that it is not only applicable for this topic but also for other topics of interest to the health sector such as adolescent pregnancy and family planning methods.

5. CONCLUSION

There is a difference between the level of knowledge of the Sexual Transmitted Diseases in teenagers before and after an educational intervention. After we apply the post-intervention test, the patients showed and great knowledge with a significant improvement, in some cases, they were convinced and conscientized by self's about the importance of know about Sexual Transmitted Diseases for the care of their bodies.

CONSENT (WHERE EVER APPLICABLE)

Not applicable.

ETHICAL APPROVAL (WHERE EVER APPLICABLE)

The ethics committee approved this study.

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DEFINITIONS, ACRONYMS, ABBREVIATIONS
None