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## Knowledge about HIV/AIDS on women's health: a descriptive study with undergraduates

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### ABSTRACT

**Aim:** to verify the information and knowledge about HIV/AIDS on women's health of students enrolled in the nursing undergraduate course at a public university of Sao Paulo state, Brazil.

**Method:** This is a descriptive study, initially assessing 56 nursing students studying Women's Health during the academic year of 1998/99. A further 51 students were assessed during 2010. The data was collected via a questionnaire, filled in by the students before a class regarding HIV/AIDS and women. This project was approved by the Ethics in Research Committee and by the Research Commission of the institution.

**Results:** A decrease in the degree of the student's knowledge was observed in 2010 in comparison to 1998/9. On the other hand, the 2010 respondents answered more questions regarding vertical transmission of the virus/disease correctly.

**Conclusion:** This study suggests that changing teaching strategies to include activities in the field, allowing early contact between students and clientele may be beneficial.

**Descriptors:** Nursing Education; Immune Deficiency Acquired Syndrome; Woman Health

## INTRODUCTION

Throughout the last three decades, the population profile affected by the Human Immunodeficiency Virus (HIV) and the Acquired Immunodeficiency Syndrome (AIDS) have changed in Brazil. Although in the 1980s the Brazilian society has mobilized with the non-governmental organizations trying to halt the proliferation of HIV/AIDS. These groups gave support to infected individuals and the press published information regarding the syndrome. However this did not generate enough action within the general public to effectively reduce the spread of the illness. The scientific community gradually became involved with the epidemic, generating research and directing the care of the sick. Women were not yet considered an important link in the chain of HIV transmission. The lay, scientific and legislative communities have not understood the importance of the role of women in the HIV/AIDS epidemic. In the following decades epidemiologic data confirmed the involvement of women in the chain of transmission. The Brazilian Ministry of Health only changed its perception of the illness when it was evident that the number of cases of AIDS was increasing. Therefore, there was a delay in defining the steps to control and prevent the disease and in treating the infected and sick. With regard to women's health, the legislation shows that after the mid-1990s legislators focused on vertical transmission as a direct consequence of the rise of HIV transmission in women. In this period, public policies were implemented to reduce vertical of HIV transmission in the country.

At the beginning of the next decade Brazil signed the United Nations Millennium Declaration, with clear goals and objectives to be achieved by 2015. The objectives were "combating HIV/AIDS, malaria, and other diseases" prioritizing the reduction of HIV/AIDS transmission. In the 2000s Brazil defined and implemented strategies to revisit the epidemic, focusing on women's health. Policies for the prevention, control and treatment of HIV/AIDS are designed to target various phases of life. This is especially true of policies regarding the sexual transmission of virus. As a consequence, the programs that

were defined and implemented by the health authority between 1998 and 2008 brought about some changes in the progress of the epidemic. In this period AIDS became a chronic disease due to treatments which enabled infected individuals to live longer and have a better quality of life.

Based upon the defined preventive standards, the nursing professional must perform as an agent in the process of caring for the population. They must promote events in health education in such a way as to promote the reduction of virus transmission. The health student, especially the nursing undergraduate, needs to know about the HIV/AIDS epidemic. They must be able to identify the disease and fulfill basic functions in the prevention of virus transmission and the treatment of the infected. However, to facilitate this it will be necessary to continually provide updates and information concerning this topic. This implies that information concerning HIV/AIDS must be amongst the content of undergraduate courses curricula and the sociocultural context of the students, in order to prepare them for the future.

In 1998/1999 a study of nursing undergraduates attending a public university observed that knowledge regarding HIV/AIDS and women's health was low<sup>(1)</sup>. In recent years further study of nursing undergraduate students enrolled in Women's Health courses at this institution, still showed low levels of knowledge regarding the topic. This situation motivated the implementation of this study in association with tuition of this topic in the classroom. The aim was to answer the following questions: have the nursing undergraduate students followed the evolution of knowledge concerning HIV/AIDS (specifically focusing on women's health) via the media between 1998/99 and 2010? Have they followed the epidemiologic evolution of HIV/AIDS?

This study aimed to verify the information and knowledge of the nursing undergraduate students' about HIV/AIDS on women's health.

## METHOD

This is a descriptive study, retrospectively assessing students' knowledge concerning HIV/AIDS and women's health. The study population comprised undergraduate students of nursing course, enrolled in the Women's Health Nursing subject at a public university in the state of São Paulo. Students at the end of the 1990s and the year 2010 were invited to fill out a form before a class concerning HIV/AIDS, in order to assess prior knowledge about the topic. The subject tutor asked for the students' consent to use the information gathered for scientific purposes. The sample is based on the 51 students that answered the survey of the 76 enrolled in the subject during the first and second semester of 2010. The other respondents were 56 students enrolled in the same subject during the second semester of 1998 and the first semester of 1999. The following inclusion criteria were utilized: respondents must be enrolled in the Women's Health subject, be present at the researchers HIV/AIDS class, have filled the pre-test form (data collection questionnaire) and have agreed to participate in the study.

Data collection was performed by students from the third to the sixth semester of the undergraduate nursing course, in May and October 2010. Preceding the class a questionnaire was distributed to the students present as a pre-test concerning the content to be taught in the session. These students were invited to participate in the study and to individually fill out the forms. The anonymity of the subjects was preserved and those that participated in the research in 2010 signed a Free and Clear Consent Agreement. The average time taken to fill the survey was ten minutes and there were no refusals to participate in this study. The questionnaire which was given to the students at the end of the 1990's<sup>(1)</sup> was modified by the addition of new questions. These concerned the epidemiologic evolution of HIV/AIDS during the intervening ten years, as well as findings in literature with a focus on women's health. The questionnaire is divided into two parts: Part I contained questions identifying the respondents (date, gender, college

semester and undergraduate study). Part II had 25 questions testing general understanding of HIV/AIDS, vertical transmission and AIDS in women's health.

The questions in Part II were answered by the respondent selecting one of three answers – correct, incorrect and I'm unsure. Correct answers were those that followed scientific standards and/or were procedures used by official programs to fight HIV/AIDS. The wrong answers were those that were against scientific standards. Data collection started after the approval of this project by the Ethics in Research Committee of the Nursing School of São Paulo University under protocol 902/2010. This was also approved by the Research Commission of the same institution, under protocol number 113/2010 following the principles in Resolution 196/96 for studies with human beings. The findings were organized in a double-entry databank using SPSS® and then presented in absolute and percentiles figures.

## RESULTS

The data gathered from 51 students in 2010 and 56 students from the 1998/1999 classes are presented in Table 1. This also describes the gender and academic status of the respondents at the time they filled the questionnaire.

**Table 1** – Sample data presented according to gender and academic status. São Paulo, 2010

Variables	1998/1999		2010		TOTAL	
	n=56		n=51		n=107	
	No.	%	No.	%	No.	%
<b>Gender</b>						
Female	56	100	47	92.2	103	96,3
Male	-	-	4	7.8	4	3,7
<b>Studied Semesters</b>						
Up to Fourth semester	26	46.5	22	43.1	48	44,8
From the Fifth semester	30	53.5	29	56.9	59	55,2
<b>Study areas</b>						
At least two	32	57.1	28	54.9	60	56,1
Only one	24	42.9	10	19.6	34	31,8
Studying first area	-	-	13	25.5	13	12,1
<b>Participation in Academic League</b>						
No	-	-	32	62.7	32	62,7
Yes	-	-	18	35.3	18	35,3
No answer	-	-	1	2.0	1	2,0

Source: Praça, 2011; generated by the authors, 2013.

\*a student can participate in more than one Academic League; \*\*Sexually transmitted diseases

The data in Table 1 shows that in 1998/99 100% of the respondents were females, whilst in 2010 this percentage was 92.2% (n=47). Of the total sample, 59 (55.2%) students were in the in fifth semester or higher. Exactly 60 (56.1%) students had studied at least two areas while 47 (43.1%) students had studied only one or were studying their first area during the undergraduate course. It is important to add that the areas of knowledge mentioned here are Adult's Health I and II, Child's Health and Women's Health. STD's are covered as part of Adult's Health II and this subject was studied by 18 students (35.3%). It is worth stating that 18 (35.3%) students participated in the Academic Leagues, some in more than one league. At the time of this research five were in the STD and Syphilis League. The Academic Leagues are formed of groups of students and professors that give assistance to patients with specific diseases, develop educational activities and run

lectures. Assistance is usually given after classes or during lunchtime. Normally, the

Praça NS, Freitas P, Kimura AF. Knowledge about hiv/aids on women's health: a descriptive study with undergraduates. Online braz j nurs [Internet]. 2013 June [cited year month day]; 12 (2): 359-76. Available from: <http://www.objnursing.uff.br/index.php/nursing/article/view/3831>. doi: <http://dx.doi.org/10.5935/1676-4285.20133831>

student joins one of the leagues after a test following the introductory course on the topic. The working field comprises the wards of hospital complexes around the college they attend. Another point of interest is that questions concerning participation in Academic Leagues were not present in the 1998/99 form, as at that time there were no students participating in those organizations.

The answers collected from the 2010 students based on the questionnaire used before the class on STD/AIDS are presented in Tables 2 and 3. These are organized into three topics: general knowledge, knowledge of women's health and knowledge of vertical transmission. Questions were presented to the students as statements which respondents could select as being correct, incorrect or unsure.



**Table 2** – Distribution of answers for the statements concerning general knowledge and women's health. São Paulo, 2010

Statements	Answers (n=51)					
	Correct		Incorrect		Unsure	
	n	%	n	%	n	%
<b>General information about HIV/AIDS</b>						
The first cases of AIDS were identified in the USA in 1986	16	31.4	14	27.5	21	41.1
The Epidemiologic Vigilance Center is notified of AIDS cases for all cases identified as HIV positive as well as those with signs of the illness	37	72.5	2	4.0	12	23.5
In Brazil, in a decreasing order of frequency, the occurrence of HIV infection occurs through sexual intercourse, blood-to-blood contact and vertical transmission	26	53.1	6	12.2	17	34.7
Vaccines to prevent HIV infection are in use	2	3.9	43	84.3	6	11.8
The presence of an STD makes the individual more vulnerable to HIV infection	36	72.0	7	14.0	7	14.0
Belonging to AIDS risk groups is an important factor in patients vulnerability to HIV infection	37	74.0	4	8.0	9	18.0
In Brazil, the annual rate of individuals contracting AIDS via hemo-transfusion is still high	5	10.0	23	46.0	22	44.0
<b>AIDS and women's health</b>						
If a woman is HIV positive she has AIDS	3	5.9	47	92.1	1	2.0
Symptoms of cervical cancer are often part of the classification of AIDS	1	2.0	44	88.0	5	10.0
A woman aged 60 years or more, who is sexually active, is not vulnerable to HIV infection	1	2.0	49	96.0	1	2.0
Partner infidelity is a major factor in heterosexual transmission of HIV to women in Brazil	37	74.0	3	6.0	10	20.0
Being the partner of a user of injectable drugs is the main cause of HIV infection among women	4	8.0	27	54.0	19	38.0
Women with little education use more contraception than those with a higher level of education	5	10.0	33	66.0	12	24.0
Women have difficulty in ensuring the use of contraceptives as a consequence of their fear of being abused or abandoned	46	92.0	2	4.0	2	4.0

Source: Generated by the authors, 2013

Table 2, demonstrates that some flaws are present in the knowledge of majority of the students. Particularly, regarding the year of the first reports cases of AIDS (n=16; 31.4%), the universal awareness of AIDS cases (n=37; 72.5%) and the existence of "risk groups" in AIDS epidemiology (n=37; 74.0%). Only one student answered the statement concerning the relationship between cervical cancer and AIDS. However, 84% (n=43) recognized that there were no vaccines to prevent HIV transmission: the difference between being a HIV positive and presenting AIDS (n=47, 92.1%); and the vulnerability of mature women (n=49; 96%). However, the data calls our attention to

the high percentage of students in doubt regarding the statements concerning: AIDS case notification and the most frequent pathways of transmission; the prevalence in users of injectable drugs; and the relationship between education and the use of contraceptives. It is important to state that in response to the questions involving matters of gender, the respondents supported as correct: the role of the infidelity of the partner; and the possibility of aggression and abandonment as factors influencing sexual transmission of HIV; and negotiation toward using contraception.

**Table 3** - Distribution of answers to questions regarding the vertical transmission of HIV, according to answer. São Paulo, 2010

Statements	Answers (n=51)					
	Correct		Incorrect		Unsure	
	n	%	N	%	n	%
<b>Vertical transmission</b>						
Vertical transmission of HIV is the transfer of the virus, via placenta, from the infected mother to the fetus	42	82.4	3	5.9	6	11.7
In Brazil, the possibility of a fetus becoming infected by HIV is non-existent	1	2.0	46	90.2	4	7.8
All newborns of HIV positive mothers present as HIV positive and have anti-HIV antibodies, in blood tests	4	7.8	31	60.8	16	31.4
Vertical transmission of HIV can occur during breastfeeding, labor, gestation and heterosexual intercourse	15	29.4	31	60.8	5	9.8
The risk of HIV transmission by breastfeeding is higher when the nursing mother is infected after the birth of the child, compared to women infected prior to birth.	1	2.0	32	62.7	18	35.3
The health professional must wear gloves if in contact with maternal vaginal secretions and in the period prior to the first bath of the newborn	41	82.0	5	10.0	4	8.0
All fetuses and newborn are immunologically active with regard to HIV	4	7.8	32	62.7	15	29.5
The recommendation of anti-HIV testing during pre-natal care for all expectant mothers aims to reduce vertical transmission	49	98.0	-	-	1	2.0
The fast anti-HIV test is used in the triage of the expectant mother during pre-natal care	22	44.0	14	28.0	14	28.0
The newborn, whose mother is waiting for the result of a fast anti-HIV test, should not be breastfed whilst the result of the test is not known	42	84.0	1	2.0	7	14.0

Source: Generated by the authors, 2013

In Table 3, a higher percentage of correct answers was observed for questions regarding vertical transmission of HIV (n=42; 82.4 %): the use of preventive standardized actions for mothers and newborns (n=41; 82%); the aim of anti-HIV testing during pre-natal care (n=49; 98%); and mothers not breastfeeding before the receipt of maternal anti-HIV test results (n=42; 84%). Statements which were marked as incorrect whilst in fact being correct related to: fetal vulnerability (n=46; 90.2%); the situation at birth for the child (n=31; 60.8%); the moment of vertical transmission (n=31; 60.8%); and the immunologic condition of the fetus/newborn (n=32; 62.7%).

In this set of statements, only the one concerning the "moment of maternal infection and breastfeeding" was incorrect (n=32; 62.7%). In this set, there were some significant questions regarding the statements in terms of the transmission of HIV (n=6; 11.7%): the situation at birth of the exposed child (n=16; 31.4%); the relationship between maternal infection and breastfeeding (n=18; 35.3%); the immunologic condition of the fetus/newborn (n=15; 29.5%); the aim of anti-HIV testing during pre-natal care (n=14; 28%); and mothers not breastfeeding whilst lacking the results of maternal anti-HIV tests (n=7; 14%).

Table 4 presents the questions asked in both - 1998/99 and 2010, as well as presenting the relative amount of respondents answering correctly for each statement. It is important to add that there was no "unsure" option in the 1998/9 questionnaire.



**Table 4** – Distribution of answers according to correctness and the year of the questionnaire. São Paulo, 2010

Statements	1998/1999 (n=56)				2010 (n=51)			
	Adequate		No answer		Adequate		Unsure	
	N	%	N	%	N	%	N	%
The first reports of AIDS occurred at the beginning of the 1980s	37	66.0	-	-	14	27.5	21	41.2
Notification of cases of AIDS and seropositive patients	8	8.5	-	-	2	3.9	12	23.5
Differentiation between being seropositive and having AIDS	7	12.5	-	-	47	92.2	1	2.0
Decreasing order of mode of HIV transmission by frequency	47	85.4	1	1.7	26	51.0	17	33.3
Inclusion of the diagnosis of cervical cancer in AIDS classification	1	1.7	3	5.4	1	2.0	5	9.8
Vertical transmission of HIV through the placenta	34	61.8	1	1.7	42	82.4	6	11.8
Percentage fetal infection risk, in Brazil	22	40.0	-	-	46	90.2	4	7.8
All newborns exposed to HIV have the virus and anti-HIV antibodies	48	85.7	-	-	31	60.8	16	31.4
Situations where vertical transmission of HIV may occur	43	76.7	-	-	31	60.8	5	9.8
Woman infected after labor has higher risk of vertical transmission during breastfeeding	5	9.3	-	-	1	2.0	18	35.3
Use of gloves when in contact with maternal body fluids, including the first bath of the newborn	52	92.8	-	-	41	82.0	4	8.0

Source: Praça, 2011; generated by the authors, 2013

Table 4 shows that there was a reduction in the number of correct answers in the majority of the statements in 2010 when compared to 1998/99. It is important to highlight the elevated percentage of “unsure” answers in statements concerning: the year of the first notifications of cases of AIDS in Brazil (n=21; 41.2%); the universal notification of subjects with HIV and AIDS (n=12; 23.5%); the decreasing number of occurrences of HIV infection in the country (n=17; 33.3%) and the affirmation that all newborns exposed to HIV had the AIDS virus and positive anti-HIV tests (n=16; 31.4%). There seem significant number of students who associated an increase in vertical

transmission via breastfeeding with situations where maternal infection occurred after the birth of the child (n=18; 35.4%).

The statement regarding the differentiation between a seropositive individual and one affected with AIDS received more correct answers in 2010 (n=47; 92.2%), compared to the answers given in 1998/99 (n=7; 12.5%). Other statements that received a higher amount of correct responses concerned vertical transmission of HIV/AIDS (n=42; 82.4%, in 2010 against n=34; 61.8%, in 1998/99) and the risk of fetal infection in Brazil (n=46; 90.2%, in 2010 against n=22; 40.0%, in 1998/99). Another important point, apparent in Table 4, is the low number of correct answers to the question regarding the inclusion of the diagnosis of cervical cancer in the classification of AIDS (only one respondent in either study). There is a deficiency in the students understanding concerning vertical transmission. Only five (9.3%) students in 1998/1999 and one (2.0%) in 2010 answered the question, concerning the infected woman after labor having a higher risk of vertical transmission during breastfeeding, accurately. It is considered satisfactory that the majority of students from both studies, appreciated the necessity of wearing gloves whilst in contact with maternal body fluids and during the first bath of the newborn (n=52; 92.8%, in 1998/1999 and n=41; 82.0%, in 2010).

## DISCUSSION

Generally, these results point to a lack of understanding regarding this topic in the current undergraduate nursing student cohort. Considering that, during the period between 1999 and 2010 there were no changes in the undergraduate course curriculum. This included the pedagogical process of the institution where these students were enrolled. We understand that there are gaps in the understanding of both groups compared here. It would be expected that the level of knowledge would have improved between 1999 and 2010. This would be due to currents in public health within this field and programs implemented by the health authorities since 2000.

The data show that the students of 2010 suggested the existence of "risk groups", as was observed at the end of the 1990s. They failed to demonstrate that findings in the epidemiology of the syndrome had resulted in the extinction of this arcane terminology. The concept of "risk groups" has been superseded by the modern concept of "individuals in risk situations". Another area that requires attention was the percentage of students opting for the alternative "unsure", which demonstrates insecurity and lack of knowledge regarding the topic. During the interval between the two studies, many studies concerning the topic were published in the scientific literature, linking the perception and the understanding of academics regarding HIV/AIDS. One of the publications dealt with the understanding of preventive steps against HIV infection and other STDs. It studied 182 academics from the healthcare community at São Paulo University, the study found a lack of knowledge concerning HIV/AIDS. The authors called the attention of senior academics to the importance of the topic, in order to enable them to take care of the clientele and to educate them as to the necessity of protection against STDs<sup>(2)</sup>.

Research using a group of thirteen nursing and medicine students from Piauí Federal University, found a reduced frequency of senior undergraduates who associated self-care and the prevention of STDs/AIDS. These students had access to technical handbooks and information regarding STDs/AIDS. The low score obtained by these students indicated a lack of understanding on the part of these students with regard to the importance of adherence to safe sex practices and the risks associated with unprotected. The conclusion of this research was that students have theoretical support and are provided with all guidance advised by the Brazilian Ministry of Health. These are transferred to the clientele however such actions are not enough to ensure that the students incorporate protective measures such as self-care. They must identify these as an efficient measure to control STDs/AIDS and to clarify doubts about the many types of contraception<sup>(3)</sup>.

Another qualitative study performed with six senior nursing undergraduates from a public institution in the city of São Paulo, concluded that the acquisition of knowledge must be

encouraged to prepare the future professional. They must be able to provide educational and healthcare support for the clientele, such as challenge-facing scenarios, in a format that is "modified on the basis of changes linked to the context of the patients' health"<sup>(4:66)</sup>. An international study, on 96 medicine students at the end of the second semester, showed a lack of knowledge regarding the transmission of HIV. This was implemented to determine effective practices, attitudes and responsibilities that increase the protection of patients against transmission of the virus<sup>(5)</sup>.

Another study, conducted in 2008 on 650 students at a university in the US Midwest showed that the majority (77.3%) were familiar with the characteristics of the epidemic including modes of transmission. Only 14.2% of the respondents demonstrated flaws in understanding regarding the modes of HIV transmission; 43.1% had doubts about drugs for the prevention of vertical transmission and 12% believed that such drugs did not exist. These students answered a questionnaire, 70.6% were females (age range between 18 to 30 years old). The authors concluded that there are deficiencies in the knowledge of some academics as to modes of transmission of HIV. They also suggested proactive approaches to modify this situation<sup>(6)</sup>. A descriptive study performed in Turkey, with 357 undergraduate students from the healthcare community aimed to assess the level of understanding of students regarding HIV/AIDS. It sought to evaluate their attitudes and behavior in relation to the epidemic and their perceptions regarding the importance of the illness, within national and worldwide contexts. This study concluded that there is a lack of basic and expressive information concerning AIDS as a public health issue<sup>(7)</sup>.

Another study performed with 139 students, from the fifth to the ninth semester of a dental clinic course, from a university in Benin City, Nigeria. It looked at the level of the students' understanding of HIV/AIDS. In this research, 100 students (71.9%) classified their understanding as high or very high. However, 51 (36.7%) did not feel ready to provide oral care to the individuals with HIV/AIDS in the future. The majority of the

respondents believed that the health professional is under a higher risk of infection than sex professionals. Of the respondents 94 (67.7%) did not know of any prophylaxis post-exposure to HIV and 122 (87.8%) did not know any prophylactic protocol established by the hospital, a unit of the University. The study concluded a gap between the perception of the understanding regarding the illness and the daily practice. Furthermore, it suggested there should be a combination of efforts to change individuals' perception. These would be the implementation of a curriculum, which contributed to the students' understanding ensuring the safety of the clientele<sup>(8)</sup>.

Another study that showed a discrepancy between what students perceived about their knowledge and the reality. Nurses and 30 nursing academics were studied during their extracurricular internship in a public hospital in the city of Belo Horizonte, Brazil. The study investigated the perceptions of the subjects about their professional competencies. The results showed that the nurses presented needed more support than the academics in terms of their professional competencies. This finding was possibly due to the different levels of maturity between the groups. However, the answers from the students concerning their perceptions regarding "knowing how to mobilize" and "knowing how to learn" had lower scores compared to the averages of the other statements. The authors suggested the ability "to know how to learn" should be better understood by the students to fulfill the aim of enhancing their learning and changing their behavior<sup>(9)</sup>.

We agree with other authors when they assert that undergraduate courses emphasize the biomedical studies of HIV/AIDS whilst neglecting preventive approaches. In this respect, it is fundamental the role of the University to prepare future professionals. Students must be prioritized because they are young and they require the largest degree of intervention in educational actions regarding this topic<sup>(10)</sup>. A study reflecting on the work of teachers in implementing the curricula of nursing and medicine courses in a public university in Rio de Janeiro, discussed the verticalization of the relationship between the student and teacher. This study considered affection and emotion as being



prejudicial to learning. This mechanical view of the world prioritizes neutrality and quantification. This reaches a level that excludes subjectivities from Academia generating a lack of a wider, more integrated view of the whole of society<sup>(11)</sup>. We believe that this condition is one of the sources of the results found in our study.

One of the limitations of this research is the low number of interviewed subjects, in both studies, which generates a deficit in the correlation of the findings. On the other hand, even if we recognize that the results match the reality of what we observe at our university, we believe this research is relevant as it replicates studies in other teaching institutions. This study may enable a survey of specific situations outlining strategies to implement action plans regarding AIDS and women's health. We also believe that this research aggregates knowledge helping to further the practice of nursing as a science.

## CONCLUSION

The data acquired reflect the context of modern society which is in constant and rapid transformation. The diversified flux of information harms the development of a depth of understanding of topics, even though they are necessary to prepare the future professional. Students seem to be better informed regarding vertical transmission, for which preventive measures were defined and implemented in the mid-1990s. Despite that, policies created to promote women's health based on the AIDS epidemic after the year 2000 have not entered the academic understanding of the nursing undergraduate. The epidemiology demonstrates an increasing prevalence of the syndrome in the female segment of the population.

Together with empiric observation, we hoped that the current nursing student would be more informed about the AIDS epidemic based on the fact we live in a globalized world. As well as having a better understanding of the strategies of intervention defined in the period of twelve years between the two samples of this study. However, the data

reinforce the findings of other studies, which demonstrate that students do not incorporate the increasing amounts information offered about the syndrome. We believe that the solution to the lack of understanding demonstrated in our research can be solved with academic instruction. This would enable a higher level of participation of students who may have questions concerning the process of health-illness. It is necessary to involve them in the daily routine of health institutions and communities. This should help during their academic life and improve their level of patient contact within the contexts where infection takes place.

Based upon what we have exposed here, we also believe that new teaching-learning strategies used by undergraduate courses will contribute to reducing the gaps found in the students' understanding of AIDS in women's health. These will also help to motivate students to learn the topic given the importance it has.

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