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Escola de Enfermagem Alfredo Pinto – UNIRIO

INTEGRATIVE REVIEW OF THE LITERATURE

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## SEXUAL BEHAVIOR OF POST-MODERN WOMEN AND SEXUALLY TRANSMITTED INFECTIONS: A REVIEW STUDY

*Comportamento sexual de mulheres pós-modernas e as infecções sexualmente transmissíveis: um estudo de revisão*

*Comportamiento sexual de mujeres posmoderno e infecciones de transmisión sexual: estudio de revisión*

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### ABSTRACT

**Objective:** to identify the scientific evidence available in the literature on the risky sexual behavior of women and the relationship with the occurrence of Sexually Transmitted. **Method:** integrative review of articles available in full, obtained from PubMed, EBSCO, Lilacs and Web of Science databases. Controlled descriptors and keywords “women” or “woman” or “female”, “sexually transmitted disease/transmission” or “sexually transmitted diseases/transmission” and “risky sexual behavior” or “unsafe sex” were used. **Results:** 794 studies were identified. Of there, thirteen studies composed the sample. Evidence showed that multiple sexual partners; the use of mobile apps to recruit partners; women who have sex with women regardless of sexual orientation; age disparity in relationships; intergenerational relationships are risky sexual behaviors among women. **Conclusion:** presence of new sexual risk behaviors among post-moderns women. Identify new and old risky sexual behaviors is critical for screening for sexually transmitted infections.

**DESCRIPTORS:** Women; Sexual behavior; Health risk behaviors; Sexually transmitted diseases; Nursing.

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## RESUMO

**Objetivo:** identificar as evidências científicas disponíveis na literatura sobre os comportamentos sexuais de risco de mulheres e a relação com a ocorrência de Infecções Sexualmente Transmissíveis. **Método:** revisão integrativa de artigos disponíveis na íntegra, obtidos nas bases PubMed, EBSCO, Lilacs e Web of Science. Foram utilizados descritores controlados e palavras-chave “women” ou “woman” ou “female”, “sexually transmitted disease/transmission” ou “sexually transmitted diseases/transmission” e “comportamento sexual de risco” ou “unsafe sex”. **Resultados:** foram identificados 794 estudos. Desses, treze estudos compuseram a amostra. As evidências mostraram que múltiplos parceiros sexuais; o uso de aplicativos móveis para recrutar parceiros; mulheres que fazem sexo com mulheres independente da orientação sexual; disparidade de idade em relacionamentos; relacionamentos intergeracionais são comportamentos sexuais de risco entre mulheres. **Conclusão:** presença de novos comportamentos sexuais de risco entre as mulheres pós-modernas. Identificar os novos e velhos comportamentos sexuais de risco é fundamental para o rastreamento das infecções sexualmente transmissíveis.

**DESCRITORES:** Mulheres; Comportamento sexual; Comportamento de risco à saúde; Doenças sexualmente transmissíveis; Enfermagem.

## RESUMEN

**Objetivo:** identificar la evidencia científica disponible en la literatura sobre el comportamiento sexual de riesgo de las mujeres y la relación con la ocurrencia de Infecciones de Transmisión Sexual. **Método:** revisión integradora de artículos disponibles en su totalidad, obtenidos de las bases de datos PubMed, EBSCO, LILACS y Web of Science. Se utilizaron descriptores controlados y palabras clave “women” o “woman” o “female”, “sexually transmitted disease/transmission” o “sexually transmitted diseases/transmission” y “comportamento sexual de risco” o “unsafe sex” se utilizó. **Resultados:** se identificaron 794 estudios. De estos, trece estudios comprendieron la muestra. La evidencia mostró que múltiples parejas sexuales; el uso de aplicaciones móviles para reclutar socios; mujeres que tienen relaciones sexuales con mujeres independientemente de su orientación sexual; disparidad de edad en las relaciones; las relaciones intergeneracionales son comportamientos sexuales de riesgo entre las mujeres. **Conclusión:** presencia de nuevos e comportamientos sexuales de riesgo entre mujeres posmodernas. Identificar comportamientos sexuales de riesgo nuevos y antiguos es fundamental para la detección de infecciones de transmisión sexual

**DESCRIPTORES:** Mujeres; Comportamiento sexual; Conductas de riesgo para la salud; Enfermedades sexualmente transmisibles; Enfermería

## INTRODUCTION

Sexual behavior is the result of learning from unintentional social relationships, mostly not involving affective and psychological dimensions associated with sexual activity. It is understood that depending on the cultural aspect, historical, social, and life context of each person, sexual behavior can bring negative and undesirable repercussions to the individual and others, such as pregnancy and the acquisition of Sexually Transmitted Infections (STI), including the human immunodeficiency virus (HIV).<sup>1-2</sup>

In recent years, changes in sexual behavior have favored the increase in the prevalence of STIs, especially HIV.<sup>3</sup> Non-adherence to condom use and multiple partners represent the main sexual risk behaviors. Regarding women, the non-use of condoms with new partners, a very common practice, has increased considerably. Social issues and gender inequality must be valued when talking about female sexual risk behavior.<sup>3-4</sup>

Over the years, sexual behaviors express the transformations in human behavior changes and in the history of STIs, whether in their epidemiological profile or in the actions for confronting them.<sup>5</sup> Although the highest prevalence of cases is concentrated in males, in recent decades there has been an increase in cases among women, which demonstrates the presence of sexual risk behavior associated with changes in the sociocultural context and

modernity, especially through the use of social networks, such as the use of mobile applications for recruiting sexual partners.<sup>6-7</sup> Moreover, it is known that negotiation for the practice of safe sex is still restricted, given that the woman's power to reduce or eliminate risk is limited by her partner, and others still treat trust and fidelity as elements linked to protection.<sup>7-8</sup>

It is also added that most women do not identify themselves as a group and with behaviors considered to be at higher risk for the development of STIs, making it more difficult for them to perceive the risk and adopt preventive measures.<sup>9</sup>

In view of the above, and considering that the issue of women's sexual risk behaviors is little investigated, even in the international context, the interest in conducting this review is justified. The results of this review can improve knowledge of women's sexual and reproductive health needs, consequently, qualifying care and seeking means for these women to understand their vulnerability to STIs.

Thus, in view of the change in women's sexual behaviors and the importance of recognizing them as being at risk for the development of STIs, this review aims to identify the scientific evidence available in the literature on women's sexual risk behaviors and their relation to the occurrence of STIs in the context of post-modernity.

## METHOD

A descriptive research of the integrative literature review (ILR) type was carried out, which makes it possible to explore the literature broadly and with methodological rigor, in addition to analyzing and synthesizing scientific knowledge about the object of study through the results of previous research, as well as identifying gaps that must be filled by conducting new studies.<sup>10-11</sup>

This integrative review followed essential steps for its development: identification of the topic and selection of the review question; establishment of eligibility criteria; search and identification of studies in scientific databases; extraction of data from the studies; evaluation of selected studies and critical analysis; synthesis of review results; evaluation and interpretation of results; and presentation of data in the integrative review structure.<sup>12</sup>

The PECOT strategy (acronym for patient, exposure, comparison, outcomes and time)<sup>13</sup> was used to construct the question, where P – patient/population (women), E – exposure (sexual risk behavior evidenced in the literature), C – control/comparison (not applicable to this study), O – outcome (STI involvement and transmission), T – time (period from 2014 to 2020). The development of this ILR had as a research question: What is the scientific evidence about women's sexual risk behaviors and the relationship with STIs?

The literature search for the primary studies was conducted via internet in the following databases: Medical Literature Analysis and Retrieval System Online (Medline via PubMed), Ebsco, Latin American and Caribbean Literature on Health Sciences (Lilacs) and Web of Science. Searches occurred in December 2020.

To ensure a broad and thorough search, the controlled descriptors and keywords were delimited in the Thesaurus according to each database, i.e., Medical Subject Headings (Mesh) and Health Sciences Descriptors (DeCS). The boolean AND and OR indicators were used. For the search in the Lilacs database, in addition to the Boolean operators, the qualifiers were used as presented in the following chart (Chart 1).

For the selection of primary studies in this review, the inclusion criteria adopted were: primary studies, analytical design in which the authors investigated sexual behaviors for STI transmission in women; research published in Portuguese, English or Spanish; and in the last five years (December 1, 2015 to December 1, 2020). There was a time limit to ensure the adequate number

of studies, since a large number of primary studies would make it unfeasible to conduct the following steps of the review.

The studies were systematically included using the Preferred Reporting Items Systematic Review and Meta-Analyses (PRISMA) method.<sup>14</sup> Initially, to choose the studies that would integrate the sample, the titles and abstracts of the articles extracted in the search were read and analyzed by one of the authors. In the next step, the articles were read in their entirety by two researchers independently, with the purpose of accessing the appropriation of the review question, and then proceeding with the extraction of the data of interest for the study. In case of disagreements of opinions in the analysis of the articles, the researchers met and reached a consensus.

Figure 1 shows the flow chart of the selection of the primary studies.

The extraction of information from the articles occurred from a structured collection instrument. For each article in the final sample of this review, the study identification form was filled out after translation and exhaustive reading, allowing information collection in a systematic way by peers. The information of interest was: study title, authors, database where the publication was located, journal, year of publication, objective, study design, target audience, and sexual risk behaviors associated with STIs. Thus, the results were presented descriptively by means of a summary table (Chart 2), allowing an overview of the main findings among the studies selected for this ILR.

To identify the quality of evidence of the studies extracted for this ILR, the classification adopted by Melnyk & Finout-Overholt et al. was used, which contemplates seven levels.<sup>15</sup>

## RESULTS

The study resulted in the analysis of 13 articles. Regarding the country of origin, three studies were developed in the United States, two in the United Kingdom, Colombia and Spain, respectively, and one each in China, Chile, Portugal and Great Britain. Regarding the strength of the evidence obtained in the articles, 13 studies with level of evidence IV were found, 11 being cross-sectional studies and two cohort studies.

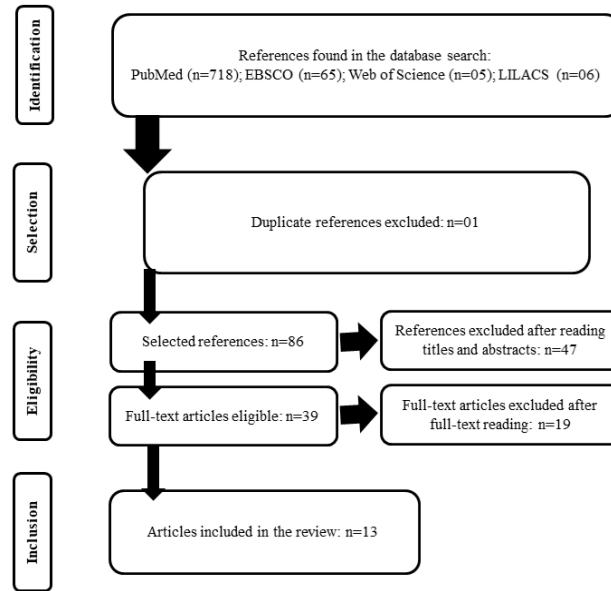
The synthesis of the findings was made by the similarity of the themes, and the main results were summarized according to the topics: Sexual behavior related to the use of licit and non-licit drugs; Sexual behavior related to multiple partnerships; Sexual behavior related to the practice of condom use; Sexual behavior related to age. Chart 2 presents the studies according to

**Table 1** – Search strategies in PubMed, EBSCO, Lilacs and Web of Science databases, João Pessoa, Paraíba, 2020.

Databases	Search Strategies	Identified Publications
PubMed	women OR woman OR female AND sexually transmitted disease/transmission OR sexually transmitted diseases/transmission AND Comportamento Sexual de Risco OR unsafe sex ... [Mesh]	718
EBSCO	women OR woman OR female AND sexually transmitted disease/transmission OR sexually transmitted diseases/transmission AND Comportamento Sexual de Risco OR unsafe sex ... [Mesh]	65
Lilacs	mulher OR mulheres AND doença sexualmente transmissível/transmissão OR doença de transmissão sexual/transmissão OR infecções sexualmente transmissíveis/transmissão AND comportamento sexual de risco OR sexo de risco OR sexo desprotegido ... [DeCS]	06
Web of Science	women OR woman OR female AND sexually transmitted disease OR sexually transmitted diseases AND Comportamento Sexual de Risco OR unsafe sex ... [Mesh]	05

Source: Study data.

**Figure 1** – Flowchart of the selection of primary studies – Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) – Diagram Flow. João Pessoa, Paraíba, 2020.



Source: Study data.

authors, year of publication, objectives, sample characterization and sexual risk behaviors.

**DISCUSSION**

The studies that comprised this review, which deal with women's sexual risk behaviors for the development of STIs, were produced mostly by cross-sectional studies. All of them were classified as level of evidence IV. It is noteworthy that the best scientific evidence is obtained in research with high methodological quality, due to the ability to gather information that supports clinical decision-making.<sup>16</sup>

In this study, certain STI risk sexual behaviors such as: non-use of condoms; early sexual initiation; multiple sexual partners; use of alcohol and other drugs; sex work and/or exchanging sex for money or drugs, are portrayed in the studies and their relationship to STIs is recognized as proven by scientific evidence.<sup>17-18</sup>

However, from the studies surveyed, we observed women's sexual risk behaviors that, until then, have been little discussed in the scientific literature: the use of the Internet to recruit sexual partners; women who have sex with women; age disparity in relationships; intergenerational relationships, inserted in the topics partnership-related sexual behavior and; age-related sexual behavior of table two.<sup>19-20</sup>

**Table 2** – Description of the production of knowledge about the sexual behaviors of women associated with the prevalence of Sexually Transmitted Infections, according to authors, year of publication, objectives, characterization of the sample, sexual risk behaviors. João Pessoa, Paraíba, 2020.

Authors/ Year	Goals	Showcase	Sexual Risk Behavior
Hotton et al., 2017	Analyze people who inject drugs and their sexual and support networks	Men (106) and women (56) who inject drugs in Chicago– USA	<b>A:</b> Women were significantly more likely (<0.01) to report sex in exchange for money or drugs than men (66% vs. 4%). <b>B:</b> Women (43%) reported >2 partners in the 6 months and men (30%); Women were significantly more likely (<0.01) to have partners with unknown HIV status (34% vs. 9%).
Friedman et al., 2017	Describe the behavior, partnerships, and sexual risk settings of young opioid users	Men (307) and women (153) who use opioids non-medically in New York City – USA	<b>B:</b> 10% of women reported sex with other women in the past 90 days, 56% of women reported sex with other women in their lifetime; 12% of women reported group sex at a sexual event. <b>C:</b> 13% of women reported that a condom was always used in the past 90 days during vaginal sex and 3% (1 of 29) during anal sex.
Villar-Loubet et al., 2016	Analyze demographic data, sexual self-efficacy, self-esteem, acculturation, and HIV as correlates of unprotected sexual intercourse	HIV-negative women (514) from South Florida – USA	<b>B:</b> Women had statistically high association between unprotected intercourse and switching sex. <b>C:</b> In the past 12 months, the odds of unprotected anal intercourse increased (AOR = 1.63; 95% CI = 1.08, 2.45) with increasing attributions of sexual relationship power to the male partner.

Table 2 – Cont.

Costa et al., 2018	Assess HIV knowledge, risk perception, and sexual behavior	Women (177) considered at risk for STIs in Portugal	<b>C:</b> Catholic women practicing religion more frequently reported condom use in anal sex than women not practicing religion (M = 0.023 vs. 0.000; Z = - 2.016; p = 0.044);
Villegas-Castãno et al., 2016	Establish STI prevalence and risk factors in public school students in Medellín	Male (315) and female (254) public school students in Medellín – Colombia	<b>B:</b> History of 3 or more sexual partners (30.6%) in the past 12 months, sex with people other than the formal partner (18.8%). <b>D:</b> Sexual intercourse before age 15 (59.9%); Partners ten or more years older than them (20.4%).
Mueses-Marín et al., 2018	To describe the perceptions of sexual risk, HIV and testing in people with risky sexual practices and in heterosexual people	Men (471) and women (468) in two groups (G1: traditional risk; G2: not belonging to the traditional risk group) in Cali – Colombia	<b>B:</b> Group 1 (19%) and group 2 (1%) live with a person with HIV (<0.001). Group 1 (33%) and Group 2 (8%) know or suspect that their current/former partner has/had HIV (<0.001). <b>C:</b> 32% of Group 1 and 9% of Group 2 say they used condoms during sexual relations in the last 12 months (<0.001). <b>A:</b> Group 1 (52%) and Group 2 (38%) had sex after drug use (<0.001); Group 1 (32%) and Group 2 (3%) exchanged sex for benefits (<0.001).
Tanton et al., 2018	To describe the characteristics of care at sexual health clinics of people who reported unsafe sex in the past year	Sexually active men (4819), sexually active women (6668) in Great Britain – United Kingdom	<b>B:</b> >2 partners in the past year (79.7%); 8.4% of women had group sex in the past year; 9.1% sought sexual partner on the internet in the past year. <b>C:</b> 15% of participants had unsafe sex in the past year. <b>D:</b> At least 1 partnership with a 5-year difference in the previous year; Women who had sex before age 16.
Pérez-Morente et al., 2017	To determine the risk factors associated with sexual behavior in the population assisted at an STI control center	Men (277) and women (219) with suspected clinical history of STI from Granada – Spain	<b>B:</b> 3-5 partners (23,8%) e 2 partners (17.3%) in the last year; Bisexual women(1.4%) or homosexual women (0.8%). <b>C:</b> Most had condomless contact between 1 and 3 weeks before consultation (16.5%); 1-3 weeks condomless oral sex 7 (1.4); 1-2 months condomless oral sex 3 (0.6); >2-6 months condomless oral sex 4 (0.8); >6-12 months condomless oral sex 1 (0.2).
Irarrázabal et al., 2016	To identify the relationship between substance use and HIV risk behaviors in women who reported substance use	Women (203) who used some substance in the last 3 months from Puente Alto and La Pintana – Chile	<b>B:</b> Reported more than one sexual partner in their lives. In the past three months, 6.9% report having between 2 and 3 sexual partners. <b>C:</b> 95.6% report some unprotected sexual intercourse; 76.9% report all sexual intercourse is unprotected. <b>A:</b> 100% of the women reported having abused alcohol or drugs before a sexual relationship, of these 39.5% had unprotected sex; 2.0% traded sex for drugs or money.
Moure-Rodríguez et al., 2016	To determine the incidence of alcohol and condomless sex and the association with heavy alcohol and cannabis use	University students followed for five years (517) in Santiago de Compostela – Spain	<b>A:</b> Women reported Sex under the influence of alcohol; Cannabis use in women was associated with condomless sex.
Baifeng Chen et al., 2016	Identify personal profiles and risk behaviors among injecting drug users	Men (718) and women (198) from Maanshan detoxification centers – China	<b>A:</b> Syringe sharing was positively associated with inconsistent condom use; unprotected commercial sex in the previous year.
Sonnenberg et al., 2015	Describe the epidemiology of MG and explore it as a potential STI	Men and women (4828) tested for MG in Great Britain – United Kingdom	<b>B:</b> Same-sex experience involving genital contact 3.1%. These women were more likely to test MG positive (OR 2.80; 1.09-7.22).
Mitchell et al., 2015	Describe the prevalence of use of medications to aid sexual performance and identify associated factors	Men (6863) and women (7067) aged 16 to 74, living in Great Britain	<b>B:</b> >3 partners in the last year; Strong associations with using the Internet to find a partner in the last year. <b>A:</b> Strong associations with paying for sex. <b>C:</b> Two or more partners and no reported condom use in the past year. <b>D:</b> Before age 16.

**Legend:** A – Sexual behavior related to the use of licit and non-licit drugs; B – Sexual behavior related to multiple partnerships; C – Sexual behavior related to the practice of condom use; D: Age-related sexual behavior.

**Source:** Data from the study.

The considerable number of women who at some point in their lives exchanged sex for money or drugs or were sex workers confirms the vulnerability of this group to infections.<sup>9</sup> One survey showed that women with longer time in prostitution showed a significant association with client use of the male condom. However, these women use condoms with their clients, but not with their steady partners.<sup>21</sup>

Moreover, stable relationships and living in the same household as the partner may justify risky sexual behaviors such as neglecting to use condoms and sharing injecting drug materials with sexual partners.<sup>22</sup> A study identified that despite the elderly

stating a favorable attitude toward condom use, they did not use them in their stable relationships.<sup>23</sup> A survey with college students identified that the less frequent use of condoms presented statistically significant results with the variable stable relationships and that female students used condoms less frequently compared to men when practicing vaginal and anal sex.<sup>24</sup>

Regarding multiple sexual partners and early sexual debut for this study, multiple partnerships were considered to be more than one sexual partnership in the last 12 months<sup>18</sup> and early sexual debut, before the age of 15.<sup>19</sup>

Behavior such as having multiple partners is recognized as risk behavior by women when asked about their vulnerability to STIs<sup>25</sup> and legitimized in studies that relate multiple partners and testing positive for an STI.<sup>18,26</sup>

A study developed in Sweden, when analyzing women's sexual behavior over 25 years, showed that the average number of lifetime sexual partners increased (4.0 in 1989 to 12.1 in 2014; and in the last 12 months from 1.0 in 1989 to 2.8 in 2014) and condom use decreased in relationships with new partners.<sup>27</sup>

Early sexual initiation in women is associated with higher risk of pregnancy and as a result, low educational level, financial dependence, and new pregnancy in the following years.<sup>28-29</sup> Moreover, a study developed with school adolescents sexually active before the age of 15 years evidenced as one of the risk factors for STIs (59.9%).<sup>19</sup>

Among the women's risk behaviors briefly mentioned in the studies and hitherto little discussed are: digital tools for sexual partner recruitment, as well as women having sex with women, age disparity in relationships, and intergenerational relationships.

Free or low-cost social media and mobile apps have brought communication opportunity to much of the population that has access to the internet. These devices are increasingly sought after for providing anonymity, casual relationships, and the pursuit of sexual partnerships, increasing the risk of STI exposure.<sup>30</sup>

Research developed with African women in late adolescence showed that relationships with multiple partners were associated with sexual independence and a strategy to expand financial resources, exchanging sex for money. This identified Mozambican women recruiting sexual partners through apps as a way to enjoy the benefits of economic emancipation.<sup>31</sup> However, there is evidence of risk for early pregnancy, early marriage, and consequent intergenerational sex<sup>32</sup> perpetuating low female purchasing power.<sup>33</sup> Another study in Great Britain on sexual attitudes, practices, and behaviors found that the non-attendance of women interviewed at sexual health clinics was associated with reporting more than one sexual partner (50.7%), anal sex (81.2%), and using the internet to recruit partners (9.1%).<sup>20</sup>

Women who have sex with women (MSM) have long been considered low risk for acquiring and transmitting HIV and other STIs. However, the number of MSM is growing and represents not only women who self-identify as lesbian or gay and have sex only with women, but also bisexual women and women who self-identify as heterosexual but have sex with other women.<sup>34</sup>

In addition, this group engages in sexual behaviors with the exchange of bodily fluids that can transmit HIV or STIs to partners. These behaviors include oral sex, receptive vaginal sex, or anal finger play, genital-to-genital rubbing, and sharing sex toys.<sup>35</sup>

Furthermore, in research conducted with a group of women who had sexual experience with other women involving genital contact, they were more likely to test positive for *Mycoplasma genitalium* infection (OR 2.80; 1.09-7.22), and this association remained after adjustment for age and number of partners.<sup>36</sup>

Age disparity in relationships refers to those with an age difference between sexual partners of five years and intergenerational

relationships are relationships in which there is an age disparity of 10 years or more; both are risk factors for STIs.<sup>34</sup>

A higher average age is often presented by female partners. Although this condition is frequent, it should be evaluated with caution, as it can generate a situation of vulnerability. Since this age difference makes the negotiation of sexual activity, condom use, and the decision for contraceptive methods more inflexible.<sup>37</sup> This age difference is another risk factor for STI prevalence.<sup>19</sup>

## CONCLUSION

The present IR allowed the construction of a synthesis of scientific knowledge about women's sexual risk behaviors that contribute to the development of STIs. Moreover, the evidence points to risk behaviors for STIs common to urban regions and the postmodern world, such as the use of mobile applications, alcohol consumption, and illicit drugs. This scenario contributes to the risk of STI transmission and, consequently, to maintaining the chain of transmission of these infections.

Throughout history, women have been conquering their autonomy in all senses: sexual, moral, political, and family. All this change is the result of the transformation of intimacy and of the new conceptions of individual rights promoted by the complexity of relationships in post-modernity.

Sexual behavior is part of women's sexual health and requires timely and individualized treatment. Thus, health professionals need to be trained to deal with this problem, with an integral approach to STDs, especially to reduce the incidence among women.

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