Original Article

Use of hormonal contraceptives by prostitutes: a correlation with social vulnerability markers

Uso de anticoncepcionais hormonais por prostitutas: correlação com marcadores de vulnerabilidade social

Uso de anticonceptivos hormonales por prostitutas: correlación con marcadores de vulnerabilidad social

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Abstract
Objective: To analyze the correlation between use of hormonal contraceptives by prostitutes and social vulnerability markers.

Methods: Descriptive, inferential, and cross-sectional study, with a quantitative approach, carried out with 69 women from the Bahia productive bushland microregion in April 2017. It involved the completion of a form, applied at the women’s workplace and Family Health Strategy units, with questions about social vulnerability markers and adherence to hormonal contraceptives. Analysis of the variables was run by using the correlation test, Pearson’s r test, and Student’s t test.

Results: There was a statistically significant correlation between use of hormonal contraceptives and the following social vulnerability markers: level of education, self-declared skin color, religion, satisfaction with the profession, and use of condoms. Student’s t test resulted in two samples, r and p, with equivalent variances.

Conclusion: The identification of social vulnerability markers can help implement health and intersectoral interventions, as well as make access to health services feasible, so human rights related to reproductive and sexual health are guaranteed, taking into account the specificities of these women as a socially vulnerable group.

Keywords
Sex workers; Contraception; Reproductive health; Sexual health

Descritores
Profissionais do sexo; Anticoncepcionais; Saúde reprodutiva; Saúde sexual

Descripores
Trabajadores sexuales; Anticoncepción; Salud reproductiva; Salud sexual

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Introduction

The interface between reproductive and sexual health is an important aspect in the sphere of human rights, especially for women.(1) Reproductive health may be defined as the state of physical, psychic, and social well-being that allows human beings to enjoy a safe and satisfactory sex life, with autonomy to decide whether they want to have children, the number of children, and the adequate moment for their conception. Sexual health, in turn, refers to safe and pleasant sexual experiences, which may be separate from conception, that is, reproductive health.(2)

An important factor that contributes to the dissociation between reproductive and sexual health is the use of contraceptives, such as hormonal ones, in their different administration routes (oral, subdermal implant, transdermal patch, intramuscular, vaginal, and intrauterine system).(3) Prostitutes are among sexually active people who opt to use this type of method.(4) These women belong to social minority groups and are vulnerable because of the conditions they are exposed to.(5,6) It is important to emphasize that prostitutes are women that dedicate to sexual activities in exchange for money, turning these activities into their profession.

The main social vulnerability markers for prostitutes are related to socioeconomic data (age, low income, and education), routine of the profession (exposure to sexual violence by some clients and the possibility of having an unintended pregnancy), social prejudice, fear of seeking health services because of the stigma of their profession, deficit of professional training for suitable care to this public, difficulty in implementing adequate programs oriented toward sexual health and, most importantly, toward reproductive health and autonomy.(7-10)

Most studies on prostitutes focus on analyzing the relationship between these social vulnerability markers and sexual health. However, there is a deficit of studies establishing the relationship between these variables and reproductive health, especially the use of hormonal contraceptives, although these women occasionally get pregnant as a consequence of their professional activity.(11)

Analysis of these markers allows to increase the knowledge about the characteristics of this population group and improve health actions targeting it, with the implementation of public policies to support unintended pregnancies and abortion prevention, especially by encouraging the use of condoms in combination with hormonal contraceptive methods.(12)

The hypothesis of the present study is that there is a correlation between adherence to use of hormonal contraceptives among prostitutes and markers of age, level of education, self-declared skin color, religion, use of condoms, satisfaction, and time working as a prostitute. The objective of the present investigation was to analyze the correlation between social vulnerability markers and use of hormonal contraceptives by prostitutes.

Methods

Descriptive, inferential, and cross-sectional study, with a quantitative approach. The investigation was developed with prostitutes from the municipality of Guanambi, in the Bahia productive bushland microregion, Brazil, who met the following inclusion criteria: being at least 18 years old, being professionally active, and either making use of any type of hormonal contraceptives or not. The non-probability, convenience sample had 69 women. Because the group is subject to social invisibility, there are few quantitative records about it, in both regional and national levels, which makes it impossible to estimate the total population.

The approach to the studied women occurred with the help of the Screening and Counseling Center and two community health workers of the municipality where the investigation was developed. Data collection was individual and happened in April 2017 in closed rooms at two Family Health Strategy units, located near the women’s workplaces. A visit to the workplaces was scheduled for the women who could not go the units.
Students of the undergraduate nursing course were trained by the first author of the present study and applied, in his presence, a form containing questions on social vulnerability. The form was made up of independent variables (X): age, level of education, self-declared skin color, and religion (sociodemographic data); use or not of condoms, satisfaction, and time working as a prostitute (professional data). Adherence to hormonal contraceptives was the dependent variable (Y). A pilot test was carried out with eight people in the sample to test the suitability of the form for the present study.

The r correlation and Pearson’s p test were used to verify the correlation between the variables, both independent and dependent, with a level of significance equal to 0.05 and a confidence interval equal to 95%. The r correlation test checked the correlation between the variables X and Y. Pearson’s p test was applied to validate the correlation of the r test and explain the behavior of this correlation. During comparison, it was evaluated whether r and p were higher or lower than the 0.05 level of significance. Values higher than 0.05 would indicate that there was no correlation between the variables, and the null hypothesis (H0) would have to be accepted, whereas values lower than 0.05 would point to the existence of a correlation between the variables, and the alternative hypothesis (H1) would have to be accepted.

After application of both correlation tests, r and p, the results were paired and submitted to Student’s t test to verify whether the revealed correlations could be validated statistically. The parameter considered to accept the correlations (H0) or reject them (H1) was the value of “one-tailed P(T<=t)” higher than the level of significance or “one-tailed P(T<=t)” lower than the level of significance, respectively.

The investigation was approved by the Research Ethics Committee of the Guanambi Higher Education Center as per protocol no. 2.007.080/2017. All the participants signed a free and informed consent form, and their anonymity was guaranteed by the use of a numerical registration for their identification.

## Results

Most of the participants in the present study were between 18 and 35 years old (78.26%), had a low level of education (53.62%), reported to have black skin (59.42%), were Catholic (55.07%), had been working as prostitutes for less than five years (68.12%), were not satisfied with the profession (55.97%), and used condoms (63.77%) and hormonal contraceptives (66.66%), as shown in table 1.

### Table 1. Sociodemographic characteristics adapted as social vulnerability markers of prostitutes

<table>
<thead>
<tr>
<th>Variables</th>
<th>Absolute frequency (n)</th>
<th>Relative frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (18 to 24 years)</td>
<td>21</td>
<td>(30.43)</td>
</tr>
<tr>
<td>2 (25 to 34 years)</td>
<td>33</td>
<td>(47.83)</td>
</tr>
<tr>
<td>3 (35 to 50 years)</td>
<td>13</td>
<td>(18.84)</td>
</tr>
<tr>
<td>4 (over 50 years)</td>
<td>2</td>
<td>(2.90)</td>
</tr>
<tr>
<td>Level of education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Elementary school)</td>
<td>37</td>
<td>(53.62)</td>
</tr>
<tr>
<td>2 (High school)</td>
<td>32</td>
<td>(46.38)</td>
</tr>
<tr>
<td>Self-declared skin color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (White)</td>
<td>28</td>
<td>(40.58)</td>
</tr>
<tr>
<td>2 (Black)</td>
<td>41</td>
<td>(59.42)</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Catholic)</td>
<td>38</td>
<td>(55.07)</td>
</tr>
<tr>
<td>2 (Other)</td>
<td>31</td>
<td>(44.93)</td>
</tr>
<tr>
<td>Time working as a prostitute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (&lt; 1 year)</td>
<td>17</td>
<td>(24.64)</td>
</tr>
<tr>
<td>2 (&gt; 1 and &lt; 5 years)</td>
<td>30</td>
<td>(43.48)</td>
</tr>
<tr>
<td>3 (&gt; 5 and &lt; 10 years)</td>
<td>12</td>
<td>(17.39)</td>
</tr>
<tr>
<td>4 (&gt; 10 years)</td>
<td>10</td>
<td>(14.49)</td>
</tr>
<tr>
<td>Satisfaction with prostitution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Yes)</td>
<td>29</td>
<td>(42.03)</td>
</tr>
<tr>
<td>2 (No)</td>
<td>40</td>
<td>(57.97)</td>
</tr>
<tr>
<td>Use of condoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Yes)</td>
<td>44</td>
<td>(63.77)</td>
</tr>
<tr>
<td>2 (No)</td>
<td>25</td>
<td>(36.23)</td>
</tr>
<tr>
<td>Use of contraceptives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Yes)</td>
<td>46</td>
<td>(66.66)</td>
</tr>
<tr>
<td>2 (No)</td>
<td>23</td>
<td>(33.34)</td>
</tr>
</tbody>
</table>

The r test showed a correlation between the use of hormonal contraceptives and the following variables: level of education, self-declared skin color, religion, satisfaction with prostitution, and use of condoms, and the correlation was confirmed with the application of Pearson’s p test. Among these variables, level of education and self-declared skin color showed negative and inversely proportional results in relation to the dependent variable (adher-
Use of hormonal contraceptives by prostitutes: a correlation with social vulnerability markers

The practice of prostitution is regulated by the Brazilian Ministry of Work and Employment by means of the Brazilian Classification of Activities 5198-05, which describes it as a regulated occupation for men and women that exercise their sexual functions in exchange for money, with no emotional bond between the people that carry out the intercourse. (13)

Despite the formal registration of the profession, these women do not have guaranteed labor rights regarding their sexual and reproductive health, because they usually work informally. They are subject to their own responsibility and the consequences of the practice, such as unintended pregnancies and/or abortions. (14) Therefore, these consequences, often resulting from not using hormonal contraceptives or using them incorrectly, have a relationship with some social vulnerability markers. (5,15,16)

Concerning age, for instance, some studies show that the prevalence of unintended pregnancies and abortions in young prostitutes is higher than in those who are older, because the former lack knowledge about the correct use of hormonal contraceptives. Because of the deficit of access to health care and the fact that they make little money, they use condoms less often with regular partners or clients. (17-20) Studies show that older women, in turn, have higher chances of using hormonal contraceptives because they already have children and have greater knowledge and access to this contraception method. (4,9)

In the present study, the number of young women (18 to 34 years) who used hormonal contraceptives is higher than the number obtained for older women, which differs from the results of the investigations mentioned previously. It is likely that the medium size of the municipality, which makes these women easily recognizable, the greater access to health services, and the greater care provided in these places contribute to preventing unintended pregnancy in these women.

Regarding level of education, the prostitutes who attended school for more years have information that allows them to have autonomy and opt able to develop policies and orient interventions and educational actions that meet these women’s needs, valuing their specificities.

The limitation of the present study refers to the low number of published articles directly related to the combination of descriptors “profissionais do sexo” (sex professionals, in Portuguese) and “anti-concepcionais” (contraceptives, in Portuguese). The correlations found in the sample emphasize the reality of this population group in a medium-sized municipality, whose number could not be measured, which limits generalizations. It is necessary to test the hypothesis in other regions, increase the number of participants, and consider gender analysis to establish a consensus regarding the analyzed variables.

The results of the present study may contribute to understanding the relationship between the sexual and reproductive health of prostitutes and use of hormonal contraceptives in the prevention of unintended pregnancies and the implications of adherence to the method in the routine of the profession. Using these findings, managers, researchers, and health professionals, especially nurses, will be

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**Table 2. Table of correlations between social vulnerability markers and use of hormonal contraceptives by prostitutes**

<table>
<thead>
<tr>
<th>Vulnerability markers</th>
<th>Use of contraceptives</th>
<th>Pearson’s r</th>
<th>p test</th>
<th>Level of significance (0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>r = 0.17174</td>
<td>p = 0.17174</td>
<td>p test &gt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Level of education</td>
<td>r = -0.01574</td>
<td>p = -0.01574</td>
<td>p test &lt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Self-declared skin color</td>
<td>r = -0.01616</td>
<td>p = -0.01616</td>
<td>p test &lt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td>r = 0.01329</td>
<td>p = 0.01329</td>
<td>p test &lt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Time working as a prostitute</td>
<td>r = 0.44414</td>
<td>p = 0.44414</td>
<td>p test &gt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Satisfaction with prostitution</td>
<td>r = 0.00536</td>
<td>p = 0.00536</td>
<td>p test &lt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Use of condoms</td>
<td>r = 0.01926</td>
<td>p = 0.01926</td>
<td>p test &lt; 0.05</td>
<td></td>
</tr>
</tbody>
</table>

Student’s t test was applied to verify whether the correlations between the independent variables and the dependent variable were statistically significant, and showed acceptability between them, given that the values of one-tailed and two-tailed P(T<=-t) were higher than the level of significance, equal to 0.05.

**Discussion**

The present study refers to the low number of published articles directly related to the combination of descriptors “profissionais do sexo” (sex professionals, in Portuguese) and “anti-concepcionais” (contraceptives, in Portuguese). The correlations found in the sample emphasize the reality of this population group in a medium-sized municipality, whose number could not be measured, which limits generalizations. It is necessary to test the hypothesis in other regions, increase the number of participants, and consider gender analysis to establish a consensus regarding the analyzed variables.

The results of the present study may contribute to understanding the relationship between the sexual and reproductive health of prostitutes and use of hormonal contraceptives in the prevention of unintended pregnancies and the implications of adherence to the method in the routine of the profession. Using these findings, managers, researchers, and health professionals, especially nurses, will be able to develop policies and orient interventions and educational actions that meet these women’s needs, valuing their specificities.
to prevent unintended pregnancies, with use of hormonal contraceptives either in isolation or combined with other contraception methods. At the national sphere, prostitutes have a low level of education, but in the Brazilian Northeast region the situation is more critical, given that the number of years of formal education is even lower, in addition to the women’s low social class and the absence of professional training, making it difficult to pursue a career with a higher social status.

The participants of the present study had a low level of education, which may be related to them beginning to work as prostitutes at a young age. Once they enter the job market, barriers such as lack of motivation and physical tiredness emerge and help increase dropout rates. However, despite their low level of education, these women adhered to hormonal contraceptives. It is likely that an intersectoral action between health teams and social work have contributed to this adherence, through active searches.

Most prostitutes examined in the present study were black, which corroborates the findings reported in other Brazilian studies. It is usually observed that, in the intersectionality between gender and race, prejudice and discrimination against black women that practice prostitution are more evident and lead to a growth in violence and little adherence to hormonal contraceptives, which increases the women’s exposure to social vulnerability. However, regarding use of condoms, black prostitutes use this barrier method more often when compared with the Brazilian population.

Religious conduct is another marker that influences women’s vulnerability, because it impacts on human sexuality, imposing strict rules of control over their bodies and valuing female submission after marriage. Although prostitutes keep their beliefs and faith, they are not inserted in this moral rule, because the rent of their body is socially recognized as a form of personal profit, linked to sin and family destruction, which leads to spiritual death.

In Brazil, prostitution is even more controversial, especially because of the transition in religious hegemony from the Catholic to the Protestant church. It is estimated that Protestants will prevail by 2040. The fulfillment of their ethical and moral values is demanded more intensively by the internal and external communities, implying stronger repression to prostitution.

Data collected in the present study are similar to those reported in other investigations in showing the correlation between religion and use of hormonal contraceptives. The former may be a social instrument that influences society’s behaviors and ideas, but the examined group showed to not be affected regarding the restriction to use hormonal contraceptives. Most of the participants declared to be Catholic, but either they were non-practicing or they did not follow religious rules strictly.

Concerning the prevailing time working as prostitutes, from one to five years, the result matches the number mentioned in another Brazilian study. Time working as sex professionals is usually not very long, given that prostitutes are exposed to several factors that impair keeping the activity. One of these problems is the decrease in self-esteem, which is lost as women face humiliation, sexual violence, and deprivations. Regarding the option of beginning to work as prostitutes, most report financial need, financial satisfaction, and the fact that they like sexual activity.

The option of keeping working as prostitutes may be related or not to professional satisfaction. Some women find no satisfaction in prostitution, as pointed out in the present study, and some declare that what satisfies them is the profit. This explains why most of them resort to hormonal contraceptives, given that by doing so they prevent unintended pregnancies, do not miss working days, and consequently do not have a decrease in their income. Other factors such as freedom, autonomy, and a flexible schedule influence satisfaction with prostitution.

The prevalence of use of condoms with clients by the prostitutes examined in the present study (66.66%) was similar to the Brazilian rate (69%), according to data from the Ministry of Health. The present study shows that use of this barrier method has a proportional correlation with use
of hormonal contraceptives, given that there is a linear increase between the two variables. Similar results are emphasized in another Brazilian investigation carried out in the municipality of Pau dos Ferros, in the state of Rio Grande do Norte, with sex professionals.\(^{(29)}\)

The regular use of condoms is important to these women, because it leads to greater protection against unintended pregnancies and sexually transmitted infections between sex partners, especially in relationships that do not involve emotional bonds.\(^{(13)}\) However, experiencing problems when using the method, such as breakages, leaks, or permanence of the object inside their bodies after intercourse may contribute for them to resisting to use it.\(^{(26,30)}\) For most women who have a steady relationship, that is, have an emotional and sexual partner, not using condoms during intercourse is common.\(^{(5)}\)

**Conclusion**

Level of education, self-declared skin color, religion, satisfaction with the profession, and use of condoms were the social vulnerability markers that showed correlation with adherence to use of hormonal contraceptives among prostitutes that work in the productive bushland area of the Brazilian Northeast region. By identifying this correlation, the present study stresses the need to implement health and intersectoral interventions, as well as make access to health services feasible, so human rights regarding reproductive and sexual health are guaranteed, taking into account prostitutes’ specificities as a socially vulnerable group.

**Collaborations**

Couto PLS, Gomes AMT, Pereira AB, Carvalho JS, Silva JK, and Boery RNSO declare they contributed to the study conception, data analysis and interpretation, writing of the manuscript, critical review of its intellectual content, and final approval of the version to be published.

**References**