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Sexual function in Brazilian female adolescents and young adults: a cross-sectional study

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SUMMARY

OBJECTIVE: The aim of this study was to investigate and compare the sexual function of Brazilian adolescents and young women who were using popular contraceptive methods.

METHODS: This cross-sectional study took place in 2012–2014 in a free family planning clinic of a tertiary teaching hospital in Brazil. Participants were female adolescents (10–19 years) and young adults (20–24 years) who were using barrier (condom) or hormonal contraceptive methods. The Female Sexual Function Index questionnaire was used to assess the sexual function in the last 4 weeks.

RESULTS: A total of 199 women (128 adolescents and 71 young adults) were included. There were no significant differences in the mean total Female Sexual Function Index scores of adolescents and young adults (26.6±5.7 versus 27.6±6.2, respectively, p=0.264). Compared to young adults, adolescents had significantly lower mean scores for orgasm (3.9±1.5 versus 4.4±1.4, p=0.020) and dyspareunia (4.4±1.6 versus 5.2±1.5, p=0.001; lower scores indicate more dyspareunia). There were no significant differences in the proportion of adolescents versus adults classified as being at risk for sexual dysfunction (38.3 versus 42.3%, p=0.651) or at risk of low desire (18.0 versus 21.1%, p=0.579).

CONCLUSION: Nearly 40% of Brazilian female adolescents and young adults are at risk for sexual dysfunctional symptoms and 19% have low desire, without significant differences between the two age groups.

KEYWORDS: Sexuality. Sexual behavior. Women health. Contraception. Adolescent.

INTRODUCTION

Adolescents, defined by the World Health Organization as individuals between 10 and 19 years of age, represent almost one-fifth of the world population[1]. Adolescence is a period of many physical, cognitive, emotional, and behavioral changes associated with a desire for autonomy and new behaviors. Along with experimentation of alcohol, drugs, and tobacco use, many adolescents also start sexual activity, a behavior that can expose them to sexual and reproductive risks including infections and unplanned pregnancy[2]. The experience of sexual activity also exposes vulnerable young people to personal and emotional conflicts[3,4].

In Latin America, 22% of adolescents report to have had their first sexual intercourse before 15 years of age, not always consciously and safely[5]. This first experience, in most cases, is associated with anxiety due to fear of not responding to the expectations of the sexual partner, insecurity, social pressure, and the choice of a meeting place that is often inadequate[5,6]. Adolescent girls from less affluent families, and with an older first partner, are more likely to report negative feelings regarding their first intercourse experience[7]. In young girls, negative feelings about the first sexual intercourse have been associated with a worse quality of life[8].

Some studies have reported an increase in the use of contraceptive methods at first sexual intercourse, but many young individuals do not use any contraception and continue to have unsafe sex[9]. Condoms and oral hormonal contraceptives are the most frequent contraceptive methods used by young people[9,10].

The existing evidence suggests that many adolescents may have difficulties in sexual experiences that can be related to a lack of knowledge about human sexuality[3,5,7-10]. There are few studies on the prevalence of sexual dysfunction in adolescents and none in Brazil[4].

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The aim of this study was to investigate and compare the sexual function of Brazilian adolescents and young adults who were using popular contraceptive methods. We hypothesized that adolescents would have worse female sexual function scores than young adults.

METHODS

This cross-sectional study involved female adolescents and young adults managed at a large public family planning clinic in Brazil. Recruitment occurred for 18 months (October 2012–April 2014). All participants gave written informed consent, and the study was approved by the Ethics Committee of Federal University of São Paulo, Process no. 97.969, on September 14, 2012.

Potential participants were approached by the main investigator while waiting for their regular visits at the Family Planning Clinic. Inclusion criteria were: adolescents (10–19 years) and young adults (20–24 years), users of combined hormonal (oral or injectable) or barrier (male condom) contraceptive methods. Only adolescents and young women having an exclusive sexual partner in the last month were eligible to participate. Information about the purpose and procedures of the study was explained to each participant, and written informed consent was signed by the participants and legal guardians. Confidentiality and anonymity of data were ensured. We excluded non-native Portuguese speakers, women with visual or auditory deficiencies, or unable to read a written questionnaire due to low literacy. Those who fulfilled the selection criteria and agreed to participate received two written questionnaires to be answered individually and anonymously. The first questionnaire included personal data, socioeconomic status, and gynecological characteristics. The second questionnaire was the Brazilian version of the Female Sexual Function Index (FSFI) that was used to assess female sexual function[11]. They filled out the questionnaires in the waiting room of the clinic with the first author available for questions in a nearby corridor. The completed questionnaires were placed in individual unidentified envelopes and returned to the main investigator.

The FSFI is a self-responsive questionnaire with 19 multiple-choice questions divided into 6 main domains. The Brazilian version of this questionnaire has good internal consistency (Cronbach's alpha 0.791–0.914)[11]. The FSFI evaluates phases of the sexual cycle (desire, arousal, and orgasm), sexual satisfaction, and dyspareunia in the last 4 weeks[11]. Individual scores for each question vary from 0 to 5, except for desire that varies from 1 to 5. Domain scores are obtained by adding individual question scores and multiplying these by a specific factor. Higher domain scores indicate better performance in the specific area, except for the dyspareunia domain where higher scores indicate less dyspareunia. The six domain scores are added to obtain a total FSFI score which ranges from 2 to 36, with higher scores indicating a better sexual function. A total score ≤26 suggests a risk for sexual dysfunction. Only the desire domain has an established cutoff; it is scored on a 10-point scale, with final score ≤5 indicating sexual desire dysfunction symptoms. The FSFI is accepted as a valid tool to measure female sexual function and has previously been used in studies involving young women[12].

Participant characteristics were presented descriptively and compared between groups (adolescents and young adults) using two-tailed Student's t-test or chi-square test. Differences in mean FSFI total and domain scores between the two age groups were assessed using the Student's t-test. Differences in the prevalence of women at risk for sexual dysfunction in adolescents versus young adults were assessed using the chi-square test; $p<0.05$ were considered significant. Statistical analyses were performed using Stata, version 12 (Stata Corp., College Station, TX, USA).

RESULTS

A total of 211 women were invited and agreed to participate in the study, but 12 were excluded because they were not with an exclusive sexual partner during the last month. Therefore, the study included 199 participants (128 adolescents and 71 young adults). The mean age was 19.7 years, with 17.4±1.5 years for adolescents and 22±1.6 years for young adults. Most were Catholic, single, of mixed race, unemployed, and had at least 8 years of formal education. Over 75% of the participants had no children and lived in households with three or more persons. Adolescents were more likely to be single, less educated, unemployed, nulliparous, and live in households with more inhabitants than young adults (Table 1).

Adolescents had a significantly lower mean age at menarche and at sexual initiation than young adults. Adolescents also had significantly fewer sexual partners, less time of sexual activity with their current partner, and less time of current contraceptive use than young adults. Over two-thirds (68.8%) of the adolescents and over three-fourths (76.1%) of the young adults used hormonal contraceptives (Table 2).

There were no significant differences in the mean total (±standard deviation) FSFI scores of adolescents and young adults (26.6±5.7 versus 27.6±6.2, respectively, p=0.264). Adolescents had significantly lower mean orgasm (3.9±1.5 versus 4.4±1.4, p=0.02) and dyspareunia scores (4.4±1.6 versus

5.2±1.5, p=0.001) than young adults. Lower dyspareunia scores indicate more dyspareunia. The domain with the lowest mean score among adolescents was orgasm (3.9). Among young adult women, the lowest mean score was in the desired domain (4.2) (Table 3).

A total of 79 participants (39.7%) were at risk for sexual dysfunction symptoms (total FSFI score ≤26), and 38 participants (19.1%) had scores indicative of low desire (desire domain score <5). There were no significant differences in the proportion of adolescents versus adults classified as being at risk for sexual dysfunction (total FSFI ≤26) (38.3 versus 42.3%, p=0.651) or at risk of low desire (18.0 versus 21.1%, p=0.579). The prevalence of these disorders did not differ significantly according to the contraceptive method used (Table S1).

The contraceptive method was evaluated in relation to the six domains of sexual function, both in adolescents and young adults, and there was no statistically significant result (Table S2).

DISCUSSION

We found that nearly 40% of young Brazilian female adults and adolescents were at risk for sexual dysfunction according to Wiegel's classification[13], without significant differences between the two age groups. Similarly, 41.6% of 144 Canadian

Table 1. Main characteristics of the included participants.

Variable	Adolescents N=128	Young adults N=71	p-value
Age (mean, SD)	17.4±1.5	22.0±1.6	<0.0001*
Religion			
Catholic	59 (46,1)	37 (52,1)	0.265†
Protestant	37 (28,9)	13 (18,3)	
Other/none	32 (25.0)	21 (29.6)	
Marital status			
Single	103 (80.5)	46 (64.8)	0.017†
Married/common law marriage	25 (19.5)	25 (35.2)	
Race			
Black	23 (18.0)	9 (12.6)	0.253†
Mixed	64 (50.0)	31 (43.7)	
White	41 (32.0)	31 (43.7)	
Employment			
Employed	37 (28.9)	38 (53.5)	0.001†
Unemployed	91 (71.1)	33 (46.5)	
Education (years)			
≤8	9 (7.0)	3 (4.2)	<0.0001†
8<12	109 (85.2)	41 (57.7)	
≥12	10 (7.8)	27 (38.1)	
Parity			
0	109 (85.1)	47 (66.2)	0.002†
1	17 (13.3)	17 (23.9)	
2 or more	2 (1.6)	7 (9.9)	
Total number of persons living at home			
1	1 (0.8)	6 (8.5)	0.007†
2	24 (18.7)	18 (25.4)	
3 or more	103 (80.5)	47 (66.1)	

*Student's t-test. †Fisher's exact test. Values presented as N (%) or mean ± standard deviation (SD).

Table 2. Gynecological characteristics of the included participants.

Variable	Adolescents N=128	Young adults N=71	p-value
Menarche (years)	11.8±1.4	12.4±1.3	0.003*
Age at initiation of sexual activity (years)	14.8±2.0	16.2±2.2	<0.0001*
Time of sexual relationship with current partner (months)	14.8±14.6	25.1±21.0	0.0004*
Median	12	24	
Minimum–maximum	1–60	1–81	
Time of use of current contraceptive method (months)	18.1±17.7	48.5±35.4	<0.0001*
Median	12	48	
Minimum–maximum value	1–96	1–132	
Number of sexual partners			
1	63 (49.2)	21 (29.6)	0.006†
2	25 (19.5)	12 (16.9)	
≥3	40 (31.3)	38 (53.5)	
Current contraceptive method			
Oral hormonal contraceptives	51 (39.8)	39 (55.0)	
Monthly injectable contraceptive	37 (28.9)	15 (21.1)	
Condom	40 (31.3)	17 (23.9)	0.132†

*Student's t-test. †Fisher's exact test. Values presented as N (%) or mean ±standard deviation (SD).

Table 3. Sexual function of adolescents and young adults according to the Female Sexual Function Index questionnaire.

Domain	Adolescents N=128	Young adults N=71	p-value*
Desire†	4.1±0.9	4.2±1.1	0.514
Arousal‡	4.5±8	4.8±4.8	0.673
Lubrication‡	4.1±1.6	4.5±1.5	0.081
Orgasm‡	3.9±1.5	4.4±1.4	0.020
Satisfaction§	5.1±1.1	4.9±1.3	0.275
Dyspareunia‡	4.4±1.6	5.2±1.5	0.001
Total score¶	26.6±5.7	27.6±6.2	0.264

*Student's t-test. †Scores range from 1.2 to 6. ‡Scores range from 0 to 6. §Scores range from 0.8 to 6. ¶Scores range from 2 to 36; total score ≤26 suggest risk for sexual dysfunction [14]. All values express mean ±standard deviation. FSFI, female sexual function index.

female adolescents had sexual dysfunction symptoms, that is, total FSFI scores ≤26[4].

Almost one in five of our participants had scores indicative of low desire, with no significant differences between adolescents and young adult women. Similar results were also reported by O'Sullivan et al.[4] in 229 Canadian female adolescents and young adults. The authors report that 22.2% of the adolescents had desire scores indicative of low desire. Although the prevalence of low desire varies throughout a woman's life, in general, at least one in every three women will experience low sexual desire and impaired arousal during her reproductive age period[14].

The most common sexual problems among our participants were difficulties with orgasm among adolescents and low desire among young adults. These findings are similar to those reported in the study involving female Canadian adolescents[4]. Wallwiener et al.[15] investigated the sexual function of 1086 young German women who used contraceptive methods (78.8% <26 years) and also reported that orgasm and desire were the domains with the lowest FSFI scores. Another study also reported that the lowest FSFI score in 413 young Italian women was in the desire domain[16]. Similarly, Mitchell et al.[17] also reported that the most common problems among young British women were lack of interest in sex and difficulty in reaching climax.

Possible causes for the high prevalence of sexual problems among adolescents and young women include the fact that these women are at the beginning of their sexual lives, going through the body and sexual changes that are often associated with insecurities[18], anxiety, fears, myths, guilt, shame[19], difficulties with image and body satisfaction[20], and negative feelings regarding the first sexual activity[7,8].

Although mean total FSFI scores were similar, adolescent participants had significantly lower scores for orgasm and dyspareunia (more dyspareunia) than those in young adult women. These difficulties are probably more frequent in adolescents because they are still going through an identity crisis and may not feel ready to establish intimacy with their sexual partners[21]. According to the Erikson's theory of psychosocial development, an individual enters the stage when he is able to establish intimacy only after the age of 20[21]. In human sexuality, intimacy is a determining factor for women, in the different stages of their lives, to feel confident and comfortable to have satisfactory sexual experiences, and according to some authors, stronger emotional intimacy with a partner is associated with less feelings of sexual inadequacy[22].

Partnered sexual behaviors become prominent only during mid- and late adolescence[18]. As reported in other Latin American studies, our participants' mean age at first sexual activity was approximately 15 years[3]. This underscores the need for interventions to provide education and contraception to young adolescents to prevent the consequences of unsafe sex, including unintended pregnancy, unsafe abortions, pregnancy-related mortality and morbidity, and sexually transmitted infections, including HIV[3,23].

We did not find significant differences in the sexual function of adolescent versus young adult participants who used the same contraceptive method. Several studies have analyzed the effect of contraceptive methods on female sexual function and reported contradictory findings[24,25]. This could be attributed, in part, to the fact that sexuality is influenced by many other factors besides contraceptive methods.

This study has several strengths, starting with its originality. To the best of our knowledge, this is the first study to assess the female sexual function of Latin American female adolescents and young adults according to the contraceptive method used. Another strong point of the study was the use of a validated questionnaire that has been previously used to assess the sexual function of adolescents and young women in several other countries[4,16].

CONCLUSION

In summary, our findings suggest that the sexual function of Brazilian female adolescents is similar to that of young women who are using the same contraceptive methods. In both age groups, there were high prevalence of women at risk for sexual dysfunction symptoms and a low desire. These data show the importance of practices in the care of female sexual health, a well-being described by the World Health Organization, as a guarantee of human being. Additional studies, involving a larger number of participants of different socioeconomic strata, including women who are not using any contraceptive methods, are necessary to confirm the results of this study.

AUTHORS' CONTRIBUTIONS

MCR: Conceptualization, Methodology, Validation, Visualization. **MN**: Data curation, Visualization, Writing – original draft. **MRT**: Formal Analysis, Visualization. **CAFG**: Funding acquisition, Project administration, Supervision, Visualization. **ES**: Investigation, Resources, Visualization. **EAJ**: Visualization, Writing – review & editing.

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