Review

Neuza Mendes*, Fátima Palma and Fátima Serrano

Sexual and reproductive health of Portuguese adolescents

Abstract

Background: As adolescent pregnancy and sexually transmitted infections (STIs) are major sources of morbidity, preventing them is an important health goal for Portuguese society.

Objective: To review data on the knowledge, attitudes and statistics on sexual and reproductive health.

Methods: A systematic review was conducted including peer-reviewed articles addressing issues influencing the sexuality of Portuguese adolescents (aged 13 to 19), published up to 2011 and conducted in any type of setting. After crossing-cleaning the reference list, 33 articles were included.

Results: The rate of sexual activity by Portuguese adolescents is high (44%–95%), but there has been an increase in the age of intercourse debut (currently 15.6 years). Early commencement of sexual intercourse is associated with smoking and regular alcohol consumption. Condoms are the most frequently chosen contraceptive method for first (76%–96%) and subsequent (52%–69%) sexual encounters. The perception of a double standard in sex still exists in teenage culture for both genders and influence behavior. There are significant differences between migrant and native adolescents: African adolescents initiate sexual intercourse at earlier ages and are more likely to have unprotected sex. Only one-third of Portuguese teenagers have ever visited a health facility to seek counseling concerning contraception or STIs, and less than half have ever attended classes on reproductive health. Very few (12%) have knowledge about *Chlamydia trachomatis* infection. The prevalence of STIs in Portuguese youth is unknown. The adolescent fertility rate is still high (14.7 births per 1000 females aged 15–19 years), but it, as well as the rate of abortion, is steadily decreasing.

Conclusions: There is still a long way to go towards promoting a resourceful young population. Citizens and institutions must focus on increasing both the competence of youths and external supports. Information must be provided systematically and health services must have greater accessibility. Studies addressing cultural and environmental determinants that contribute to the molding of the sexual conduct of Portuguese adolescents must be held to produce new and effective culturally sensitive health interventions.

Keywords: adolescents; reproductive health; sexual behavior.

***Corresponding author: Neuza Mendes**, MD, Centro Hospitalar de Lisboa Central-Maternidade Dr. Alfredo da Costa, Rua de Viriato, 1069-089 Lisbon, Portugal; and Department of Obstetrics and Gynaecology, Nova Medical School, Universidade Nova de Lisboa, Lisbon, Portugal, Phone: +00351 964992499, E-mail: neuzamdm@hotmail.com

Fátima Palma and Fátima Serrano: Department of Obstetrics and Gynaecology, Centro Hospitalar de Lisboa Central-Maternidade Dr. Alfredo da Costa, Lisbon, Portugal; and Department of Obstetrics and Gynaecology, Nova Medical School, Universidade Nova de Lisboa, Lisbon, Portugal

Introduction

Children are capable of sexual responses well before puberty, but it is in adolescence that definitive sexual organization is initiated from somatic, psychological and sociological points of view and is when acquiring a sexual identity becomes most important (1). Adolescents seek to construct their identities by integrating feelings, needs and desires. Therefore, it is a time when many individuals initiate sexual activity (2). Unfortunately, this is not always accompanied by a consistent sexual education or knowledge of physiology or the biological aspects of sex and reproduction. Thus, many youths either do not use contraceptive measures or misuse or inconsistently use condoms, which increases not only the risk of unwanted pregnancy but also the risk of STIs (3, 4).

Adolescent sexualities are not manifestations of an essential nature but are multivalent constructions shaped

by social influences (5). Therefore, a particular set of historical, social and political events widely influences the way in which adolescent sexuality is culturally constructed and, hence, the way adolescents deal with their sexuality.

Portugal has been a democratic country since 1974. Until that time, discussing social and political changes was not possible. Adolescent pregnancy or STIs were not an issue as most women married as late adolescents, and long implemented catholic culture and social controls strongly repressed information about sexuality. In 1967, a Portuguese nongovernmental organization (NGO), the Family Planning Association (FPA), was established and played a crucial role in the struggle against political and religious adversities. But it was only in 1976 that a law allowing family-planning consultations in maternal-infant health services was published (6). In 1984, another important law was approved in which the Portuguese government guaranteed the universal right to sexual education and the promotion of free access to family-planning consultations and to birth control methods (7). However, it was only a year after when the application of this law resulted in the establishment of Centers of Attendance created especially for teenagers (8). Another major change in national health politics that influenced the reproductive health of adolescents occurred in 1984: abortion, which was banned until that time under any circumstances, was permitted with restrictions (9). Voluntary abortion (up to the tenth week of pregnancy) was not legalized until 2007 (10).

Thus, important social changes have occurred in Portugal over the past 30 years. Following the country's social and health development, adolescent pregnancy and STIs have become a source of concern affecting teenagers, their offspring, families and society. As a collaborative effort that engages multiple partners is necessary, not only government agencies take part but also multiple groups, including various community, social and religious organizations (11–13). The groups are working together in a comprehensive approach to adolescent sexual health, drawing upon their assets and not solely focusing on risks.

The purpose of this review was to summarize the current knowledge on the sexual and reproductive health of Portuguese adolescents. We expect this to result in further studies addressing presently unsolved issues and a better understanding of the country's current health problems in teen years. By revealing our own experience, we hope to contribute to a worldwide effort to improve protective and preventive health behaviors in adolescence.

Methods

A systematic review was conducted of studies involving the sexual and reproductive health of Portuguese adolescents. To identify potentially relevant publications, the following search strategy was designed: "sexuality OR reproductive health OR pregnancy OR sexually transmitted infections" and "Portuguese adolescents." This strategy was adapted and applied to different Internet search engines and to the MEDLINE database. No limits were set in terms of date, language or study design. This search was further supplemented by a manual search of reference lists of selected papers. The titles and abstracts of all studies retrieved (n=589) were assessed by a single reviewer. Studies were considered in scope by the criteria of methodological rigor and outcome relevance (measurement of at least one of a list of behavioral or biologic outcomes, e.g., risky or preventive sexual behaviors, utilization of health services, knowledge of reproductive health and sources of information, contraception, adolescent pregnancy, abortion or sexually transmitted infections in Portuguese adolescents). The same reviewer then evaluated the full texts of the remaining articles to determine whether they were suitable for inclusion in the analysis. Publications were included if the full text of the article was available and data was reported on any of the multiple aspects of Portuguese adolescent sexuality. After crossing/cleaning the reference list, 33 articles were included. The website of the National Statistical Institute was explored to obtain data on Portuguese adolescent pregnancy and abortion rates. Details concerning laws were obtained by consulting the website of the Portuguese Official Gazette. Information regarding the current position of the Portuguese government on sexual health in adolescence was collected using the official website of the Directorate General of Health.

Results

Sexual activity and contraception

Various studies in other countries have shown that both female and male adolescents are currently initiating sexual relationships at an earlier age (14–15); Portugal is no exception.

Data indicate that currently 24%–76% of Portuguese high school students have already had a sexual debut (16–20). The mean age at first heterosexual intercourse is 15.6 years (16–18). Girls and boys differ in the age they first experience sexual relationships, with girls being slightly older (16). According to what is expected in relation to autonomy and search for sexual identity, the proportion of older adolescents who have already had sexual intercourse is significantly higher than that of younger adolescents (16–18). However, 16%–20% of girls and 26%–30% of boys report having had intercourse at the age of 15 (16, 18, 20).

Research was conducted with the purpose of exploring the extent of knowledge about preventive sexual behavior in Portuguese adolescents and assessing

whether it changed between 2002 and 2006. The study used data collected through a self-administered questionnaire from a Portuguese sample of the Health Behavior in School-Aged Children (HBSC), a collaborative WHO study. The study provided national representative data on 7092 adolescents randomly chosen from those attending the 8th and 10th grades of high school. Results showed that there was a slight increase in the age of intercourse debut and a decrease in the number of teens who reported having had sexual intercourse (from 23.7% in 2002 to 22.7% in 2006) (21).

A large majority of teens (84%–91%) report having used contraception in their first sexual encounter and, as the age at first sexual intercourse increases, so does the proportion of adolescents using contraception (16, 17, 22). Contrary to the gender differences found in a recent study, performed in Portuguese college students, in which the percentage of females who said their partners use condoms as a contraceptive method was smaller than the percentage reported by interviewed males, reflecting that they protect themselves less than their male counterparts; no important gender differences were found in relation to the use of contraceptives in first sex (17, 23). Condoms were the contraceptive method chosen for the first sexual encounter in 76%–96% of cases (16, 17, 22). Approximately half of those that did not use contraception say that it was unavailable at the time, and almost a quarter based their choice on false beliefs (17). Even though, the vast majority reported the use of condoms in sexual debut. Among those who have a sexually active life, up to 18% do not always use contraception, and up to 39% report not using condoms consistently (16, 17). Many acknowledge the need to use condoms but forget them at the time. A lack of self-efficacy for negotiating and ensuring condom use, the perception that risks are low and the circumstances in which sex occurs (unexpected, lack of condoms) can lead individuals to engage in unprotected sexual relationships (24–27). Nevertheless, the international 2009/2010 report from the WHO collaborative study Health Behaviour in School-aged Children (HBSC), which included a sample of 4036 Portuguese 11-, 13- and 15-year-old adolescents, highlighted that 84% of girls and 80% of 15-year-old boys reported to have used a condom at last intercourse. These percentages are above the average of the 43 European and North American countries included in the survey. The same study concluded that, in Portugal, perceptions of a double standard in sex still exist in the teenage culture for both genders and may influence behavior (20). Another survey, aimed to examine psychosocial and ecological determinants contributing to adolescent sexual behavior, that included 3762 teenagers (the Portuguese sample of the HBSC 2002), pointed out that older age, reported ease in talking to father, not getting drunk, not getting involved in fights and being satisfied with school were significantly associated with protected sexual behavior (using a condom during last sexual intercourse) (19). After the first heterosexual encounter, the most commonly chosen contraceptive method in Portugal is still condoms (52%–69%), followed by birth control pills (16, 17, 22). The HBSC 2009/2010 showed that, among 15-year-old Portuguese adolescents, 33% of girls and 18% of the respondent boy's partners were using contraceptive pills at last intercourse (20). Gender, age and school grade do not seem to be associated with the chosen contraceptive method (17).

Rates of current sexual activity are high: 44%–95% of high school students report being sexually active (16, 17). There doesn't appear to exist an association between gender and frequency of sexual intercourse (17). Data from an inquiry performed on 680 Portuguese adolescents attending high school, showed that most girls had only one partner and rarely had more than three. For boys, the number ranged from one to nine (17).

No study specifically addresses the use of emergency contraception in Portuguese adolescents. Notwithstanding, in an inquiry involving 172 teenagers that attended family-planning clinics specialized in this age group, 80% had already used emergency oral contraception at least once (22). Another study, aimed to describe the emergency oral contraception purchaser's profile, conducted in 455 Portuguese pharmacies and involving 2018 respondents, showed that 7% and 9% of the 1466 user-purchasers and the 552 purchasers for another person's use, respectively, were under the age of 18. Of teenage users, 65% reported it to be the first time. About half pointed out previous sex without contraception as the reason for emergency contraception use, and the other half reported failure of the regular contraceptive method (28).

Thus, even though the proportion of users under 18 years old was similar to the one described in other European countries, the fact that 35% had used emergency oral contraception more than once and approximately half did not have a regular contraceptive method is of serious concern (29, 30).

Associated risk behaviors

One reason why the early onset of sexual activity has been pinpointed as an important marker for sexual health is its association with risk factors such as substance use, lower academic achievement and poor mental health (31–34).

Data from two recent Portuguese studies conducted in high school students revealed that a larger percentage of adolescents who have already initiated sexual life are among those who consume alcohol regularly. There was also a strong relationship between an early commencement of sexual life and smoking (17, 18). Another study involving 1142 frequent users of night recreational settings (teenagers and young adults) of nine different Portuguese cities, investigated the adolescent's self perception on the influence of drugs and alcohol in the practice of unsafe sex. Almost half of participants (47%) agreed that this influence exists, and 8% confessed to having regretted sex. A significant percentage (9%) mentioned not having used condoms because they were too drunk or too "stoned" to use them. Further analysis revealed that individuals who began to use addictive substances earlier also had sex earlier than individuals who used those substances later in life (35).

If we consider that there is a pattern of unhealthy behaviors that cluster in adolescence, then data from the HBSC 2009/2010 are very disturbing. According to this large study, among Portuguese 15-year-olds, early smoking initiation is common (16% of girls and 19% of boys reported first smoking at the age of 13 or younger), alcohol use is frequent (23% of boys and 18% of girls said they had been drunk at least twice) as is cannabis use (9% and 15% of girls and boys, respectively, had tried cannabis). Data from the Portuguese sample of the European School Survey Project on Alcohol and Other Drugs (ESPAD survey) also suggests an increase in experimentation as well as in the recent and current use of almost all illicit drugs (36). The national report from the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) considers clubbers and party-goers a vulnerable group of young people in relation to polydrug use (i.e., the concurrent use of alcohol, cannabis, cocaine and synthetic drugs) (37). It cannot be forgotten that night recreational settings are currently a key location for the socialization of young people. The enjoyment of recreational nightlife settings exposes Portuguese clubbers to environmental factors that, in combination with substance use, influence the relationships between alcohol, drugs and sexual behavior (35).

Influence of migrant status

Portugal, long a country of seafarers and emigrants, has in many ways become a country of immigrants. In the mid-1970s, the process of decolonization and the subsequent political and military instability started an explosion of immigration that led to the arrival of large numbers of individuals from Africa (especially African Portuguese-speaking countries including Cape Verde, Mozambique, Angola, S. Tomé and Guinea-Bissau). Joining the European Union in 1986, and with an increasing demand for labor, the country played host to a new migration cycle from the mid-1980s to the late 1990s. The result was a continuous increase in the number of foreign residents, dominated by Africans and, to a lesser extent, Brazilians and Western Europeans. Portugal's expanded multiculturalism provided new educational and health challenges.

It has been pointed out by several authors that there are significant differences between migrant and native adolescents, when sexual behavior is concerned (38, 39). This is very important, as health programs may be more effective if they are culturally tailored (40, 41). The HBSC conducted in Portugal in 2002 concluded that migrant African adolescents, compared with native Portuguese adolescents, reported more risk behaviors, less healthy lifestyles, poorer relationship in social contexts (family, school and community) and greater substance use (alcohol and drugs). They were also more likely to have sexual intercourse, unprotected sex and sex associated with alcohol and drugs (42, 43). Most of these differences were fully mediated by poverty. However, those related to sexual behaviors persisted when comparing groups from the same socio-economic status (38, 41, 43).

Another large study that used data from a special HBSC survey using a different sample from the one included in the 2005 HBSC (n=919), conducted in low-income suburbs of Lisbon with high concentrations of African migrants, also showed that, compared with Portuguese adolescents, African migrant teens reported initial sexual intercourse at earlier ages, less frequent condom use and less frequent comfortable communications with parents about sexual issues (44). This may be partially due to the underuse of health services, as noticed by authors conducting an inquiry involving 617 individuals living in a migrant community in the Lisbon District. But different beliefs, attitudes and knowledge about sexual and reproductive life certainly have an important role (45). Previous research has shown that gender relationships among African migrants are typically not equitable, with males tending to dominate: African men make the decision about condom use, often resist their use and sometimes believe that being asked to use a condom indicates infidelity (46–48).

These findings support the need for intervention to recognize cultural distinctions in society to develop strategies accounting for the culturally specific educational needs of migrant adolescents in Portugal.

Knowledge of reproductive health and sources of information

A recent study, part of a research initiative funded by the European Union (EU) that aimed to assist in monitoring the reproductive health of adolescents, was conducted with a Portuguese sample of 361 students between the ages of 16 and 19 and entering grades 10, 11 or 12 in 2005. The study tried, among other goals, to determine their most important sources of information. Portuguese youths indicated that books and magazines were their most important source of information on puberty (36%). School teachers were the most frequent source of information on biological aspects of reproduction (41%). Of all countries included in this study, Portugal was the one in which the fewest adolescents attended classes on reproductive health (48%) (16). A survey involving 919 participants focused on determining the influence of migrant status on adolescent sexual behavior and showed that African youth were more likely to get information about STIs from brochures than from parents, whereas native Portuguese adolescents living in the same deprived socio-economic areas were more likely to obtain information about sex from parents than print material (44).

Issues related to sexuality and contraception have long been addressed in Portuguese schools (49). However, only since 2009 have classes on reproductive health become mandatory for grades 1–12 as part of a larger project on healthy life styles that includes health promotion, sexual education, education for potentially dangerous consumptions (alcohol and other drugs), violence and nutrition (9). Unfortunately, information/education concerning contraceptive methods and the importance of practicing safe sex is not a guarantee that adolescents will use such methods (24). Therefore, only the future can tell if the formal implementation of sexual and reproductive health classes in the Portuguese educational system will have a positive impact on adolescent behaviors, life styles and health.

Utilization and perception of health services

The abovementioned pilot study, within the REPROSTAT (Reproductive Health Indicators in the European Union) 2 Project (funded by the EU) highlighted that only 31% of the interviewed youths had ever visited a health facility to receive information on contraception, pregnancy, abortion or STIs, and most that had did so in the previous 12 months. Of the ones who had visited health services, the majority sought a gynecological examination (41%) and not family-planning counseling. At the health services, however, more than half requested contraception, and more than three-quarters of the interviewees stated that they had talked to a healthcare professional about contraception in their last visit to a medical facility for sexual and reproductive health purposes (16). Even though the percentage of respondents that visited medical care was low, those who had expressed high levels of satisfaction (75%). This is encouraging, as satisfaction with health workers' attitudes and behavior seems to be a critical determinant of health services utilization (50).

Another recent survey, involving 680 adolescents attending high school, supported the finding that seeking counseling about sexual activity with health professionals is not a common practice with the Portuguese youths, as only 34% reported having received guidance from such professionals (mostly higher schooling girls) (17).

Data from an inquiry conducted in an adolescent attendance center (n=172) revealed that the first cervical cytology was performed, on average, 3 years after intercourse debut and, despite only 10% of youths having complaints, gynecologic observation was abnormal in about half of the cases (22).

Thus, most Portuguese sexually active adolescents do not attend family-planning consultations nor seek counseling concerning sexual health from nurses or physicians. These results are of concern and led to the conclusion that Portuguese adolescents do not attend routine health consultations or, if they do, health professionals do not take the opportunity to talk about sexual health. The development of strategies to encourage teenagers to seek health facilities to improve sexual and reproductive health indicators is urgent.

Adolescent childbearing

Despite decreasing rates, and according to United Nations Population Division data, Portugal's adolescent fertility rate is still high when compared to other countries of the European Union (51, 52). In 2010, the number of live births of mothers under the age of 20 was the lowest since the late 1970s (it peaked in 1977, with about 20,000 births). Notwithstanding, that number was still above 3660 (with a rate of 14.7 births per 1000 females between the ages of 15 and 19 years) (53). This means that every day, 10 adolescents give birth in Portugal.

According to a recent survey (2008–2010), the lower rates of adolescent pregnancy in Portugal were associated with increased schooling, the perspective of

building a career and not having a future focused exclusively on maternity and a greater access to reproductive health (54).

Abortion in Portugal was legalized in April 2007, allowing the procedure to be performed on-demand prior to the tenth week of pregnancy (6). In 2011, the legal abortion ratio was 193 per 1000 live births; 98% were on request because of unintended pregnancies. Of these, 11.7% occurred in adolescents (0.4% in women under 15 and 11.3% in those aged 16–20 years) (55). As with all ages, adolescent abortion increased from 2008 to 2009 (0.3%) and, since then, it has been steadily decreasing, particularly in the group of younger teenagers (under the age of 15) (55–58).

Traditionally, pregnancy in youth has been associated with a higher incidence of medical complications involving mother and child than in adult women, although these risks seem to be greatest for the youngest teenagers (59–61). Although not consensual, several studies revealed that the incidence of low infant birth weight among adolescent mothers is more than double the rate for adults and that the neonatal death rate is almost three times higher (62, 63). The mortality rate for adolescent mothers, although low, seems to be twice that for adult pregnant women (60, 64). Other medical problems, such as poor maternal weight gain, prematurity, pregnancy-induced hypertension, anemia and STIs have also been described (62–66). An inadequate lifestyle, poor nutritional intake, high rates of substance abuse and also social factors, such as poverty, unmarried status, low educational levels and inadequate prenatal care, all may contribute to poor birth outcomes (66–69). Even though studies performed during the decades of 1980 and 1990 suggested a higher risk of instrumental vaginal delivery and cesarean section, especially in the youngest adolescents, more recent studies came to counter some of these concepts (68, 70–73). Some even support that adolescents have fewer surgical deliveries (probably due to the higher low birth weight rate). When adolescent pregnant women are integrated in differentiated perinatal care, with wide access to medical appointments and social and psychological support, their performance is similar or even better, when compared to adult pregnant women (74–76).

A study performed in a maternity ward that offers differentiated perinatal care showed that 46% of adolescents only attended medical care after the first trimester. They began to monitor their pregnancy later (OR=2.4) and missed appointments more often, resulting in inadequate prenatal care (OR=3 in women aged 16–19 and OR=5 in those under 16) (77). This is consistent with studies performed in other countries (73, 78, 79). Women under the age of 16 had a higher risk of delivering prematurely (OR 1.6). Notwithstanding, most premature deliveries occurred between the 34th and 37th week. Teenagers had more eutocic deliveries (OR=1.9) and fewer cesarean sections (OR=0.47). Cesarean rates were lower in adolescents between the ages of 16 and 19 years. Those under 16 had higher rates of low birth weight when compared to older women (12% vs. 7%) (77).

A survey involving 204 pregnant adolescents receiving medical care in two main Portuguese obstetric hospitals revealed an association between some socio-demographic factors and adverse birth outcomes: low gynecological age (chronological age minus age at menarche being <2 years) and prematurity; educational attainment inferior to 4 years of schooling and labor dystocia; younger adolescents and severe prematurity (80).

The same study stated that the prevalence during adolescent pregnancy of *Chlamydia trachomatis* infection was 12% (67% being asymptomatic), and the prevalence of *Neisseria gonorrhoeae* was 4.9% (with 60% also being asymptomatic). Both infections were associated with low birth weight, and infection with *N. gonorrhoeae* was associated with maternal morbidity (fever during or after delivery, chorioamnionitis, puerperal endometritis, preeclampsia and eclampsia) (80). STIs can cause adverse birth outcomes, but the percentage of cases attributed to them is not known, especially in age groups already having a high risk of preterm birth, as are adolescents (81). The window of opportunity that pregnancy in adolescents offers for STI screening, prevention and counseling should not be missed.

Teenage pregnancy is also a main cause of concern because of its association with psychosocial complications. A study comparing the experience of pregnancy in teenage years and later adulthood showed a clear relationship between teenage pregnancy and various indicators of disadvantage in both social class and marital terms. Teenagers were much more likely to attain lower educational levels and social class, to be unemployed and to have partners who are unemployed and to be single and living with their family of origin in larger households. They also experienced more parental separation in childhood, which is suggestive of worse early life experience (82). A recent inquiry involving 161 Portuguese third trimester pregnant adolescents pointed out an over-representation of unfavorable socio-economics, personal and health circumstances: low educational level, low professional qualification, inoccupation, problems in the family of origin, adverse life-events, undesired pregnancy, not medically assisted and tobacco use (83). Another study that aimed to explore relational contexts that promote

vulnerability and protection against early pregnancy in a potential risk group of Portuguese adolescents compared two groups of female adolescents of low socioeconomic status: pregnant adolescents (n=57) and adolescents without a history of pregnancy (n=81). The results suggest that lower levels of overprotection of the mother and emotional support of the father, a history of teen pregnancy in the adolescent's mother, a lower level of emotional proximity to peer relations and a higher number of school failures were significantly associated with adolescent pregnancy (84). As in other countries, Portuguese adolescent mothers have higher rates of depression and depressive symptoms than adult women, both in pregnancy (26% vs. 11%) and in the postpartum period (26% vs. 9%) (85).

Sexually transmitted infections

There is a gap between the knowledge found in data from studies and attitudes. For example, in a previously mentioned survey involving 680 Portuguese high school teenagers, 98% reported knowledge about the risks of having sexual intercourse without a condom. However, when the specification of these risks was requested, answers showed that one-third of the respondents did not relate the use of condoms with protection against STIs. Boys had a higher self-perception of their lack of knowledge concerning such risks (17). Research that aimed to assess the changes in sexual behavior knowledge from 2002 to 2006 concluded that, in general, adolescents have good perception about how to protect themselves from becoming HIV-infected. However, there was a reduction of information regarding HIV/AIDS during the 4-year period (21).

The risk of having a STI significantly increases with each new sexual partner and with the number of partners. In a previously mentioned study (n=680), even though most teens only had one sexual partner, the number ranged from one to nine. However, only 2.1% of adolescents, all girls, reported a STI (17). This rate may be related to non-detected infections or to the high rate of condom use. Nevertheless, as reported by the WHO, there are several reasons why adolescents don't seek healthcare: failure to recognize symptoms, feeling ashamed or poor accessibility to services. Furthermore, in the study funded by the EU that involved 1557 teenagers, only 12% of Portuguese high school students reported having heard about *C. trachomatis* infection, a much smaller proportion than the one reported by Estonians (51%), Belgians (31%) or Czech adolescents (29%) (16). The prevalence of *C. trachomatis* infection and other STIs in Portuguese youth is unknown. A survey that used data collected from the Portuguese sample of the HBSC 2002 (n=3762) pointed out that young people, despite HIV/AIDS knowledge, underestimate their own risk of becoming infected. Adolescents use a wide range of invalid strategies to rationalize the perceived low personal risk of becoming infected. They believe they are less promiscuous than average and that their partner's behavior is responsible. Students that considered it possible for any person to become HIV infected, attributed the principal cause to blood transfusion (19).

STIs in adolescents are at epidemic levels worldwide. Besides engaging in sexual risk behaviors (e.g., sex without condom and with multiple sequential partners), they are especially susceptible to STIs (86). The incorporation of successfully demonstrated strategies to lighten this problem should be a priority.

Conclusion

Even though the rates of current sexual activity are elevated in Portuguese youths, there is a slight increase in the age of intercourse debut and a decrease in the number who report having had sex. The country's adolescent fertility rate is also still high, when compared to other countries of the European Union, but the rate is steadily decreasing as is the rate of abortions in this age group. The high rates of contraception use in the first sexual encounter and the frequent choice to use condoms are also reassuring. Unfortunately, the number of adolescents who report not using condoms consistently or not using a contraceptive method at all times is also well above the desired level, which indicates that much remains to be done in this area. The perceptions of double standard in sex that still exist in teenage culture and the finding that there are significant differences between migrant and native adolescents, when sexual behavior is concerned, support the need for interventions to further recognize cultural distinctions in society, in order to develop culturally tailored, and so more effective, health programs. To build up and apply interventions that effectively target the mitigation of pregnancy and STIs in the Portuguese youth is fundamental. A coordinated effort among families, schools, health and education agencies and community organizations is needed. The goal should be not only to decrease sexual risky behaviors in youth, but also to promote healthier life styles, with renewed attitudes also towards potential dangerous consumptions, violence and nutrition.

What has been done to improve the perceptions of health services by our youths has clearly not been enough: a large majority of Portuguese sexually active adolescents have never attended a family-planning consultation nor sought counseling regarding sexual health from nurses or physicians. The development of strategies to encourage adolescents to use available health services as their allies in response to their needs is urgent. Health interventions in schools have been clearly insufficient, as less than half of Portuguese adolescents have ever attended classes on reproductive health. Health services underuse and lack of information on sexual and reproductive health in schools are probably among the most important explanatory arguments for why as few as 12% of Portuguese high school students reported having heard about *C. trachomatis* infection, the most prevalent STI among this age group.

The combined effort made in the last years has already brought some rewards. Notwithstanding, our results show there is still a long way to go to increase the opportunities for teenagers to choose healthier lifestyles: information has to be provided systematically, health services must show greater accessibility and studies addressing cultural and environmental determinants that contribute to molding Portuguese adolescent´s sexual conducts must be held. A persistent search for new methods to protect our youths is imperative.

Conflict of interest statement

Funding: none

Received October 8, 2012; accepted January 8, 2013

References

1. Bekaert S. The teenage years. In: Bekaert S, editor. Adolescents and sex: the handbook for professionals working with young people. Radcliffe Publishing: Abingdon, 2004:3–18.
2. United Nations Children's Fund (UNICEF). Young people and HIV/AIDS opportunity in crisis. Programme on HIV/AIDS and WHO. Geneva: UNICEF, 2002.
3. United Nations Population Fund. The State of World Population 2003. Making 1 Billion Count: Investing in Adolescents' Health and Rights (homepage on the Internet). 2003. (accessed 2012 June 26). Available at: http://www.unfpa.org/wpd/2003/preview.htm.
4. Ferreira MRS, Paúl C, Amado J. Sexual behaviour of high-school adolescentes. Proceedings of the 10th International Nursing Conference. 2006 Nov 22–25, Albacete, Spain. Albacete: Instituto de Salud Carlos III, Unidad de Coordinación y Desarrollo de la Investigación en Enfermaría, 2006:41–3 (serial on the Internet). (accessed 2012 June 28). Available at: http://www.isciii.es/htdocs/redes/investen/documentos/encuentroX.pdf.
5. Irvine JM. Cultural differences and adolescent sexualities. In: Irvine JM, editor. Sexual cultures and the construction of adolescent identities, 1st ed. Philadelphia: Temple University Press, 1994:3–28.
6. Diário da República (serial on the Internet). 1976 (accessed 2012 Aug 26). Available at: http://www.spdc.pt/files/legix/11250_3.pdf.
7. Diário da República (serial on the Internet). 1984 (accessed 2012 Aug 26). Available at: http://dre.pt/pdf1sdip/1984/03/07100/09810983.pdf.
8. Diário da República (serial on the Internet). 1985 (accessed 2012 Aug 26). Available at: http://dre.pt/pdf1sdip/1985/01/02200/02190220.pdf.
9. Diário da República (serial on the Internet). 1984. (accessed 2012 Mar 09). Available at: http://dre.pt/pdf1sdip/1984/05/10900/15181519.pdf.
10. Diário da República (serial on the Internet). 2007. (accessed 2012 Mar 09). Available at: http://dre.pt/pdf1sdip/2007/04/07500/24172418.pdf.
11. Alves Diniz J, Albergaria M, Guerreiro C. Relatório do Grupo de Trabalho de Educação Sexual – Subcomissão para Avaliação de Manuais (serial on the Internet). 2007 (accessed 2012 Aug 26). Available at: http://sitio.dgidc.minedu.pt/saude/Documents/Ed_Sexual_%20Av_manuais.pdf.
12. Santos MI, Rosário F. A score for assessing the risk of first-time adolescent pregnancy. Fam Pract 2011;28:482–88.
13. Orientação da Direcção Geral de Saúde. Programa Nacional de Saúde Escolar – Saúde Sexual e Reprodutiva – Educação Sexual em Meio Escolar (serial on the Internet). 2010 (accessed 2012 Aug 19). Available at: http://www.dgs.pt/upload/membro.id/ficheiros/i013462.pdf.
14. World Health Organization (WHO). Contraception: issues in adolescent health and development. Geneva: Department of Child and Adolescent Health, Development and Department of Reproductive Health and Research, 2004.
15. Vesely SK, Wyatt VH, Oman RF, Aspy CB, Kegler MC, et al. The potential protective effects of youth assets from adolescent sexual risk behaviors. J Adolescent Health 2004;34:356–65.
16. Fronteira I, Oliveira da Silva M, Unzeitig V, Karro H, Temmerman M. Sexual and reproductive health of adolescents in Belgium, the Czech Republic, Estonia and Portugal. Eur J Contracept Reprod Health Care 2009;14:215–20.
17. Santos Ferreira MM, Reis Torgal MC. Life styles in adolescence: sexual behavior of Portuguese adolescents. Rev Esc Enferm USP 2011;45:588–94.
18. Rodrigues V, Carvalho A, Gonçalves A, Carvalho G. Situações de Risco para a Saúde de Jovens Adolescentes (serial on the Internet). 2007. (accessed 2012 Jun 27). Available at: http//repositorium.sdum.uminho.pt/bitstream/1822/6651/1/Situacoes%20de%20risco.pdf.
19. Dias SF, Matos MG, Gonçalves AC. Preventing HIV transmission in adolescents: an analysis of the Portuguese data from the Health Behaviour School-aged Children study and focus groups. Eur J Public Health 2005;15:300–4.

20. Currie C, Zanotti C, Morgan A, Currie D, de Looze M, et al., editors. Sexual behavior: experience of sexual intercourse. In: Health behaviour in school-aged children (HBSC) study: international report from the 2009/2010 survey, No. 6. Copenhagen: WHO Regional Office for Europe, 2012:173–76.
21. Reis M, Ramiro L, de Matos MG, Diniz JA, Simões C. Information and attitudes about HIV/AIDS in Portuguese adolescents: state of art and changes in a four year period. Psicothema 2011;23:260–6.
22. Nobre S. Tomé MT. As citologias na promoção da Saúde Sexual das adolescentes – Utentes do Centro de Atendimento a Jovens de Coimbra. Acta Med Port 2011;24:413–18.
23. Muñoz-Silva A, Sánchez-García M, Martins A, Cristina N. Gender diferences in HIV-related sexual behavior among college students from Spain and Portugal. Span J Psychol 2009;12:485–95.
24. UNICEF. Young people and HIV/AIDS opportunity in crisis. Programme on HIV/AIDS and WHO. Geneva: UNICEF, 2002.
25. Hillier L, Harrison L, Warr D. "When you carry condoms all the boys think you want it": negotiating competing discourses about safe sex. J Adolesc 1998;21:15–29.
26. Woollett A, Marshall H, Stenner P. Young women's accounts of sexual activity and sexual/reproductive health. J Health Psychol 1998;3:369–81.
27. Loxley W. "Sluts" or "sleazy little animals"? Young people's difficulties with carrying and using condoms. J Community Appl Soc Psychol 1996;6:293–8.
28. Fontes E, Guerreiro J, Costa T, Miranda A. Pattern of use of emergency oral contraception among Portuguese women. Pharm World Sci 2010;32:496–502.
29. Ruiz Sanz S, Güell Pérez E, Güell Pérez E, Herranz Calvo C, Pedraza Moreno C. Emergency contraception. Characteristics of the demand. Aten Primaria 2002;30:381–7.
30. Cano JC, Almansa A, López F. Emergency contraception: user's profile in primary care emergency services. Aten Primaria 2004;34:279–82.
31. Madkour AS, Farhat T, Halpern CT, Godeau E, Gabhainn SN. Early adolescent sexual initiation as a problem behavior: a comparative study of five nations. J Adolesc Health 2010;47:389–98.
32. Sabia JJ, Rees DI. The effect of adolescent virginity status on psychological well-being. J Health Econ 2008;27:1368–81.
33. Position paper on mainstreaming adolescent pregnancy in efforts to make pregnancy safer. Geneva: WHO, 2010.
34. Parkes A, Wight D, Henderson M, Hart G. Explaining associations between adolescent substance use and condom use. J Adolesc Health 2007;40:180.e1–18.
35. Lomba L, Apóstolo J, Mendes F. Drugs and alcohol consumption and sexual behaviors in night recreational settings in Portugal. Adicciones 2009;21:309–25.
36. European School Survey Project on Alcohol and Other Drugs (ESPAD). The 2007 ESPAD report. Substance use among students in 35 European Countries. Sweden: European School Survey on Alcohol and other Drugs, 2009.
37. European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). National Report to the EMCDDA by the Reitox National Focal Point. Portugal. New development trends and in-depth information on selected issues. Lisboa: EMCDDA, 2007.
38. Gaspar T, Matos M, Gonçalves A. A saúde dos Adolescentes Migrantes. In: Matos M, editor. Comunicação, Gestão de Conflitos e Saúde na Escola, 4th ed. Lisboa: FMH, 2005:182–93.
39. Matos M, Gaspar T, Gonçalves A. Foreign adolescents in Portugal: a question of health. Psicologia, Saúde e Doenças 2004;5:75–85.
40. Elifson K, Klein H, Sterk C. Predictors of sexual risk-taking among new drug users. J Sex Res 2006;43:318–27.
41. Gaspar T. Saúde e Diversidade Cultural. In: Matos M, editor. Comunicação, Gestão de Conflitos e Saúde na Escola, 4th ed. Lisboa: FMH, 2005;110–28.
42. Ross J, Wyatt W. Sexual behaviour. In: Currie C, Hurrelmann K, Settertobulte W, Smith R, Todd J, editors. Health and health behavior among young people. Health Behaviour in School-aged Children (HBSC) study: international report. HEPCA series, No.1. Copenhagen: WHO Regional Office for Europe, 2000:115–20.
43. Matos M, Gaspar T. e Equipa do Projecto Aventura Social e saúde. A Saúde dos Adolescentes Portugueses (Quatro anos depois) [Portuguese adolescent's health – 4 years later]. Lisboa:FMH/UTL, 2003.
44. Matos M, Gaspar T, Simons-Morton B, Reis M, Ramiro L. Communication and information about "safer sex": intervention issues within communities of African migrants living in poorer neighborhoods in Portugal. J Poverty 2008;12:333–50.
45. Dias S, Gonçalves A, Luck M, Fernandes MJ. Risk of HIV/AIDS infection: access and utilization of health services in a migrant community. Acta Med Port 2004;17:211–8.
46. Matos M, Gonçalves A, Gaspar T. Aventura Social, Etnicidade e Risco: prevenção primária do VIH em adolescentes de comunidades migrantes [Social Adventure, Ethnicity and Risk: HIV primary prevention in adolescentes from migrant communities]. Lisbon: CMDT/IHMT/UNL e FMH/UTL, 2005.
47. Muuss R, Porton H. Increasing risk behavior among adolescents. In: Muuss R, Porton H, editors. Adolescent behavior. New York: McGraw-Hill College, 1999:422–31.
48. Muza G, Costa M. Tools for planning a project to promote adolescent health and development: the adolescents' perspective. Cadernos Saúde pública 2002;18:321–28.
49. Frade A, Vilar D. Sex education in Portugal. Plan Parent Eur 1991;20:3–6.
50. Dixon-Woods M, Stokes T, Young B, Phelps K, Windridge K, Shukla R. Choosing and using services for sexual health: a qualitative study of women's views. Sex Transm Infect 2001;77:335–9.
51. WHO, Regional Office for Europe. European Health for All Database (HFADB). (accessed 2012 Aug 29). Available at: http://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_indicadores&indOcorrCod=0001540&contexto=bd&selTab=tab2.
52. United Nations Department of Economic and Social Affairs Population Division. Population Estimates and Projections Section (homepage on the Internet). 2011 (accessed 2012 Aug 29). Available at: http://esa.un.org/wpp/Excel-Data/fertility.htm.
53. Instituto Nacional de Estatística. Statistics Portugal. Adolescent Live Births (No.) by Mother Age; Annual (homepage on the Internet). 2011 (accessed 2012 Aug 20). Available at: http://www.euro.who.int/en/what-we-do/data-and-evidence/databases/european-health-for-all-database-hfa-db2.
54. Diniz Bensaja dei Schirò E. Gravidez na Adolescência: Como se Configura no Brasil e em Portugal? Federal Univ Rio Grande do Sul (serial on the Internet). 2009 (accessed 2012 Sep 06). Available at: http://www.lume.ufrgs.br/bitstream/handle/10183/22980/000738068.pdf?sequence=1.

55. Direcção Geral de Saúde, Divisão de Saúde Reprodutiva, Divisão de Estatística de Saúde. Relatório dos Registos das Interrupções da Gravidez ao Abrigo da Lei 16/2007 de 17 de Abril – Dados Referentes ao Período de Janeiro a Dezembro de 2011 (serial on the Internet). 2012 (accessed 2012 Aug 20). Available at: http://www.saudereprodutiva.dgs.pt/.
56. Direcção Geral de Saúde, Divisão de Saúde Reprodutiva, Divisão de Estatística de Saúde. Relatório dos Registos das Interrupções da Gravidez ao Abrigo da Lei 16/2007 de 17 de Abril – Dados Referentes ao Período de Janeiro a Dezembro de 2008 (serial on the Internet). 2009 (accessed 2012 Aug 20). Available at: http://www.saudereprodutiva.dgs.pt/.
57. Direcção Geral de Saúde, Divisão de Saúde Reprodutiva, Divisão de Estatística de Saúde. Relatório dos Registos das Interrupções da Gravidez ao Abrigo da Lei 16/2007 de 17 de Abril – Dados Referentes ao Período de Janeiro a Dezembro de 2009 (serial on the Internet). 2010 (accessed 2012 Aug 20). Available at: http://www.saudereprodutiva.dgs.pt/.
58. Direcção Geral de Saúde, Divisão de Saúde Reprodutiva, Divisão de Estatística de Saúde. Relatório dos Registos das Interrupções da Gravidez ao Abrigo da Lei 16/2007 de 17 de Abril – Dados Referentes ao Período de Janeiro a Dezembro de 2010 (serial on the Internet). 2011 (accessed 2012 Aug 20). Available at: http://www.saudereprodutiva.dgs.pt/.
59. American Academy of Pediatrics. Adolescent pregnancy: current trends and issues. Pediatrics 2005;116:281–6.
60. Forrest JD. Timing of reproductive life stages. Obstet Gynecol 1993;82:105–11.
61. Satin AJ, Leveno KJ, Sherman ML, Reedy NJ, Lowe TW, et al. Maternal youth and pregnancy outcomes: middle school versus high school age groups compared with women beyond the teen years. Am J Obstet Gynecol 1994;171:184–7.
62. Amaya J, Borrero C, Ucrós S. Estudio analítico del resultado del embarazo en adolescentes y mujeres de 20 a 29 anos en Bogotá. Ver Colomb Obstet Ginecol 2005;56:216–24.
63. Davidson NW, Felice ME. Adolescent pregnancy. In Friedmen SB, Fisher M, Schonberg SK, eds. Comprehensive adolescent health care. St Louis, MO: Quality Medical Publishing, 1992:1026–40.
64. Moore KA, Driscoll AK, Lindberg LD. A statistical portrait of adolescent sex, contraception, and childbearing. Washington, DC: National Campaign to Prevent Teen Pregnancy, 1998;11:15–23.
65. Kirby D. Emerging answers: research findings on programs to reduce teen pregnancy (summary). Washington, DC: National Campaign to Prevent Teen Pregancy, 2001.
66. Fraser AM, Brockert JE, Ward RH. Association of young maternal age with adverse reproductive outcomes. N Engl J Med 1995;332:1113–17.
67. Conde-Agudelo A, Belizán JM, Lammers C. Maternal-perinatal morbidity and mortality associated with adolescente pregnancy in latin America: cross-sectional study. Am J Obstet Gynecol 2005;192:342–9.
68. Lubarzky SL, Schiff E, Friedman SA, Mercer BM, Sibai BM. Obstetric characteristics among nulliparas under age 15. Obstetric Gynecol 1994;84:365–8.
69. East PL, Felice ME. Adolescent pregnancy and parenting: findings from a racially diverse sample. Mahwah, NJ: Lawrence Erlbaum Associates, 1996.
70. Bacci A, Manhica GM, Machungo F, Bugalho A, Cuttini M. Outcome of teenage pregnancy in Maputo, Mozambique. Int J Gynecol Obstet 1993;40:19–23.
71. Kanje JC, Palmer A, Watson A, Hay DM, Imrie A, et al. Early teenage pregnancies in Hull. Br J Obstet Gynaecol 1992;99:969–73.
72. Lao TT, Ho LF. Obstetric outcome of teenage pregnancies. Hum Reprod 1998;13:3228–32.
73. Santos GH, Martins MG, Sousa MS. Gravidez na adolescência e factores associados com baixo peso ao nascer. Ver Bras Ginecol Obstet 2008;30:224–31.
74. Lao TT, Ho LF. The obstetric implications of teenage pregnancy. Hum Reprod 1997;12:2303–5.
75. Raatikainen K, Heiskanen N, Verkasolo PK, Heinonen S. Good outcome of teenage pregnancies in high-quality maternity care. Eur J Public Heath 2006;16:157–61.
76. Silva MO, Cabral H, Zuckerman B. Adolescent pregnancy in Portugal: effectiveness of continuity of care by an obstetrician. Obstet Gynecol 1993;81:142–6.
77. Metello J, Torgal M, Viana R, Martins L, Maia M, et al. Teenage pregnancy outcome. Rev Bras Ginecol Obstet 2003;30:620–5.
78. Zhang B, Chan A. teenage pregnancy in South Australia, 1986–1988. Aust N Z J Obstet Gynaecol 1991;31:291–8.
79. Gortzak-Uzan L, Hallak M, Press F, Katz M, Shoham-Vardi I. Teenage pregnancy: risk factors for adverse perinatal outcome. J Matern Fetal Med 2001;10:393–7.
80. Borges-Costa J, Matos C, Pereira F. Sexually transmitted infections in pregnant adolescentes: prevalence and association with maternal and foetal morbidity. J Eur Acad Dermatol Venereol 2012;26:972–5.
81. Glasier A, Gülmezoglu AM, Schmid GP, Moreno CG, Van Look PF. Sexual and reproductive health: a matter of life and death. Lancet 2006;368:1595–607.
82. Figueiredo B, Bifulco A, Pacheco A. Teenage pregnancy, attachment style, and depression: A comparison of teenager and adult pregnant women in a Portuguese series. Attach Hum Dev 2006;8:123–38.
83. Figueiredo B, Pacheco A, Costa R, Magarinho R. Gravidez na adolescência: das circunstâncias de risco às circunstâncias que favorecem a adaptação à gravidez. Int J Clin health Psychol 2006;6:97–125.
84. Pereira AI, Canavarro MC, Cardoso MF, Mendonça D. Relational factors of vulnerability and protection for adolescent pregnancy: a cross-sectional comparative study of Portuguese pregnant and nonpregnant adolescents of low socioeconomic status. Adolescence 2005;40:655–71.
85. Figueiredo B, Pacheco A, Costa R. Depression during pregnancy and the postpartum period in adolescent and adult Portuguese mothers. Arch Womens Ment Health 2007;10:103–9.
86. Ramiro L, Reis M, Matos M, Diniz J. Knowledge, attitude and behaviour related to sexually transmitted infections in Portuguese school (adolescent) and college students. In: Malla N, editor. Sexually transmitted infections. Croatia: Intech, 2012:199–218.