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# REPRODUCTIVE HEALTH KNOWLEDGE AND USE OF SERVICES AMONG YOUNG ADULTS IN DAKAR, SENEGAL

KAREN KATZ AND CHRISTINE NARÉ

**Family Health International, Research Triangle Park, NC, USA and †Comité d'Etude sur les Femmes, la Famille et l'Environment en Afrique (CEFFEVA), Dakar, Senegal*

**Summary.** A study was conducted in Dakar, Senegal, to measure reproductive health knowledge and contraceptive use among young adults, and access to family planning services. A household survey was conducted with 1973 single and married women aged 15–24 and 936 single men aged 15–19. Two focus groups and a simulated client study were also conducted. The survey and focus groups noted gaps in knowledge of family planning methods and reproductive health. There were misconceptions about methods and only one-third of men and women aged 15–19 correctly identified the time of the menstrual cycle when a women is most likely to get pregnant. Contraceptive use at time of first premarital sexual experience was less than 30%. The simulated client study noted many barriers to services. 'Clients' felt uncomfortable in the clinics and felt that providers were reluctant to take care of them. None of the 'clients' who requested contraception received it.

## Introduction

Senegal, like many other African countries, has undergone economic and cultural changes that have loosened social and family controls and encouraged an increase in premarital sexual activity. Traditional systems of communication on sexuality and marriage have deteriorated, yet approaches more suited to modern conditions are not firmly established (Center for Population Options, 1992). Among the possible consequences of premarital sexual activity are unwanted pregnancies, which can also result in an early termination of education, and unsafe abortions (Gyepi-Garbrah, 1985). Another consequence is an increased risk of contracting a sexually transmitted disease, including HIV/AIDS. While the prevalence of AIDS is low – about 1% of the total population, and 0·5–1·5% of pregnant women in major cities – the possibility of increased rates of transmission are a public health concern (Family Health International, 1997).

Many factors may contribute to increased sexual activity before marriage. Two principal reasons include economic conditions that make it more difficult to marry at

a young age, and increasing education, which delays the age of marriage. Furthermore, attitudes towards premarital sex have changed in many societies and fewer people than in the past believe that premarital sex is wrong (Gage-Brandon & Meekers, 1993).

An analysis of Demographic and Health Survey (DHS) data in seven sub-Saharan African countries found wide variations between countries in levels of premarital sexual activity, ranging from 4% reporting premarital sex in Burundi to over 75% in Botswana and Liberia (Gage-Brandon & Meekers, 1993). Many African countries have conducted in-depth surveys targeting young adults to document sexual behaviour and contraceptive use among their youth. While these surveys have been conducted in several anglophone countries such as Gambia (Kane *et al.*, 1993), Kenya (Ajayi *et al.*, 1991; Kiragu & Zabin, 1995), Liberia (Nichols *et al.*, 1987), Nigeria (Nichols *et al.*, 1986) and Zimbabwe (Boohene *et al.*, 1991), limited in-depth data are available for francophone countries. Because many West African francophone countries are predominantly Muslim (such as Guinea, Mali and Senegal) and traditionally do not condone premarital sexual activity, these countries may have lower levels of premarital activity than other parts of Africa.

To gather information about the reproductive health knowledge and behaviour of young adults in a francophone West African country, a study was conducted in Dakar, Senegal. While most of the in-depth studies on adolescents in African countries have relied primarily on survey data, this study used qualitative methods in addition to a survey. It was felt that the use of qualitative data would broaden the depth of information obtained by examining topics of interest at different levels (Pope & Mays, 1995). Focus groups were used to supplement and help explain the survey findings, and a simulated client study was conducted to examine access to family planning services from the client perspective.

## Background

Senegal is primarily a Muslim country, and premarital sexual activity is not culturally acceptable. Yet studies on the sexuality and fertility of young adults in Senegal have suggested that an increasing number of young adults are having sexual relations before marriage, contrary to traditional and religious values.

National surveys have shown that the percentage of women between the ages of 15 and 19 who are single has increased from 43% in 1978 (Direction de la Statistique, 1981) to 71% in 1997 (Ndiaye, Ayad & Gaye, 1997). While data from earlier surveys are not available for comparisons, the 1992/93 Demographic and Health Survey (DHS) reported that in urban areas, the median age of first sexual relations for women who were between 25 and 29 years old at the time of the survey was 1·5 years younger than the median age of first marriage (18·4 vs 19·9 years) (Ndiaye, Diouf & Ayad, 1994). By the 1997 DHS, this difference had increased to over 2·5 years (20·6 vs 23·3 years) (Ndiaye *et al.*, 1997). A 1995 survey of post-abortion complications in four hospitals in Dakar provides evidence of premarital sexual activity and its potential consequences. The study found that of the identified abortion cases, 18% were under 20 years of age. Furthermore, the majority of young women who had an abortion were unmarried: 90% of the 15–19-year-olds and 83% of the 20–24-year-olds reported they were single (Diadhiou *et al.*, 1995).

One of the reasons why premarital sexual activity can have such consequences is that young adults in Dakar generally do not have complete or accurate information on reproductive health and family planning and do not have access to family planning services. The majority of young adults do not discuss sexuality and family planning with their parents. Siblings and friends, who are often misinformed, constitute the principal sources of information (Naré & N'Diaye, 1995). Family Life Education is not yet integrated into the school curriculum, though it does exist through non-governmental organizations and youth and sports associations.

For those who attempt to use family planning services, cultural, medical and financial barriers exist which make family planning use difficult. Parents and society do not encourage young people, including married women, to use family planning services, with the exception of those who have already had a child. One study conducted in Dakar found that young, unmarried women trying to use family planning services were usually given a poor reception and that nurses' aides often turned away first-time users and young clients (Population Council, 1991).

## Data and methods

This study was conducted jointly by the Comité d'Etude sur les Femmes, la Famille et l'Environment en Afrique (CEFFEVA) and Family Health International (FHI). The data for this analysis came primarily from a population-based household survey which was conducted in Dakar and Pikine (a peri-urban area adjacent to Dakar) between April and October 1995. The study population included single and married women between the ages of 15 and 24, and single men between 15 and 19 years; a total of 1973 women (1005 aged 15–19 and 968 aged 20–24) and 936 men were interviewed. Married women were included to obtain a more complete picture of premarital sexual activity and pregnancy, abortion, early marriage and early departure from school. Because so few men between 15 and 19 years are married, interviews were conducted with single men only. Due to budget constraints and the results of a previous similar survey in Africa which found that men in their early twenties had a very low response rate, it was decided to exclude men between 20 and 24 years of age (Boohene *et al.*, 1991).

The sampling frame was developed from the 1988 census of Dakar, taking into account the rate of increase in the population between the census and the survey (Direction de la Prévision et de la Statistique, 1992). The sample was selected using a three-stage area probability sampling procedure where enumeration districts, households and eligible persons were the sampling units in each stage. Sixty-five districts (44 in Dakar and 21 in Pikine) were selected as study districts; one out of every two households was included in the sample. In any given household, only one eligible respondent per sex/age group was recruited into the study. If there was more than one eligible person, a random number selection table was consulted to determine which household member would be the actual respondent.

Separate questionnaires for women and men were developed based on questionnaires from previous adolescent surveys conducted in Africa. The two questionnaires were similar and designed to provide information on sociodemographic characteristics, knowledge of family planning and reproductive health, attitudes towards

contraceptive use and premarital sex, premarital sexual behaviour and family planning practices, and sources of reproductive health knowledge.

Descriptive analysis made use of weights to account for the sampling design. These weights took into account the probability of selecting a particular district, household and eligible person from a household. They were also used to adjust biases due to non-response and to compensate for subgroups that were under-represented among the survey participants.

Multiple logistic regression was used to assess the factors that may be related to two dependent variables: women's reproductive health knowledge and women's contraceptive use at the time of last sexual intercourse. The results show the adjusted odds ratios and 95% confidence intervals. Variables are significant if the confidence interval does not include one.

In addition, to supplement the information obtained in the survey, two focus group discussions were conducted in June 1995. A third group was planned but did not take place because it was too close to the students' exam period. The participants were young women and men who had come to the Association Senegalaise pour le Bien-Etre Familial (ASBEF: the affiliate of the International Planned Parenthood Federation (IPPF)) to request family planning information for school-related projects. The original goal was to recruit young adults who were coming to ASBEF for family planning services; however, it was not possible to obtain a list of these young women and men. One group had twelve participants and the other seven, with one young man in each group. The discussions were conducted in Wolof and were recorded on cassette. The notes from the focus group discussions were translated into French and analysed manually from the written translation.

Finally, to collect information on access and barriers to family planning services, a simulated client study was conducted. Ten women and two men visited seven family planning clinics in Dakar, each clinic receiving between two and four visits. The clients provided various explanations for their visits: to get family planning information for a school assignment, to get information for themselves, to get information for someone else or to receive a family planning method. A questionnaire was completed after the visit and the client was interviewed by the research staff.

## Results

### *Study population*

The sociodemographic characteristics of the survey respondents are shown in Table 1 according to sex and age groups. Men and women are comparable in terms of religious and ethnic background and the distributions are similar to what was found in the 1988 general census of Dakar. The majority were either born in Dakar or in another large city in Senegal. The percentage of men and women in the 15–19-year-old age group who attend school is similar, though overall more men than women were educated to at least a primary school level. Fewer than a quarter are employed in any age group with the proportion being highest among the young men. These findings indicate that a high proportion of young men and women are unoccupied as they are neither in school nor working.

**Table 1.** Sociodemographic characteristics of survey population

| | Women 15–19 $n=1005$ %* | Women 20–24 $n=968$ %* | Men 15–19 $n=936$ %* |
|---|---|---|---|
| Religion | | | |
| Muslim | 93 | 92 | 93 |
| Christian | 7 | 7 | 6 |
| Other | <1 | <1 | 1 |
| Ethnicity | | | |
| Wolof | 51 | 48 | 46 |
| Peulh | 20 | 22 | 24 |
| Serere | 11 | 12 | 13 |
| Diola | 5 | 7 | 4 |
| Bambara | 3 | 3 | 4 |
| Other | 10 | 8 | 9 |
| Place of birth | | | |
| Dakar | 78 | 69 | 81 |
| Other city | 11 | 18 | 11 |
| Village | 8 | 9 | 5 |
| Other | 2 | 4 | 3 |
| Currently in school (part or full-time) | 52 | 41 | 57 |
| Highest level completed | | | |
| None | 23 | 23 | 8 |
| Primary | 28 | 31 | 33 |
| Secondary and higher | 49 | 46 | 59 |
| Currently employed | 10 | 18 | 24 |
| Marital status | | | |
| Single | 96 | 80 | 100 |
| Married | 4 | 20 | — |

*Totals not always equal to 100% due to rounding.

Four per cent of women aged 15–19 and 20% of those aged 20–24 were married. The 1988 general census of Dakar found that 10% of 15–19-year-olds and 33% of 20–24-year-olds were married (Direction de la Prévision et de la Statistique, 1992). This decrease should not be surprising since national surveys in 1978, 1986 and 1992 have demonstrated an increasing age of marriage over time (Direction de la Statistique, 1981; Ndiaye, Sarr & Ayad, 1988; Ndiaye *et al.*, 1994).

The average age for the women in the focus groups was 18·8 years and for the young men 18·0 years (as compared with 19·2 and 17·0 for the women and men in the survey). Their education levels varied from the fourth class of middle school to the last year of secondary school. All were single and none had any children.

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*Reproductive health knowledge*

Whether young people are engaged in sexual relations or not, it is important that they are educated in matters of reproductive health including family planning, sexually transmitted diseases and pregnancy. An education in reproductive health will prepare them to make well-informed decisions regarding their sexual behaviour.

*Knowledge of family planning.* Table 2 shows the percentage of respondents who could name individual methods of contraception. Condoms were the most widely known method with nearly all of the men and the majority of the women mentioning them. Pills were the next most commonly named method. Very few men could name any modern method other than condoms and pills. Overall, 20–24-year-old women could name more methods than the 15–19-year-olds.

Apart from knowing the names of methods, it is important to have accurate information about them. The results show that some misconceptions exist. Most respondents incorrectly believed that pills could lead to sterility while most correctly stated that condoms could not be used more than one time. This incorrect information about pills may cause young women to postpone use of this method.

Knowledge about contraceptive methods was also low in the two focus groups. Only two of the nineteen participants could name more than two contraceptive methods. The methods that generated the most discussion were condoms, oral contraceptives and IUDs. A few participants could provide specific information on the use of certain methods and their side-effects.

Focus group participants, like the survey respondents, also had misconceptions, including the belief that pills can lead to sterility. One participant explained that the IUD would be placed differently, depending on a woman's marital status or, perhaps, according to her sexual experience. The IUD would be placed at the opening of the vagina for unmarried women, but would be placed inside the uterus for married women (Naré, Katz & Tolley, 1997). Another stated that IUDs can cause twins.

*Knowledge of sexually transmitted diseases.* Nearly all the survey respondents had heard of AIDS and more than half had heard of syphilis. Other diseases were not widely known. An invented name (Le Nickel) was added to the list of sexual transmitted diseases to check the validity of the responses. Fewer than 5% answered that they had heard of this fictional disease, which indicates at most little overestimation in the percentages claiming knowledge of the various diseases. Respondents were fairly well informed about AIDS and STD prevention. Most knew that AIDS could be contracted from someone who appears to be in good health and that condoms could prevent STDs. Misconceptions do exist, however, and many incorrectly thought that using pills could also prevent STDs.

Focus group participants seemed well aware of the risk of getting an STD. Abstinence was the most commonly stated way to avoid contracting a STD. However, if this were not possible, several suggested that condoms be used. Like the survey respondents, they also had some incorrect beliefs of which methods are effective in preventing STDs. One young woman said that with the pill 'you are safe from STDs,' (Naré *et al.*, 1997).

**Table 2.** Knowledge of reproductive health

| | Women 15–19 *n* = 1005 % | Women 20–24 *n* = 968 % | Men 15–19 *n* = 936 % |
|---|---|---|---|
| **Knowledge of contraceptive methods** | | | |
| Methods cited | | | |
| Condoms | 61 | 78 | 96 |
| Pills | 44 | 66 | 44 |
| IUD | 27 | 47 | 7 |
| Abstinence | 8 | 14 | 24 |
| Diaphragm | 10 | 19 | 5 |
| Injectables | 9 | 19 | 2 |
| Spermicides | 5 | 13 | 6 |
| Withdrawal | 1 | 4 | 11 |
| Average number of modern methods cited | 1·6 | 2·4 | 1·6 |
| Correctly know the following: | | | |
| Pills do not cause sterility | 13 | 17 | 13 |
| Condoms cannot be used more than once | 76 | 89 | 96 |
| **Knowledge of STDs** | | | |
| STDs ever heard of: | | | |
| AIDS | 99 | 99 | 99 |
| Syphilis | 44 | 56 | 51 |
| Gonorrhoea | 27 | 38 | 31 |
| Herpes | 17 | 32 | 10 |
| Chlamydia | 8 | 13 | 4 |
| Nickel (invented name) | 3 | 4 | 3 |
| Correctly know the following: | | | |
| Can contract AIDS from someone who appears in good health | 79 | 85 | 92 |
| Pills cannot prevent STDs | 44 | 64 | 58 |
| Condoms can prevent STDs | 75 | 87 | 95 |
| **Knowledge of reproductive health** | | | |
| Correctly know the following: | | | |
| Time of menstrual cycle to get pregnant | 38 | 59 | 32 |
| Can get pregnant first time | 38 | 42 | 56 |

*Knowledge of the fertile period.* General knowledge on other reproductive health issues, specifically pregnancy, was weak. Fewer than half the survey respondents knew the time of the menstrual cycle when a woman was most likely to get pregnant. Women between the ages of 20 and 24 were the most likely to respond correctly, while men were the least likely. In contrast, men were the most likely to know that it is possible for a woman to become pregnant the first time she has sexual relations though, again, fewer than half of all respondents gave a correct response.

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**Table 3.** Sources of information on reproductive health

| | Women 15–19 $n=1005$ % | Women 20–24 $n=968$ % | Men 15–19 $n=936$ % |
|---|---|---|---|
| Received RH information | 49 | 73 | 87 |
| Principal source* | ($n=527$) | ($n=712$) | ($n=824$) |
| School | 38 | 27 | 25 |
| Media | 21 | 27 | 53 |
| Theatre | 11 | 11 | — |
| Family | 14 | 9 | 2 |
| Health personnel | 4 | 13 | 8 |
| Don't know | 7 | 6 | 8 |
| Other | 5 | 7 | 5 |
| Who speak with* | | | |
| No one | 64 | 37 | 40 |
| Friend | 26 | 52 | 48 |
| Teacher | 18 | 25 | 33 |
| Sister or brother | 17 | 35 | 19 |
| Mother | 9 | 14 | 2 |
| Husband | 2 | 11 | — |
| Other | 2 | 4 | 4 |
| Received Family Life Education | 9% | 15% | 9% |
| Average age in years | 16·0 | 19·7 | 15·9 |

*More than one response possible.

*Sources of reproductive health information*

In order to raise the level of knowledge of young adults and to design new educational strategies, it is useful to ascertain where respondents get reproductive health information and how they would prefer to get this information.

Table 3 shows that men were more likely than women to report having received information on family planning and reproductive health. The main sources of information on family planning for all groups were from schools and the media (mostly television but to a lesser extent radio). Other principal sources for women include family members and theatre troupes. Men and older women also report receiving information from health personnel.

Virtually all respondents said that they felt it was important that young adults be well informed about reproductive health and over 90% said they wanted more information on such topics as human reproduction, family planning and STDs. Even though they would like more information, when asked whom they have spoken to about family planning, Table 3 shows that many of the respondents, especially the younger women, reported no one. Both women and men were most likely to talk with friends, followed by teachers, brothers and sisters. Research in Kenya and Nigeria

also reported that young people are most likely to talk with their peers about sexuality (Barker & Rich, 1992).

Despite the fact that most survey respondents have not spoken with their parents about family planning, when asked for places where they feel information should be available, 60% of the men, 73% of the 15–19-year-old women and 69% of the 20–24-year-old women said 'at home'. Similar results were found in South Africa and Nigeria (Bailie & Steinberg, 1995; Amazigo *et al.*, 1997). Other suggestions for providing information included public places, through the media and in health facilities.

Focus group participants also expressed a desire to receive information on reproductive health from their parents and felt that parents should address these topics without fear or discomfort. However, participants stated that only a minority of parents do talk with their children, and for the most part there is little communication between parents and children on these topics. For these reasons, young people look to other sources for information. As one participant stated: 'Young women get all their information from school or in discussions with their girlfriends, because at home you never talk about reproductive health.' In fact, some stated that they use a school-related reason to be able to go to ASBEF for information. Community outreach and family planning clinics were also proposed as alternative approaches for providing information.

Some schools and organizations in Senegal, like other countries, provide programmes in Family Life Education (FLE). These programmes generally cover a range of reproductive health issues including AIDS and other sexually transmitted diseases, human reproduction and family planning. Only 9% of 15–19-year-old men and women and 15% of the older women have participated in an FLE programme. For the 15–19-year-olds, the average age of taking this programme was 16 whereas the 20–24-year-old women took it at age 20.

### *Premarital sexual activity and contraceptive use*

A low level of knowledge may have the greatest negative impact on those who are engaging in premarital sexual relations. In general, premarital relations are not considered acceptable in Senegalese society. Consistent with societal norms, most respondents reported they did not think it was acceptable for a woman to have sexual relations before marriage (97% of 15–19-year-old women; 94% of 20–24-year-old women; 91% of 15–19-year-old men). Both men and women, however, are more likely to think it is acceptable for a man to have premarital sex than it is for a woman, though the majority consider it unacceptable for men as well (70%, 65% and 71% respectively).

Similarly, almost all focus group participants indicated that adolescents should wait until they married to initiate sexual relations with a partner. Some participants mentioned the importance of earning the 'husband's respect' and maintaining the 'family's honour' (Naré *et al.*, 1997).

Despite the seeming agreement that girls should wait until marriage to initiate sexual activity, there was an acknowledgement that this does not always happen. As one young woman explained: 'It is good to wait for marriage. If

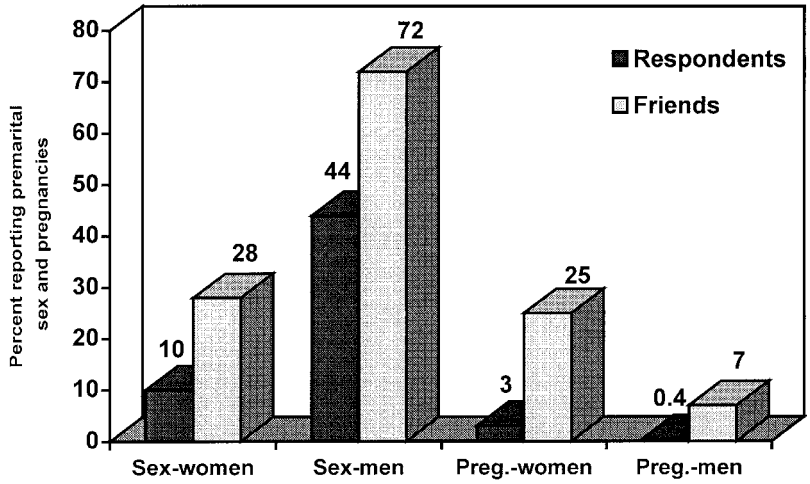


**Fig. 1.** Comparison of premarital sexual behaviour of respondents and their friends.

not, you should be between 18 and 21 before you have sex for the first time,' (Naré *et al.*, 1997).

Of the survey respondents, 5% of the 15–19-year-old women and 15% of the 20–24-year-olds stated that they had sexual intercourse before they were married. A much higher percentage of men (44%) reported premarital sexual intercourse (data not shown). Because of social norms that strongly condemn premarital sex, especially among women, it is possible that these results may not be an accurate reflection of the levels of premarital sexual activity in the community and they may be under-reported.

To try and get a better idea of the extent to which young adults are engaging in premarital sexual activity, information was collected on the sexual activities of the respondents' three closest friends. It was thought that even if a respondent was reluctant to talk about their own sexual experiences, they might be more inclined to answer about their friends. On the other hand, respondents may not be fully aware of their friends' activities. Figure 1 compares the percentage who reported that they had had premarital sex and a premarital pregnancy with the percentage of respondents who reported such behaviour for at least one of their three friends. While relatively low percentages of women reported sexual relations or a pregnancy before marriage, they report much higher percentages for their friends. Similarly, men report a much higher level of premarital sexual activity for their friends than they do for themselves and more of their friends had a partner who became pregnant.

These results must be interpreted with caution. On the one hand, it may indicate substantially higher levels of premarital sexual activity than is shown among the survey respondents. On the other hand, focus group discussions conducted with young adults in the US found that they may perceive that most people around them are having sex though they don't know this for sure (Fee, 1995). It is possible that the true rates are somewhere between what the respondents report for themselves and what they report for their friends.

*Premarital relationships.* Women may be more inclined to engage in premarital sexual relations if they are in a committed, monogamous relationship, perhaps one that will lead to marriage. This may be less important to young men. At the time of their first sexual experience, most women were either engaged or in what they considered to be serious (or continual) relationships (97%). The men were about evenly divided in reporting that they were in a serious (48%) or casual relationship (52%). The fact that women are in more committed relationships may be partly due to the fact that they begin sexual relations at an older age than men. On average, a woman was 18·4 years old at the time of her first sexual experience and a man was 14·5 years old.

Among women and men who were single at the time of the survey but who had had sexual relations, 36% of the women and 56% of men were not sexually active in the 4 weeks preceding their interview. The majority of women (56%) had only one partner during this time and only 4% had more than one partner. A much higher percentage of men (20%) reported multiple partners while 25% reported just one partner.

*Contraceptive use and access to services.* Despite their seeming disapproval of premarital relations, survey respondents were generally supportive of the use of contraception by non-married couples (65% of 15–19-year-old women; 76% of 20–24-year-old women; 79% of 15–19-year-old men). Responses of focus group participants showed that there are contradictory attitudes towards family planning use among single women. Several young women commented that they were uncomfortable at the ASBEF clinic, because they might be seen as actually using a method. As one person stated: 'Single girls are ashamed and hide themselves to keep the people around them from knowing . . .'

Yet there is a certain pragmatism as to whether family planning should be used. On the one hand, it is the girl's responsibility to remain virtuous and to avoid disgracing her family with an out-of-wedlock pregnancy. As one stated: 'The girl should be able to control herself all the time.' However, if this was not possible, then it is the girl's responsibility to protect herself: 'If a girl has a baby before marriage, she loses her freedom. To avoid all these problems, it's better to use contraception if you can't abstain.'

Several also mentioned the possibility of contracting a sexually transmitted disease and felt that if you can't abstain, you should use condoms and have only one partner to protect against STDs and AIDS.

Among survey respondents who had had premarital sexual relations, only 28% of the women and 20% of the men reported contraceptive use the first time they had sexual intercourse. Among those who didn't use contraception, lack of knowledge of methods was an important reason why it was not used (38% of women and 43% of men). In addition, many men stated that they didn't think pregnancy was possible (16%). Another important reason was that they didn't know they would have sex, though this was a reason given more often by women than by men (38% and 20% respectively).

In contrast to the low contraceptive use at the time of first sex, contraceptive use at the time of their last sexual experience is high among single men and women,

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though more prevalent among men. Eighty-five per cent of men and 67% of women reported using a method, with 97% and 62% respectively reporting condom use. These findings suggest that at some point after a woman or man begins to have sex they seek out contraceptive services.

*Family planning services.* The simulated client study provides evidence of what young adults face when they attempt to use family planning services. While the results have been previously reported (Naré *et al.*, 1997), a synopsis is presented here. The results show that the clinics in this study did not readily provide services to young adults. While many of the simulated clients felt that the providers were kind, there was a general feeling that providers were reluctant to take care of them.

Overall, the simulated clients reported their initial contacts with the clinics were negative. They expressed embarrassment and fear, and were uncomfortable with the other clients in the clinic. It was often not clear which services were available and some were told that they needed to go to another clinic for 'that type of service,' or even to 'go to the pharmacy'.

When they met with a provider, most simulated clients did receive family planning information, but they also received unsolicited advice such as, 'you should abstain until marriage' or 'focus more on your studies because sometimes methods are bad for your health'. The simulated clients who said they were researching information to prepare an oral report for class, were generally more satisfied with their experience though some complained that they were not given enough time. Some also said that they did not understand the information provided. A few were given samples (pills) or brochures.

Six simulated clients asked for contraceptives in addition to information. None of them received a method. When one simulated client said she was getting married soon and wanted to delay her first pregnancy, the provider promised to give her a method if she returned with signed permission from her future husband. Another female client who was directed to the wrong service was told by the doctor that: 'I'm going to talk to you only about condoms since other methods are only for women who have already been pregnant.'

*Premarital pregnancy.* One consequence of unprotected sex is premarital pregnancy, which can lead to unsafe abortions and loss of education opportunities. Three per cent of the women reported that they became pregnant before marriage: fewer than 1% of the 15–19-year-olds and 6% of the 20–24-year-olds. Half of these women said that they wanted the pregnancy. Of the women who didn't want to become pregnant, only 16% were using a contraceptive method before their pregnancy. Twenty-eight per cent were in school at the time and 20% had left school, though 13% returned after giving birth. Most (84%) did not marry the father of their child. Four men (<1·0%) said they had a partner who became pregnant though it is likely that at least some men were not aware of a partner's pregnancy.

### *Factors influencing knowledge of the fertile period and contraceptive use*

Two models were developed to explore factors that may be related to knowledge of the fertile period and contraceptive use at the time of last sexual intercourse.

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**Table 4.** Odds ratios and 95% confidence intervals for factors influencing single women's reproductive health knowledge and contraceptive use at time of last sexual experience

| | RH knowledge $n=1779$ | | Contraceptive use $n=221$ | |
|---|---|---|---|---|
| | Adjusted OR | CI | Adjusted OR | CI |
| FLE course | | | | |
| No | 1·0 | | 1·0 | |
| Yes | **3·34** | **2·48–4·49** | **4·58** | **1·43–14·62** |
| Age | | | | |
| 21–24 | 1·0 | | 1·0 | |
| 18–20 | **0·71** | **0·52–0·97** | 0·82 | 0·38–1·78 |
| 15–17 | **0·16** | **0·11–0·23** | 0·37 | 0·10–1·34 |
| Education | | | | |
| None | 1·0 | | 1·0 | |
| Primary | 1·52 | 0·97–2·36 | 0·38 | 0·14–1·07 |
| Secondary | **9·52** | **5·49–16·52** | 0·78 | 0·26–2·37 |
| Currently in school | | | | |
| No | 1·0 | | 1·0 | |
| Yes | 1·42 | 0·87–2·31 | **5·27** | **2·43–11·41** |
| Currently working | | | | |
| No | 1·0 | | 1·0 | |
| Yes | 1·18 | 0·74–1·89 | 0·73 | 0·34–1·56 |

Note: Intervals that are statistically significant appear in bold.

Knowledge of the fertile period was used as a proxy for measuring reproductive health knowledge. Since knowledge of the fertile period is important for all women, this model includes all single women. The model for contraceptive use includes single women who have had sexual intercourse only. It was postulated that higher levels of education and participation in a family life education programme would have a positive impact both on knowledge and contraceptive use. Other independent variables included age, and whether or not currently in school or currently working.

As expected education and/or participation in an FLE course had a positive effect on reproductive health knowledge and contraceptive use though the effects are independent of each other (Table 4). Education level, age and participation in an FLE course were all significantly associated with reproductive health knowledge. Those who took an FLE course were three times as likely as those who hadn't to correctly identify the time during the menstrual cycle when a woman is most likely to get pregnant. Similarly, women with secondary school education or higher were nearly ten times more likely to have this knowledge compared with those with no education. Conversely, compared with 21–24-year-olds, women who were between 15 and 17

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were 84% less likely to know the correct response and women between 18 and 20 were 29% less likely.

Participation in an FLE course and school attendance were associated with contraceptive use. Women who took an FLE course or who were currently in school were approximately fives times more likely to have used contraception the last time they had sex compared with those who hadn't taken a course or who were not in school.

## Conclusions

This study provides a comprehensive picture of the knowledge, attitudes and behaviour of young women and men in Dakar and Pikine, Senegal, regarding reproductive health and family planning. The findings clearly demonstrate the need to find better ways to educate young women and men on these issues and also to improve access to family planning services.

Overall, the results indicate gaps in knowledge of family planning methods and reproductive health. For example, there were many misconceptions regarding specific methods and protection against STDs. In contrast, knowledge of AIDS and condoms is extremely high. This is consistent with the fact that there have been widespread public campaigns on AIDS awareness and prevention, whereas there has not been a comparable dissemination of family planning or other STD information. Since condoms are emphasized in these AIDS campaigns it is not surprising that this has resulted in greater knowledge of condoms as compared with other family planning methods.

While the use of contraception at the time of first sexual relation for unmarried couples is low, it is encouraging that contraceptive use, and particularly condom use, was much higher at the time of last sex. It is not clear if condom use is driven by a desire to prevent pregnancy, prevent STDs or both. Although the number of pregnancies was small, most of the unwanted premarital pregnancies were to young women who were not using contraception.

Despite misconceptions about certain methods and low levels of knowledge about the fertile period, it is surprising there were so few pregnancies. It is possible that the number of pregnancies was under-reported. Also, the number of respondents who had abortions is not known. The abortion complication study at Hôpital Le Dantec provides evidence that there are young women who are not married who are having unsafe abortions. It is also possible that young men and women have an adequate knowledge of condoms and are using them consistently.

Young adults in Dakar want information on reproductive health and family planning and feel it should be easier to obtain. While many indicated their preference for receiving information from their parents, it was acknowledged that communications between parents and children on these subjects are difficult. This conflict has been noted in other countries whereby children expect information from their parents or other adults, but the adults either believe it is not their role or are embarrassed or lack the necessary skills. Focus group discussions in Guinea and Ivory Coast found that parents felt that teachers or medical providers should be responsible for informing their children about sexual issues yet teachers said they were uncomfortable

or that they were not skilled and lacked materials (Hyjazi, Welffens-Ekra & Tolley, 1998).

The evidence suggests that programmes such as Family Life Education courses may have an influence on reproductive health knowledge and contraceptive behaviour. Unfortunately, only a small percentage of the study participants had participated in these classes. Furthermore, the average age of respondents participating in these activities is about the same or even higher than the average age that they reported they first had sex. Thus, young adults may not be receiving FLE at an early enough age to provide them with needed information when they begin sexual relations.

Therefore, young people seek alternative ways to get the information they want. One such strategy in Dakar is to go to ASBEF for a school project since seeking information for school seems more acceptable then seeking information for one's own use. However, more often it means talking to friends, brothers and sisters who may also not be well informed. It is thus not surprising that misconceptions are widespread.

The simulated client study provides the best evidence of what single young adults face when they go to a family planning service to request either information or contraceptives. What emerged from this analysis is that barriers to obtaining family planning services exist for young adults. Overall, simulated clients were not made to feel comfortable or welcome at the service. Furthermore, providers did not accept requests for contraception from young women and men. The comment by one of the simulated clients summarizes these experiences: 'Fortunately for me it was only a role. I imagine that I would be in distress if I really needed to avoid a pregnancy.'

What can be done to better provide reproductive health education and services to young adults? It is evident that service providers need training to update them about the special reproductive health needs of young women and men and to improve client–provider relations with this age group. Also, special services need to be created at a family planning clinic or health centre, which would be geared specifically to providing information and services to young adults. In addition, it is important to find ways to expand FLE programmes so that they reach a larger segment of the population such as out-of-school youth. It is also necessary to begin efforts to educate youth at an earlier age so that young women and men will have the information they need, when they need it, to make decisions regarding their reproductive health. Adults and parents should be included in efforts targeted towards young women and men so that communications between these groups can be increased.

The results of this study were presented to health care providers, non-governmental organizations and donor agencies in Dakar in February 1996. The dissemination was well received and many were enthusiastic to promote information and services for young adults. Providers were particularly concerned with the results of the simulated client study. As a result, in February 1997, a workshop was conducted for the providers of the seven clinics that participated in the simulated client study. The workshop provided updated clinical information and reviewed counselling techniques. In addition, in 1998, a study to identify ways to improve Family Life Education programmes in Dakar was initiated.

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