The Mirena® intrauterine system is a highly effective and safe contraceptive; it also provides additional health benefits. See story, page 2.

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IUDs: A Beneficial, Underused Contraceptive Technology

Despite the many benefits of intrauterine contraception, this method is underused in most countries of the world, with the notable exception of China," says eminent obstetrician-gynecologist Daniel R. Mishell Jr. A long-time member of the Population Council’s International Committee for Contraception Research, Mishell is also editor-in-chief of the journal Contraception and a professor of obstetrics and gynecology at the Keck School of Medicine, University of Southern California. He co-authored a January 2008 article contending that intrauterine contraception, commonly called IUDs (for intrauterine devices), should be promoted by doctors as an alternative to tubal ligation. Also known as “tying the tubes,” tubal ligation is surgery to close a woman’s fallopian tubes, which connect the ovaries to the uterus.

Tubal ligation is the second most popular form of contraception in the United States, coming in a close second to the birth control pill. Among women in the United States who practice contraception, 27 percent have had their tubes tied and 30 percent take the Pill. Only 2 percent use an IUD.

Mishell points out that IUDs compare very well to tubal ligation. The two approaches offer excellent protection against pregnancy, with IUDs being somewhat more effective than some types of tubal ligation. An IUD can be inserted in a doctor’s office quickly, easily, and with little pain. Tubal ligation is a surgical procedure that must be performed in an operating room and may have a painful recovery period. IUDs are easily removed in the doctor’s office, and fertility is restored. Studies in different cultures have shown that some women who have had their tubes tied later regret it. In one study, more than 11,000 women in the United States who had been sterilized were interviewed within 14 years after the fact. Twenty percent of those who had had their tubes tied before age 30 expressed regret.

But reversing a tubal ligation is a complicated and often unsuccessful surgical procedure. Both IUDs and tubal ligation offer some protection against cancer: IUDs protect against endometrial cancer, and tubal ligation protects against ovarian cancer.

An international meeting on IUDs

A recent issue of Mishell’s journal Contraception focused entirely on the Fifth International Symposium on Intrauterine Devices and Systems for Women’s Health,

An IUD can be inserted in a doctor’s office quickly, easily, and with little pain.

An enduring myth about IUDs is that IUD insertion frequently pushes bacteria into the uterus, where it can develop into pelvic inflammatory disease (PID), a serious illness. Scientists at the symposium presented research refuting this belief. Olav Meirik, of the Instituto Chileno de Medicina Reproductiva, reviewed past studies on the link between IUDs and PID. He found that there is a slight risk of PID in the first month after IUD insertion. Women who develop PID after IUD insertion likely had an undiagnosed infection of the cervix (the lower part of the uterus) at the time of insertion. But, after the first month the incidence of PID is low among IUD users, similar to the rate in the general public. Meirik found that in the past, researchers did not take into account several biases that exaggerated the link between PID and IUDs. For example, many studies allowed women in control groups to use contraceptive methods that lowered their risk of PID. Additionally, IUD use has become safer in recent decades as doctors have been using a more effective screening and counseling process.

Another myth is that IUDs are an inappropriate contraceptive for women who have not given birth. Researchers at the symposium discussed the use of both copper-bearing and progestin-releasing IUDs by such
women. David Hubacher, of Family Health International, reviewed published studies on copper IUDs; Sarah Prager and Philip D. Darney, of San Francisco General Hospital, reviewed available literature about Mirena. The researchers found that all available IUDs are safe and extremely effective for women who have never given birth. There is some evidence that women who have never given birth may be slightly more likely than women who have given birth to expel copper IUDs. This may be due to the size and shape of current copper IUDs. The researchers suggest that to address this problem small changes may be needed in the design of these devices.

How IUDs work

Over the years, questions have arisen about how IUDs work. Some people believe that because IUDs are placed in the uterus, they usually work by preventing fertilized eggs from implanting there. However, a review by María Elena Ortiz and Horacio B. Croxatto, of the Instituto Chileno de Medicina Reproductiva, showed that this belief is not supported by the available evidence. (Croxatto is a member of the Population Council’s International Committee for Contraception Research.) IUDs induce a local inflammatory reaction in the uterus. Substances released by the IUD itself, or by this inflammatory reaction, prevent pregnancy. But, in general, is pregnancy prevented before or after fertilization?

In one group of studies, doctors looked for sperm in the fallopian tubes (where fertilization takes place). In IUD users they found few or no sperm, but in women who were not using IUDs they did find sperm. Another group of studies looked at early embryonic loss. Fertilization followed by early embryonic loss is a common occurrence in young, sexually active women who are not using contraception. If IUDs were preventing embryonic implantation, early embryonic loss would be more common in women using IUDs than among women who were not using contraception. But studies have shown that it is actually much less common in women using IUDs. The research suggests that the substances released by the IUD, or by the inflammatory reaction it causes, damage sperm and eggs and prevent them from forming viable embryos. Thus, the usual mechanism by which IUDs prevent pregnancy is by preventing fertilization.

A number of researchers at the symposium reviewed knowledge about the cancer-preventing effects of IUDs. Kathryn M. Curtis, of the U.S. Centers for Disease Control and Prevention, and Polly A. Marchbanks and Herbert B. Peterson, from the University of North Carolina at Chapel Hill, found no evidence of increased risk of any kind of cancer with IUD use. In fact, nearly all studies found a significantly reduced risk of endometrial cancer among women using IUDs.

The intrauterine delivery of progestin “has opened new vistas in gynecological therapy.”

A reduction in cancer risk is only one of the non-contraceptive health benefits of the IUD. The symposium featured a dozen presentations on additional health benefits of Mirena, the levonorgestrel-releasing intrauterine system. The device is valuable as a nonsurgical treatment for excessive menstrual bleeding related to a number of medical conditions and for pelvic pain related to endometriosis and adenomyosis. Excessive menstrual bleeding can lead to anemia and may require surgery, including hysterectomy.

Additional health benefits of Mirena

Numerous studies have shown that when women with excessive menstrual bleeding are treated with Mirena, a significant percentage of them can avoid a hysterectomy. Ian Milsom, of Sweden’s Goteborg University and Sahlgrenska University Hospital, reviewed the available studies. In one randomized controlled trial, Mirena was compared to hysterectomy. Only 42 percent of women who received Mirena subsequently underwent a hysterectomy during the five-year study period. The total cost of health care related to the excessive menstrual bleeding was 40 percent lower among women who stayed with Mirena than with those who got a hysterectomy. In another study, women who were considering a hysterectomy to treat their excessive menstrual bleeding were randomized either to continue their current medical treatment or to receive Mirena. At six months, 64 percent of the women who got Mirena decided they did not want a hysterectomy. Only 14 percent of the women receiving typical medical treatment decided not to get a hysterectomy.

Ian S. Fraser, of the University of Sydney and a member of the Population Council’s International Committee for Contraception Research, reported that, “Reasonable evidence exists that intrauterine levonorgestrel helps to prevent the development of uterine fibroids, endometriosis, endometrial hyperplasia (a potentially precancerous condition), acute pelvic inflammatory disease, and a wide range of menstrual symptoms. There is also promise of prevention of endometrial carcinoma, endometrial polyps, infertility, and perhaps adenomyosis.” David A. Grimes, from Family Health International, told the group that the intrauterine delivery of progestin “has opened new vistas in gynecological therapy.”

SOURCES


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In the past decade, Egypt has seen a decline in the rate of unemployment. At the same time, however, the poverty rate has remained stable or has even increased. This apparent contradiction “is puzzling to many and understandably has been met with a degree of skepticism, if not outright rejection,” writes social scientist Ragui Assaad in a recent analysis. To solve the mystery, Assaad examined data from one of the best sources of information on the workforce in Egypt, the Egypt Labor Market Panel Survey.

At the time of his research, Assaad was the Population Council’s Cairo-based regional director for West Asia and North Africa. He is now a senior consultant to the Council and has returned to his position as professor at the Humphrey Institute of Public Affairs, University of Minnesota.

The Egypt Labor Market Panel Survey of 2006, carried out between January and March 2006, is a follow-up to the Egypt Labor Market Survey of 1998, carried out between November and December 1998. The 1998 survey involved a nationally representative sample of 4,816 households. The final sample from the 2006 survey of 8,349 households is made up of:

- 3,684 households from the original 1998 survey;
- 2,167 new households that emerged as a result of splits from the original households; and
- a refresher sample of 2,498 households (to ensure that the data remain nationally representative).

Of the 23,997 individuals interviewed in 1998, 17,357 (72 percent) were successfully re-interviewed in 2006.

**Is unemployment actually down?**

“According to six different estimates based on various definitions of unemployment and of economic activity, unemployment has declined across the board in the 1998–2006 period, after having risen significantly in the 1988–1998 period,” writes Assaad. “Although the decline is fairly broad, cutting across urban and rural areas, and across regions, rural areas appear to have experienced a sharper decline in unemployment than urban areas. Most surprisingly, the decline is greatest in rural Upper Egypt.” Rural Upper Egypt is the poorest part of the country.

The highest rates of unemployment in 1998, 33 percent, were among rural women. By 2006, however, rural female unemployment had dropped significantly, to 17 percent. It is now lower than the figure of 20 percent among urban women. The sharpest drop in the number of rural unemployed women was among those whose only approach to looking for work was to register at a government employment office. “This is a clear indication that many educated rural women who were queuing for government jobs in 1998 have given up hope of getting such jobs and are now simply not seeking work at all,” writes Assaad.

Similarly, Assaad found that in 1998 unemployment levels were low for people with low levels of education, highest among technical secondary school graduates, and somewhat lower for those who attended a post-secondary institution or had graduated from college. In 2006, unemployment rates remained low for people with low levels of education, were higher for technical secondary graduates, and even higher for post-secondary and college graduates. The last group is the only one to have experienced an increase in unemployment between 1998 and 2006.

“Until recently,” Assaad explains, “the government had a major role in employing first-time entrants to the labor market, especially educated entrants. And now, as the economy is switching to more of a market orientation, the formal or the large-scale private sector is not providing the employment opportunities that the government used to provide. Young people are being employed by small-scale private firms, family farms, enterprises that are in the range of one to nine workers. So, a lot of young people are finding themselves either relegated to working for their own families as unpaid workers, or working for very small enterprises at very low levels of productivity. They are not getting social insurance coverage, not getting any kind of social protection that typically comes with jobs.”

Thus, much of the drop in unemployment may be due to people exiting the labor force as a result of discouragement rather than due to their being employed. This, along with the transition to lower-quality jobs, explains the continued stagnation of the poverty rate in Egypt, despite a drop in unemployment. “It’s not just whether or not you have a job, but does this job come with social protection? Does it support a decent standard of living?” Assaad says. “The Population Council has a lot of activities in Egypt right now centered on understanding the experiences of young people attempting to enter the workforce. That research involves understanding how labor markets function, understanding how poverty interacts with labor markets, and understanding the barriers that young people face in the labor market, especially in terms of gender. The fact is that young women and young men face very different obstacles as they make their transition to employment. The Council is working hard to understand and improve this situation.”

**SOURCE**


**OUTSIDE FUNDING**

Egyptian Center for Economic Studies, Ford Foundation, and United States Agency for International Development
Self-sampling for RTIs Is Valid, Feasible, Acceptable

Globally, new cases of syphilis, gonorrhea, chlamydia, and trichomoniiasis total 340 million each year. Sexually transmitted infections (STIs) and other reproductive tract infections (RTIs) are major causes of severe illness, infertility, obstetric complications, and infant illness. They may also increase transmission of HIV. Gonorrhea and chlamydia are 50 to 300 percent more prevalent among women than among men. Correctly diagnosing and treating RTIs in women is thus a public health imperative. However, reaching this goal usually requires a clinic visit and a pelvic examination, which may deter some women. Population Council researchers investigated the acceptability and feasibility of home-based self-sampling for STIs in Brazil and South Africa. In South Africa, Council researchers also looked at the validity of using self-sampling in a clinic setting to diagnose RTIs.

An alternative approach

Syndromic management is an inexpensive strategy for diagnosing infection based on the presence of vaginal discharge, lower abdominal pain, or other symptoms, signs, or risk factors, rather than on laboratory tests. However, research by the Population Council and others has shown that syndromic management is not effective for diagnosing or managing RTIs among women. One reason for this is that not all women with symptoms actually have an RTI, and not all women with RTIs have symptoms. Home self-sampling, combined with laboratory tests, is a possible alternative. The use of laboratory tests would provide greater accuracy than syndromic management. The use of self-sampling at home might be more acceptable to women who wish to avoid a pelvic exam, and would also be cheaper than conducting an exam in a clinic. Using this method, clinics could test women regardless of whether they have symptoms, and treat only those who really need it.

Population Council researchers* Heidi E. Jones, Sheri A. Lippman, Janneke H.H.M. van de Wijgert, and Juan Diaz collaborated with colleagues from Santa Casa Medical School in São Paulo and the University of Cape Town.

The researchers conducted two studies in South Africa and one in Brazil.

Self-sampling is valid, feasible, and acceptable

In the first study in South Africa, 450 women were randomly assigned to use either an ordinary tampon or a vaginal swab to collect samples at the clinic, which were later tested for trichomoniiasis (a protozoal infection), chlamydia and gonorrhea (both bacterial infections), bacterial vaginosis (an imbalance of naturally occurring bacteria in the vagina), candidiasis (a fungal infection), and high-risk human papillomaviruses (HPV, which can lead to cervical cancer). Nurses also took samples during pelvic exams of all the women to test the validity of these self-collected specimens.

The researchers found that self-sampling resulted in satisfactory validity for detection of gonorrhea, chlamydia, bacterial vaginosis, and candidiasis when tested with molecular tests or microscopy. For high-risk HPV only the swabs were adequate using one of the laboratory tests (Digene Hybrid Capture II), but both the tampon and swab were acceptable when a second test (Roche Reverse Line Blot Assay) was used. Culturing for trichomoniiasis after self-sampling was not successful. While self-sampling was feasible and acceptable for most RTIs, some women preferred vaginal examinations by a clinician.

For the second study, 818 women in Brazil and 626 women in South Africa were randomly assigned to receive a clinic appointment or a kit for home-based self-collection and testing for STIs. All the women doing self-testing collected two vaginal swabs. One swab was mailed to the laboratory for detection of chlamydia, gonorrhea, and trichomoniiasis; the other was used for a self-conducted rapid test for trichomoniiasis.

In Brazil, the researchers found that slightly more women responded to the initiative within two weeks in the home group (80 percent) than in the clinic group (76 percent). Younger women were more responsive to home-based screening than were older women.

Ninety-four percent of home-group participants successfully completed self-collection and self-testing on their first attempt. Similarly, in South Africa, slightly more women mailed in their kit (47 percent) than kept their clinic appointment (42 percent). An additional group of women partially completed the home kit (13 percent).

The researchers concluded in all studies that home-based self-collection and self-testing is acceptable and feasible in resource-poor settings, and is a promising alternative to clinic-based STI screening and syndromic management. Further, integrating these options into STI services could increase the number of women screened, and should be explored as effective rapid diagnostics become available.

SOURCES


OUTSIDE FUNDING

United States Agency for International Development, the Panthenon Trust, and the William and Flora Hewlett Foundation

* These researchers have since left the Council. Jones is at Columbia University; Lippman at the University of California; van de Wijgert at the University of Amsterdam; and Diaz at Reprolatina.
**Straight Talk Increases Knowledge, Improves Behavior**

The Straight Talk mass media program has been bringing information about HIV and reproductive health to young people in Uganda since 1993. The program is considered one of the most successful ongoing media efforts of its kind. But are its messages reaching young people and having a positive impact on their attitudes and behaviors? In 2005—2006, the Population Council’s USAID-funded Horizons Program conducted the first evaluation of Straight Talk to document its effects on young people, with partners PATH, the International Center for Research on Women, and Makerere University. The assessment focused particularly on the relationships between exposure to Straight Talk media and healthy behaviors.

The main part of the evaluation involved a survey of 1,019 girls and 1,021 boys between the ages of 10 and 19 years. Data were collected between 29 August and 7 September 2005 in six districts in Uganda.

Straight Talk produces various media products, primarily multilingual Straight Talk radio shows, multilingual Straight Talk newspapers, and an English-language Young Talk newspaper. Straight Talk also conducts school-based activities to engender a youth-friendly school environment.

**Straight Talk materials used widely**

The survey shows that Straight Talk materials have reached virtually all secondary and two-thirds of primary school students, as well as 56 percent of out-of-school young people. Adding local-language Straight Talk products doubles exposure, showing the value of these products in a multilingual country such as Uganda. Nearly 60 percent of adolescents who were familiar with Straight Talk reported that the main message they had gotten was about the importance of abstinence. The Straight Talk materials and programs advocate a variety of HIV risk-reduction strategies including abstinence, monogamy, condom use, and knowledge of one’s HIV status through voluntary testing for and counseling about HIV.

“The results suggest that greater exposure to Straight Talk products is significantly associated with higher reproductive health knowledge,” said Karusa Kiragu of Horizons/PATH (now of UNAIDS). Kiragu was one of the principal investigators on the study. “Each incremental exposure to Straight Talk is associated with increased knowledge. This relationship holds for both boys and girls.”

**Sexual activity and condom use**

About one-fourth of the respondents said that they had a boyfriend or girlfriend, and 12 percent of the study sample had ever had sex (15 percent of boys and 9 percent of girls). Among boys, those exposed to all three Straight Talk media products were 61 percent less likely to be sexually active than boys unexposed to Straight Talk. Among girls, the pattern was not clear or statistically significant, in part because so few girls were sexually active. Among adolescents who had ever had sex, about 38 percent of boys and 41 percent of girls had not had sex in the 12 months before the survey. They were thus practicing “secondary abstinence.” The boys who had the highest level of exposure to Straight Talk were three times more likely to report practicing secondary abstinence than were boys unexposed to Straight Talk.

Two keys to HIV prevention are condom use and knowledge about one’s HIV status. Half of the sexually experienced girls and 41 percent of such boys reported having used condoms at their last intercourse. While two-thirds of the boys reported being responsible for using condoms, more than half the girls reported taking the initiative to use them. Exposure to Straight Talk was clearly associated with having been tested for HIV and with knowing whether a partner had been tested. Among respondents who had been exposed to all three Straight Talk products, boys were 4 times as likely and girls were 3.5 times as likely as unexposed adolescents to have been tested for HIV.

For girls, exposure to Straight Talk materials is associated with greater self-assuredness, greater sense of gender equity, and the likelihood of having a boyfriend but not having a sexual relationship. Among boys, Straight Talk exposure is associated with lower likelihood of sexual activity, greater likelihood of resuming abstinence, and a greater likelihood of taking relationships with girls seriously.

Among both boys and girls, exposure to Straight Talk activities is associated with greater sexual and reproductive health knowledge and more communication with parents about sexual and reproductive health issues. Both girls and boys exposed to all three Straight Talk products were about four times as likely as unexposed adolescents to have talked with parents about reproductive health matters. The research suggests, however, that many parents need help to feel comfortable engaging in such conversations. Parents were asked about talking with their children about “sexuality, growing up, relationships.” Although 45 percent said they preferred that their child speak to a parent, 55 percent said they preferred that their child go elsewhere for such information.

“Straight Talk may have protected many boys and girls from HIV by helping them to stop sexual activity or to delay starting it all together,” concluded Tobey Nelson Sapiano, of Horizons/ICRW, another principal investigator on the study.

**Sources**


**Outside Funding**

United States Agency for International Development
While teaching and learning can take place in schools without desks, books, and other amenities, they cannot take place without a teacher. The impact of teacher absences has been the focus of recent studies in several countries, including Bangladesh, Ecuador, India, Indonesia, Peru, and Uganda. Population Council researchers made use of a unique longitudinal dataset from rural Pakistan to investigate teacher absences there. They found that gender inequities among students may be exacerbated by teacher absences.

Population Council Bernard Berelson Fellow Sharon Ghuman and Council economist Cynthia B. Lloyd based their analysis on two waves of panel data. These data were collected in rural Punjab and North West Frontier Province (NWFP) in December 1997 and January 2004. These provinces were chosen because they each contain enormous demographic diversity. Twelve rural communities were selected from six districts, three from each province. The communities cover the range of schooling conditions prevalent in NWFP and Punjab. In 1997 data were collected from all public and private schools in each community, as well as any school outside the community attended by at least two community children. The follow-up survey in 2004 revisited all these schools, as well as any new schools inside or outside the communities being attended by community children.

In Pakistan—as in many other Muslim countries, including Afghanistan, Bahrain, Iran, Jordan, Kuwait, Libya, Oman, Qatar, Saudi Arabia, and the United Arab Emirates—public schools are single-sex and, further, men teach boys and women teach girls at separate institutions. Thus, if female teachers are more likely to miss work than male teachers, the burden of these absences would fall more heavily on girls than boys. In coeducational settings, teacher absences are unlikely to have different implications for girls and boys. (Private schools in Pakistan are generally coeducational.)

**What factors influence teacher absence?**

In 1997, about 35 percent of teachers in public girls’ schools and 22 percent of teachers in public boys’ schools were absent during the researchers’ unannounced visits. As a result, about 25 percent of enrolled girls and 17 percent of enrolled boys did not have a teacher present to teach their class. In 2004, absence rates among teachers in public girls’ schools had declined to 18 percent, about half the level seen in 1997. But they remained higher than those in public boys’ schools (10 percent). “In the two surveys, teacher absence in public girls’ schools is about 1.6 to 1.7 times higher than in public boys’ schools,” said Ghuman. “By contrast, there was essentially no gender gap in the percent of students experiencing teacher absence in coeducational private schools.”

The researchers found that among the factors most strongly associated with lower female teacher absence in public schools is better school infrastructure. Conditions in Pakistan’s girls’ schools have improved since the mid-1990s as the result of government investments in basic amenities. In 1997, for example, none of the public girls’ schools the researchers visited had electricity, toilets, and desks, and only 4.5 percent of the public boys’ schools had these amenities. By 2004, 26 percent of girls’ schools and 21 percent of boys’ schools had these amenities. This indicates substantial improvements, particularly for the girls’ schools. By contrast, in 1997 and 2004, 83 and 92 percent of private schools, respectively, had all of these amenities.

Another strong predictor of female teacher absence was living outside of the community in which they teach. “Whether they teach in government or private schools, women who live in the same community as the school are substantially less likely to be absent,” explained Lloyd.

The design and evaluation of programs that address the lack of teachers and their frequent absence from the classroom are needed. “In India, student achievement was increased substantially by placing additional para-teachers from the community into schools,” said Ghuman. “This approach may be worth trying in Pakistan.” The construction of middle and high schools for girls, which will increase the supply of secondary school graduates eligible to become teachers, will ease teacher shortages, although this will take time.

**SOURCE**


**OUTSIDE FUNDING**

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