

# Knowledge of and Attitudes Toward the Pill: Results of a National Survey in Japan

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**Context:** After decades of debate, the oral contraceptive pill was legalized in Japan in June 1999. Because the pill had been unavailable up until then, little is known about the public's knowledge about, attitudes toward and intentions to use the pill.

**Methods:** In a nationwide probability sample, 630 women and men were interviewed in their homes in March 1999. Respondents were asked a range of questions to gauge their knowledge about and attitudes toward the pill.

**Results:** Most respondents (79%) could identify both the name and purpose of the birth control pill. Roughly the same proportion of respondents held an overall positive impression (44%) as held a negative impression (42%) of the pill, and 14% were undecided about the method. The pill's high level of effectiveness in pregnancy prevention was the most common reason for having a favorable impression of it (47%). Women were more concerned about side effects than were men, and they also knew more about the pill's potential side effects than did men. Only 12% of respondents said they intended to use the pill if it were approved. Roughly one-quarter (23–26%) did not correctly identify the pill's inability to protect against HIV and other sexually transmitted diseases (STDs).

**Conclusions:** Legalization of oral contraceptives in Japan has led to an urgent need to educate both men and women on the inability of the pill to protect against STDs, including HIV. Policymakers and providers need to recognize the importance of encouraging dual method use in Japan.

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After decades of debate, the pill was finally approved for contraceptive use in Japan in June 1999, 40 years after it was approved in most Western countries. The Japanese Ministry of Health and Welfare had long been reluctant to approve the pill as a contraceptive. It first planned to approve a high-dose contraceptive pill in 1965, but delayed because of concerns that the pill would lead to sexual immorality, and because of fears of harmful side effects following the thalidomide scare.<sup>1</sup>

Over the ensuing decades, there were several other attempts to legalize the pill in Japan.<sup>2</sup> Approval continued to be delayed for many reasons, however, including lingering concerns about adverse side effects, especially cervical cancer and thrombotic problems; the potential relationship between pill use and sexually transmitted diseases (STDs); and fears about environmental pollution from residues of hormones in the urine of pill users.<sup>3</sup>

The long reluctance of the Ministry of Health and Welfare to approve the pill for birth control is curious, since the method was known in most other countries during those years to be highly effective and safe, and there was ample evidence that

the ministry's overt concerns were largely unsubstantiated. Japan's situation is partially explained by the lack of organized popular and political support for the pill especially from women's groups, which was apparent in the United States and most European countries in the 1960s. Indeed, at different times, physicians' groups, family planning groups and others concerned with the declining birthrate in Japan actually opposed legalization of the pill and warned against its potential adverse impact on women's sexual morality and on the nature of sexual relations between men and women.

The Ministry of Health and Welfare continued its resistance to the birth control pill into the late 1980s and early 1990s, despite results of its own study demonstrating the effectiveness and safety of the low-dose pill<sup>4</sup> and despite increasing pressure for legalization from Japanese professional organizations. In 1999, shortly after the ministry approved sildenafil citrate (Viagra), a treatment for male impotence, after only six months of consideration, it approved the low-dose pill for contraceptive purposes.

The condom has a longstanding history of being the main contraceptive method in Japan.<sup>5</sup> Responses to a national survey conducted in 1998 in which multiple

answers (of up to two methods) were allowed showed that among married women, the majority (78%) used condoms; the next most commonly used methods—rhythm and basal body temperature—were used by only 8% each, followed by withdrawal (7%) and female sterilization (5%).<sup>6</sup> Ninety-five percent of unmarried women in that survey used condoms (and a fairly high proportion, 17%, used the basal body temperature method). However, other survey data suggest that the actual level of condom use is not as high as is commonly thought: Results from a recent survey conducted shortly before the pill was legalized indicate that only 22–23% of Japanese men and women used condoms with regular partners and 28–30% did so with casual partners.<sup>7</sup>

It is still too early to tell how the recent legalization of the pill will affect the prevalence of individual methods. Japan is the only country to legalize the pill following the global spread of the HIV epidemic; the effect of a possible shift away from condom use on the spread of HIV is also unknown.

Among the few sources of data on attitudes toward the pill and intentions to use it are two nationwide public opinion polls on family planning that were conducted by Japan's major newspaper, *Mainichi Shimbun*, in 1996 and 1998.<sup>8</sup> Results from these surveys showed that respondents considered the pill's favorable qualities to be its perceived effectiveness in prevent-

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**Table 1. Percentage distribution of men and women aged 20–49, by level of awareness of the pill, and percentage knowing the correct response to knowledge questions about the pill, all according to gender, Japan, March 1999**

Pill-related measures	Total (N=630)	Women (N=374)	Men (N=256)
<b>Level of awareness</b>			
Recognize pill and know its purpose	79.2	81.6	75.8
Only heard of pill (unaware of purpose)	17.9	16.6	19.9
Never heard of pill	2.9	1.9	4.3
Total	100.0	100.0	100.0
<b>% with accurate knowledge about pill regarding</b>			
Prevention of conception	82.7	83.7	81.3
Protection against HIV infection	77.0	77.0	77.0
Protection against STD infection	74.1	73.8	74.6*
Suppression of ovulation	61.9	64.4	58.2*
Effect on sperm	56.3	58.3	53.5
Nausea and bleeding as possible side effects	51.0	56.7	42.6***
Weight gain as possible side effect	51.6	58.6	41.4***

\*Difference by gender is statistically significant at p<.05. \*\*\*Difference by gender is statistically significant at p<.001.

ing unwanted pregnancy and its related potential to reduce the need for abortion; they perceived its main negative traits to be potential harmful side effects. In 1998, 10% of currently married women of reproductive age intended to use the pill if it became available.

Another study, conducted in 1997 among Japanese university students, revealed that men were more likely than women to hold positive attitudes toward legalization of the pill.<sup>9</sup> Approximately 30% of students in that survey reported that they intended to reduce condom use after beginning to use the pill.

This article presents the results of a study undertaken in March 1999 to gauge knowledge, attitudes and use intentions among a representative cross-sectional sample of males and females aged 20–49. It is the only survey on this topic that was fielded just before the pill was legalized in Japan; thus, it yields important information for the planning of sexual and reproductive health education, counseling and clinical services in the new contraceptive environment that now includes the pill.

**Data and Methods**

**Sampling**

To obtain a nationwide probability sample of adults aged 20 and older, we used two-stage probability sampling. Stage 1 involved sampling census districts from 157 clusters. The probability of selecting the district was based on the size of the general population aged 20 and older. In Stage 2, we used systematic sampling to select 15 persons to be interviewed within each census district. We set an upper age limit at 49 years for inclusion in the sample,

which resulted in 1,025 individuals being sampled.

**Survey**

A week prior to the interview, notification letters indicating the purpose of the survey and the planned methods of data collection were sent to the selected individuals. In March 1999, 157 trained interviewers, each assigned to a single census district, conducted the survey in-person in the respondent’s home. No identifying information was collected during the interview.

The survey questionnaire, administered orally, collected social and demographic information (including the respondent’s age, gender, education and occupation). Respondents received prepaid telephone cards, valued at US \$5, upon completion of the interview to thank them for participating. Interviewers revisited homes up to three times in cases of absence.

Of the original 1,025 individuals who were contacted, 630 completed the interview, yielding a response rate of 61%. The 39% who did not respond included both individuals who refused to participate and those who could not be reached for the interview. Women were more likely to respond than were men (70% vs. 52%), and older sampled individuals were more likely to agree to be interviewed than were younger ones.

The final sample size for analysis included more women (59%) than men (41%), with proportionately more individuals in their 40s than in their 20s or 30s: Among the 374 women, for example, 25% were aged 20–29, 33% were aged 30–39 and 42% were aged 40–49. The 256 men were similarly distributed among 20–29-year-olds (27%), 30–39-year-olds (27%) and 40–49-year-olds (47%).

The questionnaire contained several items on the pill that had been included in a monthly omnibus survey con-

ducted by the Chuo Survey Corporation. These items assessed knowledge and attitudes about the pill, the reasons behind these attitudes and individuals’ intentions to use the pill. Respondents were asked a general question on what they thought about use of the pill, and were then given a checklist of reasons behind their positive or negative impressions of the pill; multiple answers were allowed. Most of the knowledge questions were in the form of a statement (i.e., “The pill prevents HIV infection”), to which respondents were given the options of “agree,” “disagree” or “do not know.”

Survey response data were analyzed using the statistical package SPSS. We tested for differences between groups using a chi-square test.

**Results**

**Knowledge About the Pill**

The large majority of respondents (79%) were familiar with the pill and knew its purpose, 18% had only heard about the pill but were unaware of what it does, and 3% had never even heard of it (Table 1). Men and women in their 30s were more likely than those in their 20s or 40s to both recognize the pill and to be aware of its purpose (not shown), although this difference by age was not statistically significant. There were also no statistically significant differences in answers to questions about the pill by the respondents’ educational attainment (not shown).

When asked whether they agreed or disagreed with certain statements about the pill, most participants (83%) correctly agreed that the pill “assists in achieving contraception.” Women were significantly more likely than men both to agree that

**Table 2. Percentage of respondents agreeing with various reasons for either favoring or not favoring the pill, by gender**

Reasons	Total	Women	Men
<b>For positive impression of pill</b>			
Is a highly effective method	(N=276) 46.7	(N=163) 47.9	(N=113) 45.1
Increases the choice of contraceptive methods	39.1	36.2	43.4**
Is a female-controlled method	35.5	42.3	25.7**
Is easier to use than other methods	23.6	20.2	28.3
Increases enjoyment of sex	9.8	8.0	12.4
<b>For negative impression of pill</b>			
Has side effects	(N=263) 78.7	(N=163) 84.0	(N=100) 70.0***
Undermines sexual morality	34.6	31.3	40.0
Places sole responsibility for contraception on women	32.7	39.9	21.0***
Increases incidence of STD infection	24.3	22.7	27.0*
Increases incidence of HIV infection	25.9	23.3	30.0

\*Difference by gender is statistically significant at p<.05. \*\*Difference by gender is statistically significant at p<.01. \*\*\*Difference by gender is statistically significant at p<.001. Notes: Respondents could give multiple reasons. Data are based only on the 539 respondents who answered the question.

**Table 3. Percentage distribution of respondents, by desire to use the pill if it were approved, according to gender and age-group**

Gender and age-group	Yes	No	Do not know	Total
<b>All (N=630)</b>	<b>12.1</b>	<b>64.1</b>	<b>23.8***</b>	<b>100.0</b>
<b>Women (N=374)</b>	<b>10.7</b>	<b>71.9</b>	<b>17.4</b>	<b>100.0</b>
20–29	14.0	68.8	17.2	100.0
30–39	10.3	70.6	19.0	100.0
40–49	9.0	74.8	16.1	100.0
<b>Men (N=256)</b>	<b>14.1</b>	<b>52.7</b>	<b>33.2</b>	<b>100.0</b>
20–29	14.9	52.2	32.8	100.0
30–39	12.9	58.6	28.6	100.0
40–49	14.3	49.6	36.1	100.0

\*\*\*Difference by gender is statistically significant at  $p < .001$ .

the pill suppresses ovulation (64% vs. 58%) and to correctly identify some of the pill's potential side effects, such as nausea and bleeding (57% vs. 43%) and weight gain (59% vs. 41%). Approximately one-quarter of both men and women erroneously agreed that the pill prevents HIV infection (23%) and STD infection (26%).

### Attitudes Toward the Pill

Respondents could check off more than one reason why they held either positive or negative attitudes toward the pill. Overall, 44% of respondents regarded the pill positively, 42% said they had negative impressions of it and 14% were undecided (not shown). The most frequently selected reason why respondents looked favorably on the pill was its effectiveness in preventing pregnancy (47%, Table 2). Men were significantly more likely than women to hold a positive attitude toward the pill because its availability would increase the range of method choice in Japan (43% vs. 36%), while women were significantly more likely than men to cite the pill being a female-controlled method as a positive trait (42% vs. 26%). In addition, men were more likely than women to cite an increased enjoyment of sex as a reason for having a favorable impression of the pill (12% vs. 8%), although this difference was not significant.

The most common reason cited by both men and women who held a negative impression of the pill was concern over the method's side effects (79% of those who disliked it), with women being significantly more likely than men to cite these concerns (84% vs. 70%). More than one-third of those who were critical of the pill thought that its use undermines sexual morality (35%), although men appeared to be more concerned about this than were women (40% vs. 31%). Women were twice as likely as men to be negatively disposed

toward the pill because its use leaves women with sole responsibility for contraception (40% vs. 21%). Finally, men were more likely than women to agree that pill use increases both the incidence of STD infection (27% vs. 23%) and also of HIV infection (30% vs. 23%), although the difference by gender on the pill's impact on the incidence of HIV infection was not statistically significant.

### Intentions to Use the Pill

In the months before the pill was legalized in Japan, only 12% of respondents indicated that they intended to use it in case of approval, 64% did not intend to do so and 24% did not know (Table 3). Men were slightly more likely than women to intend to rely on the pill (14% vs. 11%); moreover, 72% of women said they would not want to use the pill, while 53% of men responded that they would not want their partner to use it.

Women displayed an age-linked trend in interest in using the pill, with younger women being more likely than older women to indicate an interest. Among men, however, there was less variation by age in their desire for a partner to use the pill, as 13–15% in each age-group expressed an interest.

We also examined knowledge about the method's inability to protect against HIV and other STDs by respondents' stated intentions to use the pill if it were legalized. Respondents who intended to use the pill were no more likely than those who did not intend to do so to correctly affirm the pill's inability to protect against STDs (20% vs. 20%) and HIV (18% vs. 19%). This finding suggests that many potential users had an insufficient understanding of the pill's ineffectiveness in preventing infection. Respondents who were unsure about whether they wanted to use the pill were even more misinformed about its ineffectiveness in disease prevention (i.e., 45% of those unsure agreed that the pill prevents STDs and 35% agreed that it protects against HIV, not shown).

## Discussion

### Interest in the Pill

The approval of the birth control pill, just three months after this survey was conducted, signaled a significant event for Japanese women who had had little access to female-controlled methods up until that time. Legalization of the pill increased the range of contraceptive options in Japan, which ideally should lead to greater satisfaction in contraceptive use for both women and men.

Yet legalization is just a first step in increasing access and in promoting use. Since the pill's approval, Japanese women have not shown a great deal of interest in trying it. In the first year following legalization, fewer than 1% of women of child-bearing age—100,000 of a possible 30 million women—received a prescription for the pill.<sup>10</sup> Anecdotal evidence suggests that even women who were using higher-dose pills for noncontraceptive reasons have not readily switched to the newly approved low-dose pill, partially because of its high costs (i.e., \$350–450 annually, including optional laboratory tests),<sup>11</sup> which are not covered by medical insurance.

We still do not know, however, how much this lackluster interest is caused by the pill's high cost, by the inconvenience of required physician visits and of the perceived requirement of STD testing, by fears of side effects, by physicians' reluctance to prescribe it or by other reasons. Some observers contend that low coital frequency among married couples in Japan may render the pill a less attractive choice, given its cost, inconvenience and perceived side effects.<sup>12</sup> Furthermore, even though younger, unmarried people may be more interested than married couples in the pill, the cost may be prohibitively expensive for them.

Data from our survey on knowledge of the birth control pill indicate that awareness has increased since the *Mainichi Shimbun* survey conducted three years earlier (i.e., 82% of women were aware of the pill and its purpose in 1999, compared with 62% in 1996).<sup>13</sup> This increased awareness may reflect the flurry of reports on the legalization of the pill in newspapers and magazines just prior to the fielding of our survey. Even though knowledge of the pill increased, however, our survey still showed that most women did not plan to use it as a method of contraception.

It also showed that women in their 20s and men in their 40s were the most likely to have a favorable impression of the pill. As in a 1997 survey of university students,<sup>14</sup> fear of side effects was still the major reason respondents gave for holding a negative view of the pill. This concern appears to reflect a more generalized than specific fear, however, since although 79% overall attributed their negative impression of the method to its side effects, only 51–52% correctly identified nausea, bleeding and weight gain as potential side effects.

Women were significantly more likely than men to both cite concerns about side effects and to correctly identify those side

effects. This finding points to the importance of educating both men and women regarding the benefits as well as the side effects of the pill. Unfortunately, our survey did not query respondents on more serious potential health consequences of the pill, such as breast cancer and thrombotic concerns.

In the present study, as in the 1997 survey of university students, men were more likely than women to anticipate increased sexual enjoyment with approval of the pill. This situation appears to be the reverse of that in the United States, where a recent study found that women held more favorable perceptions of the pill than men, and that women were also more likely than men to feel that the pill does not interfere with sexual pleasure.<sup>15</sup> This discrepancy may be due to Japanese women's lack of understanding about the pill and their lack of experience using it.

Women's control over the method was equally likely to be considered a positive trait or a negative trait (i.e., 42% of women favored the pill because it can be taken only by women, while 40% criticized the pill for the same reason). This finding indicates a possible societal ambivalence about the impact of female-controlled methods on the dynamics of sexual relationships. For example, some women might fear that they would be less able to negotiate condom use for STD protection if their husband or sexual partner knew that they were already protected from pregnancy by the pill.

Although 44% of both men and women viewed the pill positively, only 12% intended to use the method or have their partner use it. Men, regardless of age, were slightly more likely than women to intend to rely on the pill for contraception. This gender differential in intentions is not surprising, considering the long history of fear of side effects of the pill among Japanese women, who are unused to visiting a clinician for a birth control method.

While adolescents were not included in our survey, data from other developed countries indicate that among all age-groups, young people aged 15–19 are the most likely use the pill. However, adolescents and young adults may also be less likely than older individuals to use a condom with the pill, which could have serious implications for acquisition of STDs, including HIV. Sex education in Japanese schools continues to focus more on pregnancy protection than on STD prevention. Research we conducted in 1997 found that university students perceived little need to protect themselves against STDs.<sup>16</sup> Fu-

ture surveys of Japanese adolescents are urgently needed to assess their knowledge of, access to and use of the pill (and of condoms) since legalization.

#### **Impact on Sexual Behavior**

One of the most enduring concerns about legalizing the pill in Japan has been the method's potential impact on condom use, because of the protection against STDs that condoms afford. Japan's different contraceptive time-line means it is now grappling with concerns over decreased condom use just when many other countries are experiencing a renewed interest in barrier methods. Indeed, concerns over STD and HIV infection have changed contraceptive-use patterns in many countries, leading to increased condom use and decreased reliance on hormonal methods.

For example, a recent U.S. study found that among contraceptive users, the proportion using the pill declined from 31% in 1988 to 27% in 1995, while the proportion relying on the condom increased over the period, from 15% to 20%.<sup>17</sup> Another recent U.S. study, conducted among high school students, found that pill use declined as condom use rose.<sup>18</sup> And in France, the percentage of individuals protected by the condom at first intercourse rather than by the pill increased steadily from the mid-1980s to the mid-1990s.<sup>19</sup> Moreover, a survey of Australian university students revealed that between 1988 and 1994, the proportion of students using condoms increased both with regular and casual partners.<sup>20</sup> Finally, in Canada, pill use declined from 19% in 1984 to 17% in 1995, while condom use increased from 5% to 10% over that period.<sup>21</sup>

Thus, while condom use appears to be increasing in many settings, it may also theoretically decline when women first adopt a hormonal method; despite efforts to promote dual method use to protect against both pregnancy and STDs, most users of hormonal contraception do not also use condoms.<sup>22</sup> For example, a U.S. study showed that fewer than 25% of young couples protected by the pill also used a condom at last intercourse.<sup>23</sup> In addition, data recently collected from three large urban hospitals in the United States indicated that condom use declined significantly among respondents after adoption of a long-term hormonal method, such as the implant or the injectable.<sup>24</sup> However, even though condom use dropped sharply among all women who began use of a long-term hormonal method, it was encouraging that those who were at comparatively higher risk of STDs

and HIV—i.e., adolescents and women with more than one sexual partner—were less likely than other women to fail to use a condom along with their hormonal method.

Inadequate knowledge on the limits of the birth control pill to protect against STDs and HIV remains an issue in the United States among individuals who rely solely on the pill. Moreover, in some Western European countries where reliance on oral contraception is widespread, studies have uncovered a lack of knowledge about the pill's inadequate protection against HIV infection among some population subgroups.<sup>24</sup> Finally, a general knowledge survey conducted in several European nations revealed that 10–20% of respondents believed the pill to be effective in preventing HIV infection.<sup>25</sup>

In our study, roughly one-fifth each of respondents who intended to use the pill and of those who did not intend to do so, mistakenly affirmed that the pill protected against STDs and HIV. A recent survey of first-year Japanese university students similarly revealed that 40% did not realize that the pill was ineffective in preventing STD and HIV infection.<sup>27</sup>

#### **Need for Education**

Our data indicate the need for education regarding the pill and its ineffectiveness in protecting against STD and HIV infection in Japan. The high levels of condom acceptance and use that existed before legalization of the pill present an opportunity for health care providers to promote continued condom use. However, while the rate of HIV infection in Japan is still low, the high incidence of chlamydia and other STDs suggests that condoms may not be as commonly or as consistently used as was previously thought.<sup>28</sup>

The recent availability of oral contraception in Japan—and its attendant clinic visits—presents new opportunities for health care professionals to come into contact with women to discuss health issues and to screen for STD infections, including HIV. While access to the newly approved pill has been limited by its high cost, by fear of side effects and by a lack of information on the method's benefits, women may also have been reluctant to adopt the pill because of the inaccurate perception that both a pelvic exam and an STD test are required before it can be prescribed. Japanese couples need to be encouraged to continue using condoms for STD and HIV infection, and they need to be better educated on the inability of the pill to protect against infection. Appro-

prate information on the benefits and side effects of the pill also needs to be provided to women and men so that a wider range of family planning options will be used in Japan.

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