

# Women's Knowledge of Commonly Used Contraceptive Methods

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## ABSTRACT

**Introduction:** Despite the availability of reliable contraceptive methods in this country, half of all pregnancies are unintended. There is a scarcity of research in a primary care population that measures women's knowledge about commonly used contraceptive methods.

**Methods:** All women between 18 and 40 in the waiting room at 2 different family practice clinics were approached over a 2-week period. Women were asked to complete a short written questionnaire that included demographics, reproductive information, and 9 true/false questions about common contraceptive methods.

**Results:** Two hundred fifty-two surveys were completed. Half of all women believed that condoms are 99% effective and only 57% knew that condoms were not as effective as oral contraceptive pills. Close to half of all the women received their contraceptive information from the clinic. Only 42% of the women knew that oral contraceptive pills can reduce the incidence of some types of cancer. There was not correlation between number of questions answered correctly and number of children, type of contraceptive used, age, or race/ethnicity. Twenty-six percent of the respondents were not using any contraception.

**Discussion:** Overall, the women surveyed demonstrated fairly good knowledge of contraception methods. More women surveyed were aware that oral contraceptive pills can reduce the rate of uterine and ovarian cancer than in previous similar studies. Also, women in this survey were more likely to use intrauterine devices than the general population.

**Conclusion:** Health care professionals should develop more effective education about contraceptive methods.

## INTRODUCTION

Despite the availability of reliable contraceptive methods in this country, half of all pregnancies are unintended.<sup>1</sup> Half of all unintended pregnancies end in abortion.<sup>1</sup> Women who continue unplanned pregnancies are more likely to abuse drugs and alcohol during pregnancy, have later entrance to prenatal care, and to suffer from pregnancy complications.<sup>2-4</sup> Children who are born as a result of unplanned pregnancies are more likely to be victims of child abuse and to have lower educational attainment.<sup>4-5</sup> The estimated direct medical cost of unplanned pregnancy in 2002 in the United States was \$5 billion.<sup>6</sup> It is also estimated that the use of contraception afforded a savings of approximately \$19 billion in that same year.<sup>6</sup>

Many sexually active women start a contraceptive method and then stop without informing their health care providers. Many women who stop a particular method of contraception never restart another method and may be at risk for pregnancy. An analysis of 2002 data found that 23% of sexually active women of child bearing age had gaps in their contraceptive use during the previous year.<sup>7</sup>

Learning more about women's knowledge of contraceptive methods will help health care professionals address misconceptions, thereby improving consistent use of contraception. If providers could specifically address barriers to consistent use of contraception, they may be able to counsel women more effectively about specific methods. The aim of this study was to evaluate the knowledge of women in a primary care population.

## METHODS

This survey was written at a Flesch-Kincaid reading grade level of 3.9. It included several demographic questions, information about current contraceptive use and reproductive history, and 9 true/false questions

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**Table 1.** Sample Demographics

Age (N=248)	No. (%)
18-22	54 (22)
23-27	70 (28)
28-31	33 (13)
32-35	38 (16)
36-40	54 (21)
Race/Ethnicity (N=252)	No. (%)
White	131 (52)
African American	74 (29)
Hispanic	21 (8)
Asian	11 (4)
Other	4 (2)
Biracial	11 (4)
Type of Birth Control Used (N=238 <sup>a</sup> )	No. (%)
None	62 (26)
Condoms alone	25 (11)
Oral contraceptives	36 (15)
Depoprovera	24 (10)
Intrauterine device	17 (7)
Tubal ligation	26 (11)
Vasectomy	7 (3)
Patch or ring	11 (5)
Condoms and another method	19 (8)
Other	11 (5)
No. of Children (N=252)	No. (%)
0	80 (32)
1	63 (25)
2	43 (17)
3	28 (11)
4 or more	24 (10)
Pregnant	14 (5%)

<sup>a</sup> Fourteen women were pregnant and were excluded

**Table 2.** Information Sources About Contraception

Where Information Was Received	N=248
Clinic	104 (42%)
Friends	5 (2%)
Family members	6 (2%)
TV or magazines	4 (2%)
Internet	4 (2%)
2 sources	63 (25%)
3 sources	28 (11%)
>3 sources	9 (4%)
Other	25 (10%)

about commonly used contraceptive methods. The questions came from commonly heard misconceptions in practice. The survey also asked women where they received information about contraception. The survey was given to 5 female medical students to determine if the questions were understandable. Questions were revised based on the responses. These results were not included in the final analysis.

Subjects were recruited on consecutive days over a 2-week period at each of 2 urban family practice residency teaching clinics in Madison, Wis. A medical student researcher sat in the waiting room of each clinic and approached every woman who entered the clinic who appeared to be between 18 and 40 years of age. Women who had appointments themselves, as well as women who were accompanying someone with an appointment, were asked to complete the surveys. Women were asked their ages to assure their eligibility for the study. The medical student researcher provided clarification of the questions if needed. If a woman declined to complete the survey, her age and ethnicity were asked.

Data was entered into a Microsoft Excel database. Chi square comparisons and Pearson correlation coefficients were performed using Excel.

## RESULTS

A total of 252 surveys were completed (124 at Clinic 1; 128 at Clinic 2). The respondents at the 2 clinics were compared on demographic measures, reproductive health measures, and number of questions answered correctly using the Chi square statistic (ie, age, ethnicity, number of children, birth control type, sources of information, and number of correct answers). There were no significant differences between the groups. Therefore data from the 2 clinics was analyzed together. Their ages and ethnic distribution were similar to the general sample. Only 5 women declined to answer the survey and stated many reasons for not participating in the survey that included being in a rush, being in pain, and being embarrassed about the topic. Twenty-five women needed clarification of certain questions, most commonly asking what an intrauterine device (IUD) was.

Participants' ages were distributed equally among the groups (Table 1). About half of the respondents were white and a third were African American. Over half of the sample had 0 or 1 child. Twenty-six percent of the respondents were not currently using any contraception and 11% were using condoms alone for contraception. Forty-two percent of the respondents received information about contraception from the clinic and many used information from several different sources (Table 2).

Twenty-four women answered all 9 questions correctly (10%), 116 (46%) answered 7 or 8 correctly, 88 (35%) answered 5 or 6 correctly, and 24 (10%) answered less than 5 correctly. For answers to specific questions, see Table 3.

Pearson correlation coefficients were calculated to determine possible associations between demographic

**Table 3.** Answers to Specific True/False Questions

	Correct Number	Incorrect Number	Answer
Condoms are as effective as birth control pills. (N=248)	144 (58%)	104 (42%)	False
IUDs are not safe. (N=232)	184 (79%)	48 (21%)	False
Birth control pills can cause blood clots. (N=238)	200 (84%)	38 (16%)	True
Condoms are 99% effective in preventing pregnancy. (N=248)	112 (49%)	116 (51%)	False
Spotting when you take birth control means it is not working. (N=238)	225 (95%)	13 (5%)	False
Birth control pills can decrease your risk of some types of cancer. (N=240)	99 (41%)	141 (59%)	True
I only need to use condoms in the middle of the month. (N=246)	241 (98%)	5 (2%)	False
Birth control pills don't work unless you take them every day. (N=250)	237 (95%)	13 (5%)	True
You can't get pregnant if you have sex during your period. (N=248)	227 (92%)	21 (8%)	False

IUD=intrauterine device.

and reproductive variables and contraceptive knowledge (ie, number of questions answered correctly). There were no significant associations between number of questions answered correctly and age ( $r=0.093$ ), race/ethnicity ( $r=0.279$ ), or number of children ( $r=-0.037$ ). There was not an association between number of correct answers and type of birth control used ( $r=-0.126$ ) or information sources for contraceptive information ( $r=-0.044$ ).

## DISCUSSION

Overall, the women in our study demonstrated fairly good knowledge of commonly used birth control methods. Two of the 3 questions answered most incorrectly relate to the effectiveness of condoms and birth control pills. A study of female college students found that over half of the respondents overestimated the effectiveness of condoms, though 90% correctly estimated the efficacy of oral contraceptive pills.<sup>8</sup> However, 42% of the women in this study thought that condoms are as effective as birth control pills for preventing pregnancy and that over half (51%) thought that condoms were 99% effective in preventing pregnancy. With perfect use, condoms may be 98% effective. With typical use, however, they are only 85% effective in preventing pregnancy.<sup>9</sup> This knowledge deficit may explain why many women use condoms and don't feel the need to use a more reliable form of contraception.

Only 41% of the women in our sample knew that oral contraceptive pills can reduce the rate of uterine and ovarian cancer. A similar survey administered in Oregon to women in the waiting rooms of 4 obstetric clinics found that less than 15% of the participants knew of the decreased risk of uterine cancer with oral contraceptive pills and 28% knew of the decreased risk of ovarian cancer.<sup>10</sup> A study from the Yale University Health Services of adult women found that between 80% and 95% of the women surveyed did not know that oral contraceptive pills decreased the risk of endo-

metrial and ovarian cancer.<sup>11</sup>

IUDs are a safe and effective form of contraception. It is heartening to note that only 21% of our sample thought that IUDs were not safe. A study of pregnant women in New York found that 71% of the 190 women surveyed did not know about the safety of IUDs.<sup>12</sup> Women in our sample had a higher rate of IUD use (7%) than the general population of women in the United States (2.1%),<sup>13</sup> which may explain the better knowledge about IUD safety. IUDs have suffered in popularity secondary to the side effects of the Dalkon Shield IUD in the 1970s. This type of IUD was on the market for 3 years and was linked to multiple cases of septic abortions. Subsequent types of IUDs are very safe, and have become a more attractive contraceptive option over the past 5-10 years.

A limitation of our study is the sample selection. This was a convenience sample of women attending a family medicine clinic (either as a patient or accompanying a patient) over a 2-week period during the summer. It was assumed that these 2 weeks were typical in the clinics. However, there is no way to know whether the women we studied were different in some way from the general population of women attending these same clinics. The fact that the populations of each of the 2 clinics were similar speaks to the idea that this was a typical period of time.

The survey itself was not validated. Each question was derived from clinical experience and then written in the most readable language. Even so, there were several reasons why women may have gotten questions wrong. Women may have misinterpreted questions, been in a hurry, or not understood the questions themselves. The questions focused on common clinical misconceptions and were therefore not comprehensive. Several commonly used contraceptive methods (ie, Depot Medroxyprogesterone Acetate [DMPA], the contraceptive patch and ring) were not covered in the survey due to space constraints. Future

research may examine women's knowledge of these kinds of contraception.

## CONCLUSION

Women in this study demonstrated some important gaps in their knowledge about commonly used contraceptive methods. Health care professionals need to develop more effective education about contraception. This study is unique in that it captures women in "real life" primary care clinics where presumably much education about contraception takes place. Future research should look at whether contraception education coming from physicians makes a difference in women's contraceptive behavior. Furthermore, educational materials about contraception need to be written at reading levels appropriate for all patients. Clearer educational materials and patient-centered counseling about pregnancy readiness, attitudes toward contraception, and all the contraceptive options need to be emphasized in primary care offices.

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