

Essay

Contraception in Japan: A Review of the Medical and Allied Health Literature

Miki TAIDE* and Hisako SAITO**

(Accepted December 7, 2002)

Key words: reproductive health, contraception, literature review

Abstract

Continuing efforts are being made to improve the reproductive and sexual health rights of the Japanese population. However, current knowledge is limited on the attitudes of Japanese toward degree and appropriate use of contraception. A review of the Japanese literature on contraception was undertaken to determine known information and to identify areas needing further research.

We discovered that to promote effective use of contraception for lowering the high rate of elective abortion in Japan, future research must focus on the following issues:

1. To improve the reproductive and sexual rights of both men and women.
2. To obtain more representative data on those who want to use contraceptives in order to reflect the entire age range and marital status.
3. To improve health education and lift economic restrictions on contraceptive use.

Introduction

Contraception of some kind is practiced by all societies, and Japan is no exception. After the Meiji era, however, European and American influence prompted Japanese to conceal discussion pertaining to sex and birth control in society. Even today, Japanese families tend not to talk about sexual relations in the home, although it is the basis of family formation [1]. The patriarchal society strongly influences the way in which Japanese view and discuss sex, and references in public are discouraged [2]. Although they hold an increasingly stronger position in today's society, women are still limited in their personal reproductive and sexual health rights [3].

Recently, international attention has focused on reproductive and sexual health rights as human rights. These rights were key issues addressed at the International Conference on Population and Development held in Cairo in 1994 and were again at the 2000 Fourth World Conference on Women in Beijing.

Japan has actively started to promote change, and in 1996 the issue of reproductive and sexual health rights was first addressed by a governmental policy entitled, "Plan for Gender Equality 2000". Progress is being made with this plan, but a number of major obstacles remain [4]. For instance, the low dosage, oral contraceptive pill was approved in June 1999, but a 10 year interval was required from application to approval [5]. Women could select a method of contraception with the approval of their physician, who confirmed that the method was deemed medically safe, and that she was competent to use the chosen

* Saga Medical School, Graduate School of Medical Science, Master's Program, Saga, 849-8501, Japan

** Division of Nursing, Faculty of Medicine, Saga Medical School, Saga, 849-8501, Japan

method. However, the improvement in women's rights had little effect on the contraceptive methods actually used by women. In 2000, the contraceptive pill was only 1.5% of all methods used compared to 75% for the condom [6]. Although elective abortions reported in 2001 under the Mother's Body Protection Law decreased to 341,558, Japan had the second highest abortion rate after India [7]. Women still favor contraceptive methods that have a lower efficacy and are male-oriented. Thus, the improved availability of many contraceptive methods for Japanese women has not yet reduced the high elective abortion rate.

With greater availability and choice of contraceptions, physicians and nurses must address not only how the population receives adequate health education on contraception but also how research can improve effective use of contraception to reduce the number of elective abortions. To get appropriate support, and to set up an outlook for the future, the medical profession should be aware of what forms of contraception people in Japan use and favor.

The purpose of this paper is to analyze current research, and to explore the direction future research may take. This review of contraceptive use in the Japanese literature summarizes research findings between 1996 and 2000 in an attempt to clarify the research done and identify areas needing further study.

Method

Search strategy:

Content on contraceptive use and elective abortion in Japan was taken from 47 medical and nursing journals published between 1996 and 2000, and the Japanese Journal of Maternal Health published between 1991 and 2000.

Publications were selected by computer, using the word "contraception" in a search engine of the medical journal, *Japana Centra Revuo Medicina*, and publications known to have articles related to this issue. Synonyms for contraception, family planning, and birth control were also searched. References in health or sex education literature were selected only when associated with the terms family planning or birth control. If contraception was described, we selected all articles included in the original papers, review articles, abstracts of studies, talks, lectures, etc. which related to contraception.

Analytic approaches:

Five categories were classified using 4 to 6 subcategories respectively.

References to contraception or its synonyms were investigated according to the following factors:

1. Type and frequency in the medical specialty
2. Frequency by specialty and date of publication
3. Gender of subjects
4. Age of subjects
5. Subject matter of contraception in the articles

Medical specialties were subcategorized according to the following factors:

1. obstetrics
2. medical disciplines other than obstetrics
3. nursing other than obstetrics
4. community and public health

Date of publication was classified by year.

Gender was subcategorized according to the following factors:

1. women
2. men
3. married couples
4. unmarried couples
5. both men and women

Ages were subcategorized according to the following factors:

1. below 6 years (preschool)
2. 7-12 years (youth)
3. 13-18 years, junior high school or high school students (adolescence)
4. 19-34 years (young adult)
5. Also 35 years to menopause for women, and 35-59 years (middle aged) for men
6. Post-menopause for women, and past 60 years for men (aged)

Content of the articles were subcategorized according to the following factors:

1. physician concerns
2. user concerns
3. education and related information
4. societal influence

Estimation Techniques:

After reviewing the data twice for proper categorization, information was entered into Microsoft Excel 2000 (Microsoft, Japan), and subcategories were identified. These were then analyzed by simple and cross tabulations.

Cross tabulations were done as follows: 1) type of medical specialty and date of publication; 2) gender of subjects and method of contraception, and 3) age of subjects and method of contraception.

In all review articles, the reference selected was one with a high similarity to the original paper.

Results

1. Articles on contraception by medical + allied health specialties (Table 1, 2)

There were 370 articles mentioning contraception in the 46 publications reviewed.

Of these, 316 articles were in obstetrics publications. In medical literature other than obstetrics, all 15 articles related to the sale of oral contraceptives. Articles focused on a woman's right to take the pill and its adverse medical side-effects. In Japan little research has been done on the role of male hormonal contraception or vasectomy in preventing pregnancy. Instead, the focus has been on vasectomy procedures, the sale and use of oral contraceptives in other countries, and the development of a contraceptive vaccine based on sperm immunity. Nursing publications had no reports on the health background, follow up or psychological well-being of men considering or having undergone vasectomy. Community and public health related literature focused primarily on the role and practice of sex education [1] [3] [5] [11-30].

2. Articles on contraception by publication date and medical + allied health specialty (Table 3)

Literature published in the field of obstetrics had, as expected, a higher rate of reference to issues pertaining to contraception than other fields. In addition, a greater number of articles have been published

Table 1 Journal articles on contraception by medical + allied health specialty journals

Specialty	No. of articles	Name of journal
Obstetrics (Total of 14 publications)	316	Japanese Journal of Maternal Health ; Journal of Japan Academy of Midwifery; Journal of Nursing Research; Japanese Journal of Fertility and Sterility; The Japanese Journal for Midwifery; Current Information of Maternal & Child Health; Acta Obstetrica Et Gynaecologica Japonica (journal of the Japan Society of Obstetrics and Gynecology); Obstet. Gynecol. (Tokyo); Obstetrical and Gynecological Therapy; Obstetrical and Gynecological Practice; The World of Obstetrics & Gynecology; Prenatal Medicine (Tokyo); The Japanese Journal of Prenatal Care; and Clinical Gynecology and Obstetrics.
Medical disciplines other than obstetrics (Total of 6 publications)	15	Popular Medicine; Education and Medicine; Clinical Endocrinology Japanese Journal of Urological Surgery; Journal of Mental health; and The Japanese Journal of Urology.
Nursing other than obstetrics (Total of 20 publications)	7	Official Journal of the Japanese Nursing Association; The Japanese Journal of Nursing; The Japanese Journal of Nursing Education; The Japanese Journal of Nursing Research; The Japanese Journal of Nursing Science; The Japanese Journal of Nursing Science (in relation to nurses' perspective); The Japanese Journal of Nursing Arts; Japanese Journal of Nursing Administration; Comprehensive Nursing, Quarterly; The Japanese Nursing Journal; Journal of Nursing Research (in relation to nursing synthesis, adult nursing, nursing education, community nursing, nursing management, elderly nursing, and infant nursing); Journal of Japan Academy of Nursing Science; Journal of Nursing Research (compilation); and The Japanese Journal of Clinical Nursing.
Community and public health (Total of 7 publications)	32	Japanese Journal of Public Health; The Journal of Child Health; Health Care; The Journal of Public Health Practice; Monthly Community Medicine; The Japanese Journal of Community Health Care; and The Japanese Journal for Public Health Nurses.

Total = 370

Table 2 List of reviewed articles (1)

Name of journal	Volume number, inclusive pages, [year]
Japanese Journal of Maternal Health	32(1), 20-29, 30-35, 124-128, 32(4), 556-559, 563-567, [1991]; 33(4), 450-473, 501, 503-504, 516-517, 624-625, 1992; 34(1), 21-24, 34(2), 179-185, 34(3), 301-310, 34(4), 445-463, [1993]; 35(3), 101, 146-148, [1994]; 36(1), 53-62, 151-172, 193-200, 36(3), 251-252, [1995]; 37(1), 11-15, 118-126, learn3-7, 37(3), 121-122, 308-310, 313, 315-318, 320-325, 328-331, [1996]; 38(1), 18-24, 118-125, 38(2), 248-258, [1997]; 39(3), 156, 178, 200, 260, 39(4), 351-355, [1998]; 40(2), learn3-5, 40(3), 70, 204-206, 40(4), 376-382, [1999]; 41(3), 139-144, 200-204, 214-215, [2000]
Journal of Japan Academy of Midwifery	12(2), 5-11, [1999]; 13(3), 134-135, [2000]
Journal of Nursing Research (in relation to motherhood nursing)	28, 66-68, [1997]; 27, 23-25, [1996]; 28, 42-44, [1997]; 31, 35-37, [2000]
Japanese Journal of Fertility and Sterility	41, 106, [1996]; 43, 234-235, [1998]; 44(2), 13-22, 115, [1999]; 45(3), 107-111, [2000]
The Japanese Journal for Midwifery	50(11), 36-40, [1996]; 51(12), 72-76, [1997]; 52(5), 63-66, [1998]; 53(1), 6-7, 53(6), 5, 53(3), 81, 53(11), 9-63, [1999]; 54(5), 87, [2000]
Current Information of Maternal & Child Health	35, 2-55, 94-97, [1997]
Acta Obstetrica Et Gynaecologica Japonica (Journal of the Japan Society of Obstetrics and Gynecology)	48(9), N-165-168, [1996]; 52(9), N-188-191, [2000]
Obstet. Gynecol. (Tokyo)	63(4), 459-465, [1996]; 66(4), 535-543, 546-556, [1999]; 67(Suppl.), Preface-293, [2000]
Obstetrical and Gynecological Therapy	72(4), 397-401, 418-422, 451-464, 73(2), 207-211, [1996]; 76(4), 388-392, 424-431, 440-441, 450-456, 77(6), 607-611, 628-671, [1998]; 79(1), 57-60, 105-112, 79(2), 227-230, 79(3), 353-357, 79(4), 453-459, [1999]; 81(2), 125-138, 144-157, 177-180, [2000]
Obstetrical and Gynecological Practice	46(4), 465-471, [1997]; 49(10), 1391-1396, [2000]
World of Obstetrics & Gynecology	48(9), 29-38, 48(12), 45-52, [1996]; 49(7), 57-66, [1997]; 50(3), 77-78, [1998]; 51(2), 75-91, [1999]; 52(2), 83-89, 91-98, 52(5), 1-64, 75-83, [2000]
Japanese Journal of Prenatal Care	15(1), 23-28, 43-49, [1996]; 15(3), 7, 9-34, [1996]; 17(Special new year issue), 73-83, 17(Special summer issue), 10-22, 54-85, 112-125, 137-141, 178-183, 206-210, 232-240, 304-309, 17(10), 18-21, [1998]; 18(2), 24-30, 18(5), 73-80, 18(Special summer issue), 11-68, 80-83, 90-93, 128-131, 258-265, 277-291, 18(11), 8-36, 18(12), 8-31, [1999]; 19(10), 67, [2000]
Clinical Gynecology and Obstetrics	51(2), 196-197, 51(4), 361-380, 406-408, [1997]; 54(7), 864-889, 917-934, 54(8), 1042-1043, 54(9), 1085-1087, [2000]
Popular Medicine	195, 7-13, [1997]; 210, 2-10, [2000]

Table 2 List of reviewed articles (2)

Name of journal	Volume number, inclusive pages, [year]
Education and Medicine	
	48(3), 75-82, [2000]
Clinical Endocrinology	
	46(5), 57-73, [1998]; 47(10), 1-43, [1999]
Japanese Journal of Urological Surgery	
	12(9), 1107-1115, [1999]
Journal of Mental health	
	42, 13-17, 27-32, [1996]
Japanese Journal of Nursing	
	63(6), 555-560, [1999]
Japanese Journal of Nursing Research	
	32(6), 2-11, [1999]
Japanese Journal of Nursing Science (in relation to nurses' perspectives)	
	21(8), 84-87, [1996]
Japanese Nursing Journal	
	20(2), 88, [2000]
Journal of Nursing Research (nursing education)	
	31, 72-77, [2000]
Journal of Japan Academy of Nursing Science	
	19(3), 64-73, [1999]
Japanese Journal of Public Health	
	43(10), 100, 204, 399, 947, [1996]; 44(10), 369, 1093, 1277, 1459, 1461, [1997]; 45(10), 57, 146, 501, 756 [1998]; 46(3), 204-215, 343-351, 46(10), [1999]; 47(11), 592, 595, 599, 750, 756, [2000]
Journal of Child Health	
	58(2), 269, [1999]
Health Care A Monthly Journal Devoted to Development of The Science	
	41(5), 377-380, 41(9), 711-716, [1999]
Monthly Community Medicine	
	14(6), 43-48, [2000]
Japanese Journal of Community Health Care	
	30(8), 55-75, [1999]
Japanese Journal for Public Health Nurse	
	52(11), 908-911, 52(13), 1123-1127, [1996]; 53(9), 704-708, [1997]; 54(6), 445-450, 54(12), 992-996, [1998]; 55(10), 880-882, [1999]; 56(12), 1030-1031, [2000]

Table 3 Articles on contraception by publication date and medical or allied health specialty

Specialty	2000 (n)	1999 (n)	1998 (n)	1997 (n)	1996 (n)	1995 (n)	1994 (n)	1993 (n)	1992 (n)	1991 (n)	Total (n)
Obstetrics*	102(19)	54(7)	41(7)	27(4)	54(32)	7	5	5	9	12	316
Medical disciplines other than obstetrics	2	7	3	1	2						15
Nursing other than obstetrics	3	3			1						7
Community and public health	7	8	5	6	6						32
Total (n)	114	72	49	34	63	7	5	5	9	12	370

* () Number of publications in Japanese Journal of Maternal Health

more recently, with 54 articles published in 1996 and 1999, and 102 in 2000.

3. Articles on contraception by gender (Figure 1)

Of the 232 research articles discussing contraception and gender, the focus was as follows: 98 articles about women, 6 about men, 6 about married couples, and 28 concerned both men and women. Among married couples, it was predominantly the wives who were asked to participate in research studies [1] [11-26] [28-29].

4. Contraception knowledge and age (Figure 2)

The two critical ages for knowledge about contraception were “school days” and “age at which contraception may be required.”

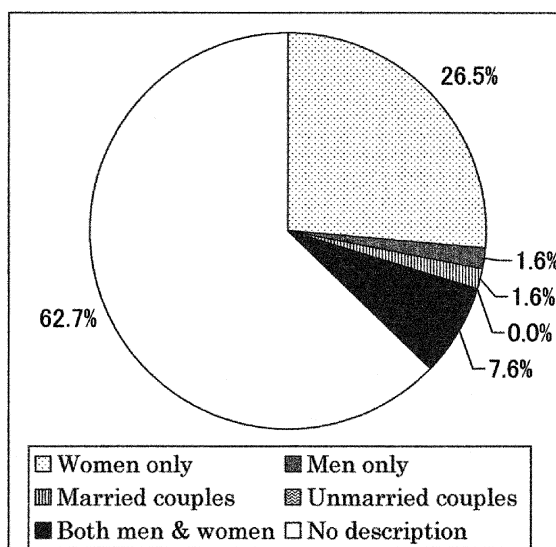


Fig. 1 Percentage of contraception publications by gender

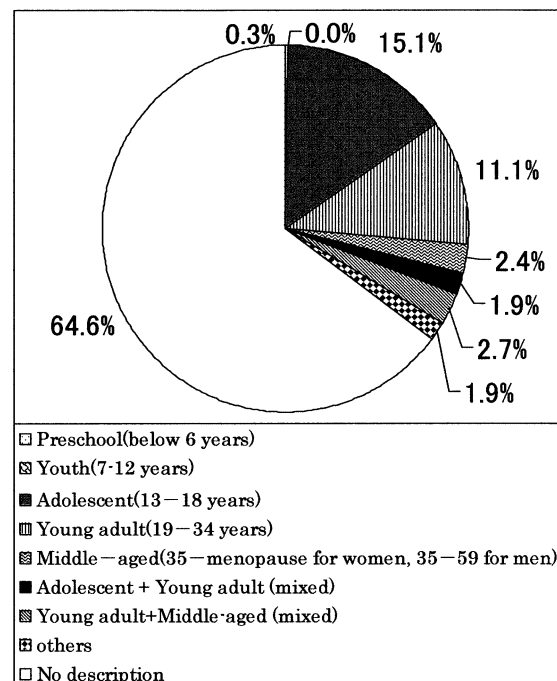


Fig. 2 Percentage of contraception publications by age

Of the 239 articles on contraception in relation to age, one pertained to the preschool group. Fifty-six articles were related to adolescents, 41 to young adults, 9 to middle-aged persons, 7 to both adolescents and young adults, 10 to young adults and middle-aged individuals, and 7 to subjects whose age was ambiguous or did not fit the age categories listed above. There was no literature pertaining to school-aged children or the aged [1] [11-16] [18-20] [22-30].

5. Articles on contents of contraception (Table 4)

Type of contraception was most frequently mentioned in the literature (285 articles) followed by issues concerning health education and informed consent (185 articles) and contraceptive activity (181 articles) [1] [3] [5] [11-30].

In looking at the subcategory, physician concerns and societal influences, the article was most concerned with the pill. It was described in light of basic knowledge and information, and health education. For user concerns, there was a lot of investigation of actual conditions of knowledge, consideration, and action.

Previous studies focusing on knowledge of contraception, and usage revealed that not everyone wanting to avoid pregnancy uses contraceptives. Subjects reported that the cost and method of purchasing contraception precluded use. Despite many references to problems related to purchasing contraceptives, few studies have focused on the problems consumers may face at time of purchase, including method of purchase (an important issue for adolescents who need money to buy contraceptives), portability of certain contraceptives, and who bears responsibility for carrying and initiating use of contraceptives.

Table 4 Articles on issues affecting contraception

Issues	Number of articles (n)	Issues	Number of articles (n)
Physician concerns		Education and related information	
Consultation	38	Health education and informed consent	185
Medical management	66	Type	285
Sterilization operation	56	Use	112
Switch from contraception to HRT	11	Positive and negative effects of this contraceptive use on health	173
Development of new method	110	Effect (failure rate)	113
Total (n)	281	Condition	39
User concerns		Taboo and relative taboo	60
Selection	145	Interaction with another medicine	24
Decision (person)	94	Total (n)1	991
Purchase and cost	54	Societal influences	
Knowledge	88	History	84
Consideration of use	148	Current legal state	153
Contraceptive activity	181	Religion	5
Factor in which it influences action	66	Environmental hormone	9
Failure method	47	Total (n)	251
Problem	73		
Influence on embryo	26		
Total (n)	922		

6. Relationship between gender and contraception (focus of research) (Table 5)

The number of articles aimed at one or both sexes was analyzed. Most research targeted women: Research on types of contraception (69 articles), contraceptive activity (56 articles) and considerations for selecting contraception (54 articles). By contrast, the articles about men focused on types of contraception

Table 5 Relationship between gender and contraception (focus of research)

Issues	Woman (n)	Man (n)	Married		Total (n)
			couple (n)	& women (n)	
Physician concerns					
Consultation	6	1		4	11
Medical management	6			1	7
Sterilization operation	10		1		11
Switch from contraception to HRT	3				3
Development of new method	16			1	17
Total (n)	41	1	1	6	49
User concerns					
Selection	45	2	4	8	59
Decision (person)	28	1	1	4	34
Purchase and cost	12	1		2	15
Knowledge	38	1	1	17	57
Consideration of use	54	4	3	22	83
Contraceptive activity	56	3	3	12	74
Factor in which it influences action	21		1	8	30
Failure method	16			1	17
Problem	15	1		6	22
Influence on embryo	2				2
Total (n)	287	13	13	80	393
Education and related information					
Health education and informed consent	47	3	2	13	65
Kind	69	6	5	17	97
Use	17	1		1	19
Positive and negative effects of contraceptive use on health	30	2		2	34
Effect (failure rate)	27	1		1	29
Condition	15			3	18
Taboo and relative taboo	7			1	8
Total (n)	212	13	7	38	270
Societal influences					
History	8			1	9
Current legal state	34	2		2	38
Religion	1				1
Environmental hormone	1				1
Total (n)	44	2	0	3	49

(6 articles), considerations for use (4 articles), and contraceptive activity, health education, and informed consent (3 articles). There were no references to factors that men consider when the partner selected a low dosage oral contraceptive pill. Research on married couples related to types of contraception (5 articles), selection of contraception (4 articles), and contraceptive activity and considerations for use (3 articles). Sterilization as an option for birth control was rarely mentioned. Twenty-two articles addressing both genders focused on considerations for use, and 17 referred to type of contraception and knowledge of contraception. There were no articles on whether men are conscious of side-effects experienced by women using contraception and whether their behavior is altered by such awareness [1] [11-26] [28-29].

In the subcategory, of the 49 articles on physician concerns, the focus was as follows: 41 articles about women, 1 about men, and 1 about married couples. For user concerns, investigation of the realities facing men were few. The report on health education offers little information about adult men and married couples.

7. Relationship between age of subjects and contraception practice (Table 6)

Most research involved adolescents, and focused on related health education and informed consent (38 articles), type of contraception (30 articles), and contraceptive activity (24 articles). Many articles on young adults (18-34 years) discussed considerations for use (32 articles), type of contraception (28 articles), and knowledge of contraception (27 articles). A few studies involving middle-aged subjects focused on type of contraception and its positive and negative effects on health (6 articles), the selection of contraceptives, and contraceptive activity (5 articles) [1] [11-16] [18-21] [23-30].

In physician concerns about education and related information, it was shown that it was not positive for middle-aged people and health education. Moreover, for user concerns, the investigation and the intention of the survey indicates that young people are opting for increasing elective abortion. Long-term, contraception is necessary for middle-aged people who do not want children. It cannot be asserted to be good in a similar way with contraception done when it is young. However, even the realities of contraception were clarified.

Discussion

The issue of reproductive and sexual health rights is beginning to find a voice in Japan. Use of the low dosage oral contraceptive pill was legalized in 1999. There has been growing concern about the use and availability of female contraceptive methods due to the increasing incidence of sexually transmitted diseases, including AIDS, among the Japanese. Therefore, the concern of "Woman" and "Sexuality and Reproduction" has risen recently. Mizoguchi et al, commenting about the increased research on sexuality over the past several years, are of the same opinion [8]. Analyzing the frequency, focus and quality of research on contraception should provide direction for future research. This research was aimed at improving the access to contraceptives and providing adequate knowledge to users. These might, in turn, reduce the incidence of unwanted pregnancies and elective abortion, as well as improve the mental and physical well-being of the sexually active men and women.

Not surprisingly, issues concerning contraception have been reported mainly in the Japanese obstetric literature. However, a comprehensive review of other medically-related literature revealed that research has mainly focused on women's use of contraception, particularly since approval of the oral contraceptive pill. Very little has been written on issues surrounding male contraception which is practiced widely in Japan. Further research should investigate whether the development, promotion and commercial availability of other forms of male contraception aside from the condom will

Table 6 Relationship between age of subjects and contraception practice (1)

Topic	young		Adolescent + young adult +		Total (n)	
	Adolescent (n)	adult (n)	Middle-aged (n)	young adult + middle-aged (n)		
Physician concerns						
Consultation	7	2		1	1	11
Medical management	3	1	3			7
Sterilization operation	1	2	4			7
Switch from contraception to HRT			2			2
Development of new method	7	4	3		1	15
Total (n)	18	9	12	1	2	42
User concerns						
Selection	16	18	5	2	4	45
Decision (person)	9	11	1		4	25
Purchase and cost	4	6			1	11
Knowledge	18	27	2	5	3	55
Consideration of use	23	32	3	3	7	68
Contraceptive activity	24	23	5	6	8	66
Factor in which it influences action	8	14	2	1	4	29
Failure method	11	2	2	1	1	17
Problem	9	9	2		2	22
Influence on embryo	3					3
Total (n)	125	142	22	18	34	341
Education and related information						
Health education and informed consent	38	18	3	5	4	68
Kind	30	28	6	4	9	77
Use	10	3	4		2	19
Positive and negative effects of this contraceptive use on health	8	8	6		4	26
Effect (failure rate)	7	6	4		2	19
Condition	5	10			2	17
Taboo and relative taboo	4	1	4			9
Total (n)	102	74	27	9	23	235

Table 6 Relationship between age of subjects and contraception practice (2)

Topic	young		Adolescent + young adult +		Total	
	Adolescent	adult	Middle-aged	young adult + middle-aged		
	(n)	(n)	(n)	(n)		
Societal influences						
History	2	3			5	
Current legal state	10	10	4	1	3	28
Religion					1	1
Environmental hormone		1				1
Total (n)	12	14	4	1	4	35

decrease the rate of unwanted pregnancies. Moreover, the cost, and both the physical and mental side effects of elective abortion should be more widely known, so people will use contraception instead in the future.

Although vasectomy is a relatively common form of contraception for older men in other developed countries, it is not a common procedure in Japan. Researchers should determine what psychological processes men go through when deciding to undergo a vasectomy as well as its psychological impact. A greater knowledge of these issues would enable professionals to advise and counsel men more appropriately by knowing their point of view. Promoting appropriate forms of contraception for men will supplement the efforts being undertaken to improve the reproductive and sexual health rights of women in Japan.

Our analysis of the Japanese literature revealed that most contraception research has focused on women, and youth student populations. These groups are not representative of the wider population who might use contraceptives. Research groups in Japan should include subjects that are more representative of the general population, including a wider range of males. Physicians should also include, not exclude as in the past, men in the decision making process.

Research must also focus on contraception used by married couples, since the elective abortion rate for Japanese middle-aged, married couples is high. We should learn more, why middle-aged couples who are more sexually experienced, still have many abortions. In addition, pregnancy for an unmarried or unattached woman often results in elective abortion [9]. However, Japanese researchers have yet to investigate these issues comprehensively. Research conducted abroad has examined contraception for men who are married or cohabitate, are but Japan seems to concentrate on married women [10]. These findings do not reflect the slow but steady increase of cohabitation among younger couples in Japanese society.

Young people tend to ask physicians for contraception advice, and the literature contains more references for young rather than middle-aged individuals. Contraception research is necessary for older adults, particularly with the high elective abortion rate among middle-aged married couples. Differences in lifestyle and mental and physical well-being are just some of the differences between younger and older subjects, and further study is needed.

In addition, women tend to have more of an opportunity to receive such guidance because of time spent in medical institutions when pregnant. A specialized center where men can take full advantage of their reproductive and sexual health rights should be considered.

The literature indicates that improper use of contraception due to lack of knowledge and guidance has

contributed to the high rate of unwanted pregnancies. To improve use and knowledge of contraception and related issues, experts on sexuality should provide increased health education about contraceptive use, as well as prioritize areas for future research. Especially, experts should request that both men and women actively participate in their own health education. Since its recent introduction, considerable research has focused on the use of the oral contraceptive pill. However, only a few studies have explored the effect on men when their female partner uses the oral contraception. Publication of such findings would likely facilitate a wider use of the pill in Japan, thus reducing the number of unwanted pregnancies.

Conclusion and recommendation

Our review and analysis of the Japanese research literature on contraception nursing and medical journals from 1996 to 2000 revealed the following:

1. More articles have been published recently 1998-2000. Considerable research has focused on the use of the oral contraceptive pill, principally limited to its recent introduction.
2. Most research targeted women; there was very little about others, i.e., men, couples, etc. Future research should focus on how to improve the reproductive and sexual rights of both men and women in Japan.
3. Research subjects should be more representative of the general population and include more male subjects. It is necessary to study not only adolescents but also older adults and unmarried couples, particularly with the high elective abortion rate among middle-aged married couples. Further research should examine the effect of abortions on the need for contraception for older adults.
4. Promoting the most suitable form of male contraception will supplement the important efforts being undertaken in Japan to improve the reproductive and sexual health rights of women. To improve use and knowledge of contraception and related issues, experts in sexuality should provide more health education on contraception as well as prioritize areas for future research. Despite references to problems during sale of contraceptives, few studies have focused on the problems consumers may face regarding purchase time, method of purchase, and above all cost.

References

1. Sato R: Mass media and girl's sex, *The World of Obstetrics & Gynecology*, 52(2), 91-98, 2000.
2. Ueno C: Patriarchy and capital system, the 9th edition, Tokyo, Iwanami bookstore, 1993.
3. Ashino Y: Reproductive health/rights outline, *The Japanese Journal of Prenatal Care*, 17(special summer issue), 10-22, 1998.
4. Ashino Y: Reproductive health/rights outline, *The Japanese Journal of Prenatal Care*, 17(special summer issue), 10-22, 1998.
5. Kobayashi T: Long distance. *The World of Obstetrics & Gynecology*, 52(5), 1-6, 2000.
6. Chapter of problem of population of Mainichi Newspapers investigation association: Population of Japan: tracks of 50 years in postwar days, First to 25th of Mainichi Newspapers nationwide family planning public opinion poll-investigation result, Tokyo, Mainichi Newspapers, 2000, pp215-226.
7. Ministry of Health and Welfare Secretariat Statistics and Information Department Edit: Mother's body protection statistics report, Health and Welfare Statistics Association, 2001, pp12-13.

8. Mizoguchi M, Hirata N, Saito H: Development of an Attitude Scale toward sex and reproduction in Japan, *Journal of Japan Academy of Midwifery*, 15(3), 242–243, 2001.
9. Kimura Y: Social medical research on those who execute artificial abortion, *Japanese Journal of Maternal Health*, 42(2), 368–376, 2001.
10. William R. Grady, Koray Tanfer, John O.G. Billy and Jennifer Lincoln-Hanson: Men's perceptions of their roles and responsibilities regarding sex, contraception and childrearing, *Family Planning Perspectives*, 28(5), 221–226, 1996.
11. Asai A, Ozawa M, Nakawaki E, Hamada K, Yoshinaga K: Married in one's thirties, woman's contraception action and factor affecting, *Journal of Nursing Research*, 28, 66–68, 1997.
12. Yamamoto T, Maehara S, Mori E: Research on contraception behavior of woman — Use a behavioral science model —, *Japanese Journal of Maternal Health*, 38(1), 118–125, 1997.
13. Saito M, Kimura Y, Kurousu K, Takahashi T, Wada T: Research concerning sexual consideration of schoolboy, *Japanese Journal of Maternal Health*, 37(1), 11–15, 1996.
14. Kaneda Y, Utsunomiya R, Shimozone N, Shimada K: Consideration and action on the university student's contraception, *Japanese Journal of Maternal Health*, 38(1), 18–24, 1997.
15. Kimura Y, Suga M, Saito M: Survey of attitude concerning midwife student's conception control — For the midwife student in Tokyo and neighboring prefectures —, *Japanese Journal of Maternal Health*, 38(2), 248–258, 1997.
16. Shiga K: Realities of sexual and the worry in the third grade of high-school —From the questionnaire survey of six schools in the Akita prefecture, *Japanese Journal of Maternal Health*, 39(4), 351–355, 1998.
17. Kimura Y: Survey of attitude to elective abortion applicant —Questionnaire result of eight years in our department, *Japanese Journal of Maternal Health*, 36(1), 53–62, 1995.
18. Tajima C, Mizokuchi M, Wada K: Current state of sexual consideration in college woman, *Japanese Journal of Maternal Health*, 36(1), 151–155, 1995.
19. Ohi N, Ohara R, Ohi H, Hayama M: Junior high school student's sexual consideration and sexual knowledge, *Japanese Journal of Maternal Health*, 36(1), 156–164, 1995.
20. Sato T, Matsuyama E, Honda H, Matsumoto S: Contraception in Japanese woman and consideration to oral contraceptive pill, *Japanese Journal of Maternal Health*, 36(1), 193–200, 1995.
21. Matsuura K: Birth consideration of married couple related to decrease in married total birthrate and the related factor —Situation analysis 1990's—, *Japanese Journal of Maternal Health*, 40(4), 376–382, 1999.
22. Kobayashi C, Kitamura H, Kakimura Y, Saito K, Asama J, Hiraishi N, Sayama M, Tashiro M, Hakoiva Y, Tanaka N: Realities of beginning and contraception of sex life at the time of after childbirth 3-4 of month —From data and the catching research of ten years in the past—, *Journal of Nursing Reserch (Motherhood nursing)*, 27, 23–25, 1996.
23. Takayama E, Okamoto M, Segawa K, Furukawa Y, Teramoto M, Inokai N: Research of actual conditions concerning student nurse's "sexuality", *Journal of Nursing Reserch (Motherhood nursing)*, 28, 42–44, 1997.
24. Kawasaki S, Kawakami K, Kawakami M, Hirano M, Kitsu Y, Sakuma K, Takashima Y, Takeda M, Nakashima T, Nagai Y, Yoshida M: Research concerning sexuality of nursing special school life of three courses of year (the first report) —Comparison between men and women in sexual knowledge, consideration, and sexual behavior, *Journal of Nursing Reserch (Nursing education)*, 31, 72–74, 2000.
25. Hirasawa N, Kodayashi K, Saito T, Yasuda K, Kobayashi M, Yasaka Y: Self-evaluation and married couple's partnership in sex life, *Journal of Nursing Reserch (Motherhood nursing)*, 31, 35–37, 2000.
26. Ishii A, Honma T, Hamada H: How many children does production see? —From the questionnaire of confinement—, *Japanese Journal of Maternal Health*, 34(1), 21–24, 1993.

27. Sasajima Y: Sexual knowledge degree of student of teacher training university, *Japanese Journal of Maternal Health*, 32(1), 20-29, 1991.
28. Nitta M: Acknowledgment and health behavior of health concerning sexual behavior in one's twenties working women, *Journal of Japan Academy of Midwifery*, 13(3), 134-135, 2000.
29. Arakawa O, Watanabe M, Nodsu Y: Influence that oral contraceptives (pill) opening exerts on HIV transmission in university student, *Japanese Journal of Public Health*, 46(3), 204-215, 1999.
30. Todaka Y, Fujita T, Takahama N, Matsumoto K: A study of high artificial fetal death rates in Miyazaki city and surrounding areas, *Japanese Journal of Public Health*, 46(3), 343-351, 1999.