

A COMPARATIVE STUDY ON  
EFFECTIVENESS AND PATIENT SATISFACTION FOR  
INTRA-UTERINE CONTRACEPTIVE DEVICES INSERTION BY  
PHYSICIAN AND PARAMEDICAL PERSONNEL

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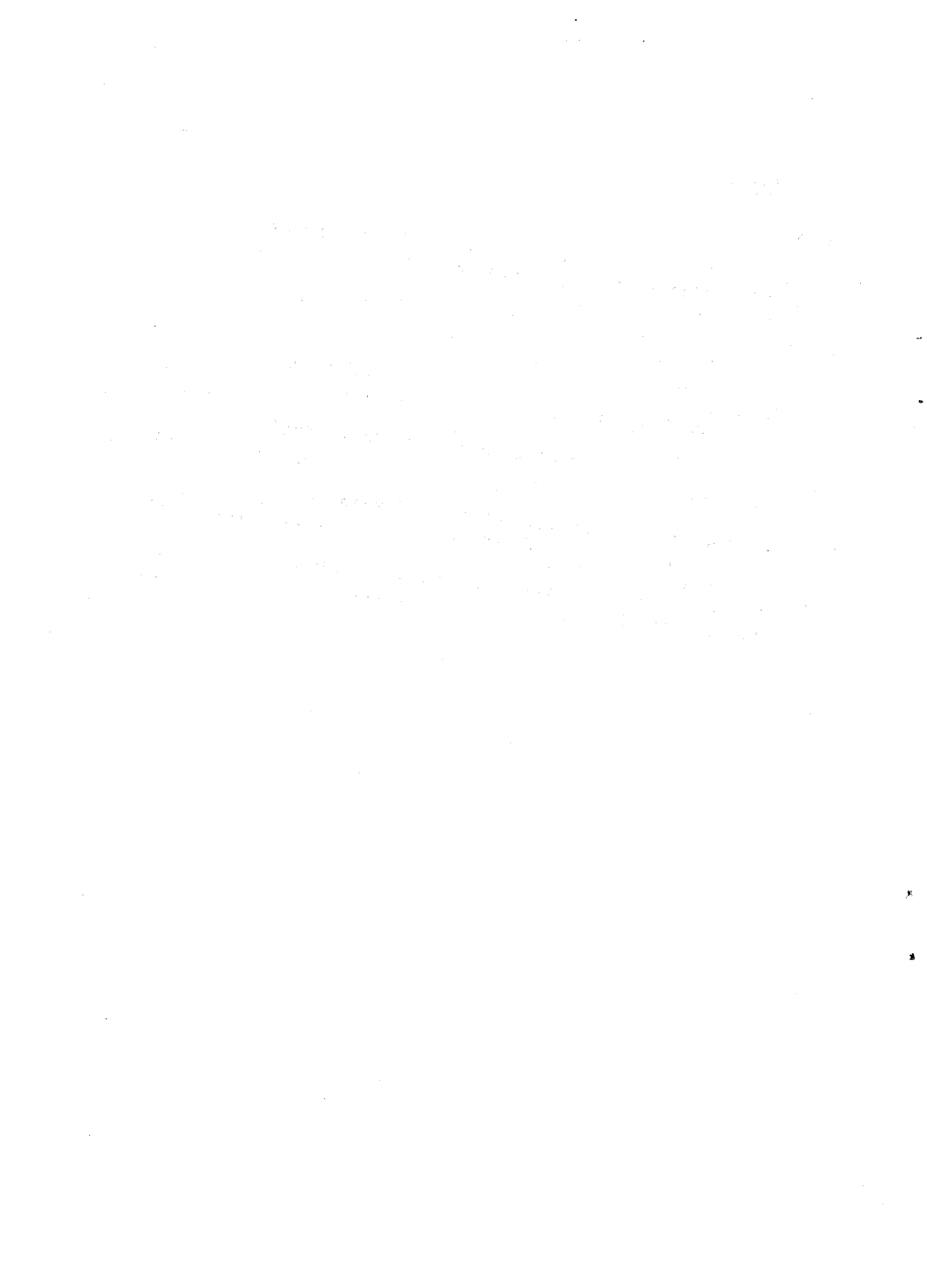
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## I. Background

It is widely known that the effectiveness of a family planning program, in most cases, can be measured by an acceptance rate and a continuation rate of contraception. In other words, the acceptance rate and continuation rate represent an overall result of program effectiveness. Such rates vary with the systematic development and implementation of IE&C and contraceptive services. However, current tendency is that the different social, economic and cultural patterns in most developing countries are obstacles in the execution of family planning programs even though they show at present strong desires to conduct family planning programs as a positive means of controlling imminent population problems<sup>1/</sup>.

Especially, the inability to provide proper professional medical care services by family planning physicians and nurses is noted due to a shortage of medical personnel in the field<sup>2/3/</sup>.

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1/ Nortman, Dorothy L. (1972); Status of National Family Planning Programs of Developing Countries in Relation to Demographic Targets, Population Studies, Vol. XXVI, No. 1.

2/ King, M.; In King, M. (1966); Medical Care in Developing Countries, London, 1966 Oxford University Press, p. 11.

3/ Rosenfield, Allan G. (1968); An Expanded Role for Paramedical Personal, Reprinted Materials from The Population Council, Bangkok, Thailand, November, 1968.



It is a common phenomenon that many countries suffer from critical shortages in the medical profession, and that a disproportional share of medical personnel is located in urban areas.

It is the case, then, that family planning efforts are not properly helped by medical resources in rural areas, as general health and medical care is poorly maintained in such areas, where 80 per cent out of the developing world's population resides<sup>4/</sup>

Korea is no exception. If we look at the current ratio of population coverage per physician, the figure is 1 doctor for 2,200 persons in Korea, as compared with 1 to 700 in the United States. Therefore, Korea suffers a more critical shortage of physicians as compared with the United States.

At present, matters pertaining to the distribution of medical care, especially in rural areas, have drawn great attention in the aspect of government strategies<sup>5/</sup>. Presently there is such a relatively high percentage of physicians in metropolitan areas

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<sup>4/</sup> Rosenfield A. G., and Limcharoen C. (1972); Auxiliary Midwife Prescription of Oral Contraceptives, American Journal of Obstetrics and Gynecology, Vol. 114, No. 7, December, 1972.

<sup>5/</sup> Korean Development Institute (1975); A Symposium Report on Health Planning and Policy, December, 1975.

that most village level farming areas are not reached by physicians. This is the cases in other developing countries as well. Thus, a new consideration has begun to make best utilization of para-medical personnel in various directions as a part of the effort for solving the problem of unbalanced distribution of physicians<sup>6/</sup>. One proposal is to allow para-medical personnel to practice a certain limited area of medical affairs which have been previously attended by physicians only. Intra-Uterine Device insertion and certain medical processes relating to the introduction of contraceptive services may be performed by para-medical personnel, such as a nurse or mid-wife, after a certain period of required training<sup>7/</sup>. A startling achievement of IUD insertion has been recorded in the Korean Family Planning Program since its introduction in 1964. A total of 3,500,000 IUD insertions have been performed by 1975 and an estimated total of 1,490,000 births have been prevented<sup>8/</sup>. Roughly 50 per cent of

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<sup>6/</sup> The Korean Public Health Association (1976); The Use of Allied Health Workers in the Delivery of Medical Care in Korea, Vol. 2, No. 1, January 1976.

<sup>7/</sup> Ministry of Health and Social Affairs (1974); Maternal and Child Health Low, Printed Material at Korean Institute for Family Planning, 1975.

<sup>8/</sup> Korean Institute for Family Planning (1976); Information and Family Planning in the Republic of Korea, Mimeo. June 1976.

the total number of births averted during the period have been due to IUD insertions. In Korea, an annual average of 350,000 IUD insertions are performed by 1,500 trained physicians scattered throughout the country. In recent years, however, the program has been incapable of providing sufficient IUD insertion service with the existing number of IUD physicians<sup>9/10/</sup> in view of the rising demand. The alternative to women residing in more remote areas was to travel a great distance to see a doctor, or to let the insertions be performed by family planning workers such as a licensed mid-wife and nurse, even though such actions were illegal. Approximately 37 per cent of the total number of loop insertions in 1968<sup>11/</sup> were performed by licensed nurses and mid-wives. Pilot studies on the effectiveness of maximization of IUD insertion and contraceptive services by nurse, mid-wife and other para-medical personnel have been conducted in several countries: Pakistan (1966), Barbados (1966), United States (1967),

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9/ Korean Institute for Family Planning (1975); The Proceedings on 1975 National Family Planning Evaluation Seminar, May 1975.

10/ Korean Institute for Family Planning (1976); The Proceedings on 1976 National Family Planning Evaluation Seminar, June 1976.

11/ Korean Institute for Family Planning (1973); Marginals for 1973 National Family Planning and Fertility Survey, Seoul.

Korea (1968), India (1969) and Nigeria (1971)<sup>12/</sup>. In Korea, a feasibility study on the utilization of para-medical personnel for intra-uterine device insertion was initiated by Drs. Bang, Song, and Choe in 1968<sup>13/</sup>.

In 1973, the Maternal and Child Health Law was revised to allow nurse and mid-wife insertion of IUD upon completion of a period of required training. The main purpose of the present study is to assess the effectiveness of IUD insertion by physicians and para-medical personnel in the light of the contents of training they have had. Accordingly, this comparative study also aims to assess the program by evaluating manpower training and its utilization in accordance with maximization of the IUD insertion program.

## II. Methodology

### A. Samples

The target group of the research were IUD physicians, IUD para-medical personnel (trained mid-wife and nurse) and the

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<sup>12/</sup> Ross John A. et'al. (1972); Findings from Family Planning Research Report on Population/Family Planning, The Population Council, No. 12, October, 1972.

<sup>13/</sup> Bang, S., Song, S. W. and Choi, C. H., (1968); Improving Access to the IUD; Experiments in Koyang, Korea, Studies in Family Planning 1 (27); 4-11, 1968.

clients who have received IUD insertion by para-medical personnel and physicians. Para-medical personnel indicated here consists of the trained licensed nurses and/or family planning workers having mid-wife licenses. The total number of nurses involved are 87, who had been trained in IUD insertion techniques from July to August 1974 in accordance with the revision of MCH Law. In addition, 578 physicians are designated for IUD insertions in the same areas where the 87 para-medical personnel perform their duties. The clients indicated here are from the sampling group among the entire clients who have been performed IUD insertions by physician and para-medical personnel.

#### B. Methodology

A multi-stratified sample survey methodology was adopted due to the limitation of research funds available to the survey. The survey was conducted by mail questionnaire to a total number of trained para-medical personnel, and 578 physicians working in the same area. In the follow up survey to IUD users, the overall groups was divided by several different stratifications on the base of mail questionnaire. Then, a total of 55 enumerated districts (Ri and Dong) were selected as survey areas through a purposive sampling process that represents a standard probable

sample of each stratum. In these survey areas the follow-up interview was made by trained surveyors (one male supervisor and 7 surveyors) to all women who had IUD insertions performed during the 21 month period from January 1, 1974 to September 30, 1975.

A total of 80 cities/counties where 87 para-medical personnel perform their duties was the base population area and was divided into 5 groups according to the different achievements of IUD insertion made during the period indicated. Then, purposive sampling was made to select one area from each group for a total of 5 city/county areas. Out of each city/county unit selected in the first sampling stage, a total of 3 town/township/dong units were selected in accordance with the IUD achievement categorized by upper, middle and lower classes. Finally, a total of 55 units were designated as the survey area by selecting 3-5 Ri/Dong/Ban as it was done in the first sampling stage.

The main purpose of adopting this sampling methodology was to avoid a possible bias in accordance with sampling by those stratifications. In order to get rid of monotonic characteristics in the overall population group, a purposive sampling method was taken instead of the standard probability sampling methodology. The findings by this methodology are shown in table 1 and 2.

Table 1. Sample Size and Number of Respondents

Categories	Sample Size	Number of Respondents	Remarks
IUD Doctors	578	396	Mail Survey
F.P. Workers	87	72	Mail Survey
Acceptors	1,882	1,056	Personal Interview

Table 2. Sample Size and Number of Respondents by Area

<u>Urban/Rural</u>	<u>City/County</u>	<u>Eup.Myun/Dong*</u>
Urban	Chongju : 213(276)	Bokdae : 69(106)
		Seoun : 51( 66)
		Daesung : 93(104)
	Andong : 207(465)	Tachwa : 43(147)
		Phungwha : 44(112)
Sinan : 120(206)		
Rural	Hwoengsung: 129(277)	Hwoengsung: 38( 86)
		Kongkeun : 38( 79)
		Dunnae : 53(112)
	Raju : 210(412)	Raju : 76(186)
		Yongsanpo : 90(130)
		Sanpo : 44( 96)
	Koyang : 297(452)	Gido : 103(147)
		Wondang : 63(109)
		Jung : 131(196)

Note: Sample size is shown in parentheses.

\*Eup.Myun and Dong are selected in the 2nd stage of sampling.



### C. Analysis

In analysing the survey data relevant to IUD physicians and para-medical personnel, comments on the general characteristics and training contents and activities on the IUD insertion shown on the mail questionnaire were examined. Regarding follow-up survey data on the client, analysis was done according to Tietze's life table technique generally used for comparing effectiveness of contraception<sup>14/15/16/</sup>. In the follow-up survey, it is known that a considerable number of non-response may seriously affect the statistical reliability of research findings<sup>17/</sup>.

Statistical data analysis as recommended by Tietze<sup>18/</sup> treats differently the group which participated in personal interview

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- <sup>14/</sup> Tietze, Christopher and Lewit, Sarah (1973); Recommended Procedures for the Statistical Evaluation of Intra-Uterine Contraception, Studies in Family Planning, Vol. 4, No. 2. pp. 35-42, February 1973.
- <sup>15/</sup> Tietze, C. and Lewit, S. (1968); Use-Effectiveness and Continuation of Contraception; Problems of Evaluation; A Handbook for Service Statistics Family Planning Program, Edited by John A. Ross, F. Stephan and W. Watson, The Population Council, New York.
- <sup>16/</sup> Tietze, Christopher (1967); Intra-Uterine Contraception; Recommended Procedures for Data Analysis, Studies in F.P. No. 18 (Supplement).
- <sup>17/</sup> Kwon, E. H. et'al. (1969); A Study in the Acceptability and Effectiveness of Intra-Uterine Contraception in Relation to Socio-Medical Variables, Reprinted from Journal of Population Studies, The Institute of Population Problems, No. 8, p. 9, 1969.
- <sup>18/</sup> Tietze C. et'al.; op. cit.

from the non-response group. Then, considering the respective groups by similarities in age, parity, education level, period of IUD performance and other general characteristics, the results of IUD insertion is contrasted between groups. However, it was known that this para-rate distribution method also has many problems itself. And Potter's method<sup>19/</sup> has shortcoming in it as well.

Therefore, data analysis was conducted under the assumption that minor incidence of non-response at the follow-up interview will not make a great difference to the results since no difference was observed in contrasting the age, education level, numbers of children, numbers of sons appearing on the coupons of women who have participated in the interview as compared with women absented from the interview. As a result, analysis was made only to the interviewed cases in this survey<sup>20/</sup>.

### III. Findings

#### A. General Characteristics

##### 1. IUD Physicians

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<sup>19/</sup> Potter, R. G., Chow, L.P., Jain, A.K. and Lee, C.H., (1969); Effectiveness and Correlates, In; Family Planning in Taiwan; An Experiment in Social Change, Edited by R. Freedman and J. Takeshita Princeton University Press.

<sup>20/</sup> Kwon, E. H., et'al.; op. cit.

The Designated Physician System in the Korean Family Planning Program nominates certain physicians to practice contraceptive services to clients on demand at clinics or health centers. A period of training is required to be eligible for this designation. The total registered number of designated physicians as of the end of 1975 was approximately 1,600, roughly 9 per cent of the total number of physicians in Korea<sup>21/</sup>.

Roughly two-thirds of the nation's designated physicians are those practicing medicine in rural areas. In regard to methods, 80 per cent of the physicians are designated for male/female sterilization and IUD insertion, while the remaining 20 per cent are designated for sterilization only<sup>22/23/</sup>. In the survey, a total of 396 physicians (69 per cent of those solicited) responded to the mailed questionnaire. The average age of physicians involved was 50 years, and 10 per cent of them are females. These findings are similar to those of E. I. Kim's survey made in 1973<sup>24/</sup>. Analysing by medical speciality, among all physicians involved, 25 percent are certified obstetrician and gynecologist, 8 per cent

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<sup>21/</sup> Ministry of Health and Social Affairs, Korea (1975); Yearbook of Public Health and Social Statistics, 1975.

<sup>22/</sup> Kim, E. I., Park, D. K., and Oh, N. K. (1973); A Study of Designated Physicians in the Korean Family Planning Program, Korean Institute for Family Planning, April, 1973.

<sup>23/</sup> Korean Institute for Family Planning (1975); The Proceeding Seminar Report, 1975.

<sup>24/</sup> Kim, E. I., et'al; op. cit.

certified in other field, and 67 per cent are general practitioners without board certification. Commenting on IUD insertion training they have had, 60 per cent of IUD physicians was responded that it was very helpful in performing IUD insertion and 32 per cent indicated it to be somewhat helpful even though these respondents have their respective medical specialities as well as a considerable period of clinical experience (14 years on average). Meanwhile, 80 per cent of the IUD physicians responded that they would recommend physicians to receive IUD insertion training if he or she would like to perform IUD insertions to the public. Strong interests were shown by over half of the IUD physicians in providing contraceptive services in areas where more professional knowledge is needed than IUD insertion techniques.

They also expressed their positive opinion on the possibility of IUD insertion by nurse and mid-wife if properly trained. Findings also show that 16 per cent of the IUD physicians have rendered only supervision on IUD insertions, which have actually been performed by nurses and mid-wives in their clinics. On the other hand, 39 per cent of the physicians feel that it is dangerous to let nurse and mid-wife teams perform IUD insertions despite the fact that the technique is one of the easiest in medical practice. The speciality physicians expressed greater

concern as to the performance of IUD insertion by para-medical personnel than general practicing physicians did. Degree of sensitivity on such matters was 50 to 54 per cent by speciality physicians and 33 per cent for general practitioners.

However, referring to the study by Rosenfield (1971)<sup>25/</sup> and Ostergard (1974)<sup>26/</sup>, they expressed the possibility of vaginal examination, pap smear and loop insertion by para-medical personnel after the required training. They took a relatively positive position on the best utilization of para-medical personnel by the extension of their work to the physicians' area as far as possible so as to enable the physician engage in treating more serious patients with professional medical knowledge and techniques. It is most likely that the source of physician's worry about the utilization of para-medical personnel for IUD insertion is largely in the possible side-effects arising during the insertion of medical instruments and other devices into the uterine. However, concerning side-effects such as perforation of uterus of other possible complication, the previous experiences

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<sup>25/</sup> Rosenfield, A. G. (1971); Ibid. 110(7); 1030-1039.

<sup>26/</sup> Obtergard, Donald K. (1974); The Potential for Para-medical Personnel in Family Planning, American Journal of Public Health, Vol. 64, No. 1.

of Pakistan<sup>27/28/</sup> and Korea<sup>29/</sup> indicated clearly that there are no significant differences in the results of IUD insertions by para-medical personnel, whether they were done under a medical doctor's supervision or not. As a result, such findings suggest success depends totally on the degree of efficient and effective training of para-medical personnel<sup>30/</sup>.

## 2. IUD Para-Medical Personnel

Role of para-medical personnel in the delivery of contraceptive services has become quite common in recent years. Furthermore, the effective utilization of para-medical personnel is of great concern to everyone (Rosenfield (1971)<sup>31/</sup>, Weishach and Watson (1970)<sup>32/</sup>, Watson (1968)<sup>33/</sup>). In accordance with this

<sup>27/</sup> Kaul, S. J., (1969); Pakistan J. of Family Planning, 3: 75, 1969.

<sup>28/</sup> Satterthwaite, A. P., (1969); Training and Performance of Para-medical Personnel in the Pakistan Family Planning Program, in Proceeding of Pakistan International Family Planning Conference at Dacca, 1969.

<sup>29/</sup> Bang, S. et'al.; Ibid. p. 11, 1968.

<sup>30/</sup> Bang, S. et'al. (1968); op. cit.

<sup>31/</sup> Rosenfield, A. G., (1971); Ibid. 110(7): 1030-1039.

<sup>32/</sup> Weishach, J. and Watson, C., (1970); Evaluating the training of nurse to do family planning worker in India, Public Health Reports 85(8): 707-715.

<sup>33/</sup> Watson, E. (1968); The use of para-medical personnel, talk given at the symposium on family planning in salisbury, Rhodesia, December, 1968.

tendency and also as a part of the efforts of program of maximum introduction of IUDs in Korea, insertion training was conducted for licensed nurses and mid-wives among family planning workers, and IUD insertion by such nurses and mid-wives has been permitted in accordance with the MCH Law. IUD insertion training presently is 60 days in duration. The first 14 days are devoted to theoretical lectures on general knowledge and insertion techniques of the intra-uterine contraception. Then, students spend the next 46 days on practical exercises (the present curriculum provides for 28 days at hospitals and 18 days at health centers, focussing on the techniques needed in obstetrics and gynecology departments and for other techniques needed). A total of 220 para-medical personnel have been trained in Korea during the period from 1974 to 1976<sup>34/</sup>. A guideline of specific job descriptions for field activities is distributed to every trainee working in the program. The main purpose of the guideline is to illustrate the problems concerned with IUD insertion and the availability of technical guidance by designated IUD physicians in various areas. It was found through the survey that the average age of IUD insertion trainees in 1974 was 42 years, as compared to 32 for family

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<sup>34/</sup> Korean Institute for Family Planning (1975); Annual Report of KIFP, Vol. 5, 1975.



planning workers in health centers scattered throughout the country. IUD insertion trainees have had an average of 9.4 years family planning experience, nearly twice the 5.2 year average experience of health center workers<sup>35/</sup>.

It was also found that 65 per cent of the trainees had had experience in IUD insertion under technical supervision of either a health center director (physician) or designated IUD physician prior to the IUD insertion training. According to recent data, they each perform an average of 155 IUD insertions per year.

The Survey found that IUD insertion by para-medical personnel has taken place since the beginning stage of Intra-Uterine contraception in Korea. It was shown by the survey that 35 per cent of para-medical respondents had had experience in the performance of IUD insertion before 1966. The group which began IUD insertion following regular training was 28 per cent of the total respondents. The remainder, 37 per cent, said that their first experience of insertion was during the period between 1969 and 1973. The number of cases performed during the first year after

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<sup>35/</sup> Kong, Sae Kwon (1975); The Central Registration System for Family Planning Workers, Journal of Family Planning Studies, KIFF, Vol. 2. (205), 1975.

regular training was 147 cases on average per person, and a great number of insertions had been performed at health centers, health sub-centers and at clients' private homes. Though occurring before the passage of the relevant MCH Law, 15 per cent of the total IUD insertions in 1968<sup>36/</sup> (6 per cent urban; 20 per cent rural) were performed by para-medical sample survey of that year. However, if we refer to 1973 survey data, 37 per cent of all insertions (Seoul; 24 per cent, Other city; 35 per cent, Rural 41 per cent) were done either by family planning workers or nurse in hospital<sup>37/</sup>. At present, a large portion of IUD insertions are performed by experienced family planning workers acting as para-medical personnel. It is usually done through an IUD physician in the area. Referring to Rosenfield's<sup>38/</sup> opinion on the possibility of IUD insertion by para-medical personnel, he said that it is desirable to conduct systematic training to give personnel a sense of confidence in performing IUD insertion, even though he admits that it varies on the situation of the respective country.

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<sup>36/</sup> Family Planning Evaluation Unit, Ministry of Health and Social Affairs (1970); Marginals for Fertility and Family Planning Survey in 1968, Seoul, Korea.

<sup>37/</sup> Korean Institute for Family Planning (1973); Marginals for 1973 National Family Planning Survey, Seoul, Korea.

<sup>38/</sup> Rosenfield, A. G., (1971); op. cit.

In line with the general factors described above, one can be relatively optimistic that the loop insertion by para-medical personnel can be achieved through the refined and systematic training as it has been done in a minor scale in the past several years.

In evaluating the effectiveness of pilot training conducted in 1974, 86 per cent of the trainees responded that it was invaluablely helpful for performing IUD insertion in the field and 14 per cent felt that it was helpful to some extent. One aspect to be considered in training is that the curriculum must be developed to meet the specific goals of the training after the full consideration of characteristics of trainee and their related previous experiences. Through the IUD insertion training of para-medical personnel, the prime interests of trainees concerned knowledge and practices directly relating to the techniques of IUD insertion. Interests in family planning knowledge in general was relatively low. The strong interests in reproductive physiology, anatomy, obstetrics and mid-wifery was much more than that of oral pill, demography and principles of IE&C.

### 3. IUD Users (Acceptors)

Follow-up surveys on IUD users have been conducted several times since the adoption of the method in the government program

in Korea<sup>39/40/41/42/</sup>. The survey data on IUD users' socio-demographic characteristics are as shown on Table 3. The acceptance rates among younger women (under 30) in Korea remain at a level below those of other countries, such as 44 per cent in Taiwan (1969), 48 per cent in Philippines (1970) and 50 per cent in Turkey (1966-1967)<sup>43/</sup>. A notable decrease in average number of children is observed among IUD users from 1965 (4.4 children) to 1975 (3.5 children).

The IUD acceptance rate among women who have two or less children was 10 per cent in 1965 and increased to 35 per cent in 1975, a level noted in other studies, such as 38 per cent in

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<sup>39/</sup> Korea, Family Planning Evaluation Unit, Ministry of Health and Social Affairs (1966); National Intra-Uterine Contraception Report, 1966.

<sup>40/</sup> Korea, Family Planning Evaluation Unit, Ministry of Health and Social Affairs (1967); National Intra-Uterine Contraception Report, 1967.

<sup>41/</sup> Kim, Tae Ryong (1970); National Intra-Uterine Contraception Report, The National Family Planning Center, 1970, Seoul, Korea.

<sup>42/</sup> Moon, Hyun Sang, et'al. (1973); Use-Effectiveness Extented Use-Effectiveness and Demographic Effectiveness of IUD and Oral Pill, Korean Institute for Family Planning, Oct., 1973.

<sup>43/</sup> Ross, John A. et'al. (1972); Ibid. (13-17).

Bombay (1964-1966), 28 per cent in Thailand (1969-1970), 21 per cent in both Taiwan (1969) and Philippines (1970)<sup>44/</sup>.

Table 3. Per Cent Distribution of IUD Acceptors' Socio-Demographic Characteristics, by Year

Socio-Demographic Characteristics	1)	2)	3)	4)	1975		
	1965	1967	1970	1972	All	Dr.	Para.
Age (Years)							
Under 30	20	19	27	32	30	28	33
30-39	66	66	61	57	58	59	56
40+	14	15	12	11	12	13	11
Mean	34.3	34.7	33.1	32.4	33.2	33.4	32.9
Number of Living Children							
0-2	10	13	22	24	30	27	33
3	18	17	24	24	29	31	27
4+	72	70	54	52	41	42	40
Mean	4.4	4.3	3.8	3.6	3.4	3.5	3.3
Education Level							
No School	53	41	19	13	9	8	10
Primary School	38	49	64	65	60	61	58
Middle School	6	7	12	16	24	23	25
High School & Over	3	3	5	6	7	8	7
(N)	2667	2478	11747	6502	1056	536	520

Source: 1) Ministry of Health and Social Affairs; National Intra-Uterine Contraception Report, June 1967 (51-53 pp.)

2) Kim, T. R.; National Intra-Uterine Contraception Report, The National Family Planning Center, December 1970 (195-197 pp.).

3) and 4) Kim, E. S.; Demographic Characteristics of Korean Contraceptive Acceptors, Korean Institute for Family Planning, November 1973 (13-15 pp.).

<sup>44/</sup> Ross, John A. et'al. (1972); Ibid. (13-17).

Table 4. Per Cent Distribution of Acceptors' Purpose for Accepting IUD, by Age, and by Number of Living Children

Characteristics	(N)	Purpose of Using IUD	
		Stopping	Spacing
Age (years)			
Less than 25	( 67)	33	67
25-29	(253)	70	30
30-34	(335)	93	7
35+	(401)	98	2
-----			
Number of Living Children			
0-2	(316)	61	39
3	(307)	95	5
4+	(433)	97	3
-----			
Total	(1,056)	86	14

Looking at the educational level of IUD acceptors, 91 per cent in 1965 had attended school only through the primary level. However, gradual increasing educational attainment of the population has been recorded, so that the proportion of primary school in 1975 was only 69 per cent. A large per cent of Intra-Uterine contraception is accepted by the women of lower education levels than the primary school as shown 91 per cent in Turkey (1966), 88 per cent in Taiwan (1968) and 76 per cent in West Malaysia (1967)<sup>45/</sup>.

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<sup>45/</sup> Ross, John A. et'al. (1972); Ibid. (13-17).

In the survey, 86 per cent of Intra-Uterine Contraception acceptors responded that their main purposes of accepting IUD was to terminate a pregnancy. This was especially the case for women under age 30 (93 per cent gave this reason) and among women having 3 or more children (95 per cent). The small family norm was increasingly strong even in the group of women who accept Intra-Uterine Contraception for the purpose of spacing children since they indicate their desire to have only one additional child. It was also noted that 77 per cent of the women, in the survey, who had no sons desired to have a son, indicating the persistence of a strong son preference in Korea even though the ideal number of children had decreased from 3.9 (1965-1967) to 3.1 in 1973<sup>46/</sup>.

Table 5. Per Cent Distribution of IUD Acceptors' Number of Additional Wanted Children by Number of Living Children and Living Sons

Number of Living Children & Sons ( N )	Additional Children Wanted			
	All acceptors	None	One	Two or more
<b>Number of Living Children</b>				
0-2 (316)	100	62	35	3
3 (307)	100	94	6	-
4+ (433)	100	97	3	-
<b>Number of Living Sons</b>				
0 ( 48)	100	23	71	6
1 (376)	100	75	23	2
2 (418)	100	96	4	-
3+ (214)	100	99	1	-
<b>Total (1,056)</b>	<b>100</b>	<b>86</b>	<b>13</b>	<b>1</b>

46/ Park, Chai Bin (1976); The Fourth Korean Child; Gender-Preference and Infant Mortality as Determinants of Family Building, University of Hawaii, School of Public Health and East-West Center Population Institute, 1976 (mimeo.).



This survey found that 45 per cent of IUD users had experience with other contraceptive methods previous to the first acceptance of Intra-Uterine contraception. Most of them were pill users before accepting this method. In a survey by T. R. Kim, in 1970<sup>47/</sup>, 19 per cent IUD acceptors had had previous experience with other methods among which condom was almost popular at that time. It is considered that recently increased women's exposure to other methods before accepting Intra-Uterine contraception was largely due to program changes arising in the recent past. The survey found that the percentage of previous experiences in other methods by women who accept the IUD for the purpose of terminating pregnancy was 49 per cent, as compared with 22 per cent for women who accept this method for spacing purposes.

Table 6. Per Cent Distribution of Purpose of Using IUD by Previous Contraceptive Method Used Prior to Last Insertion of IUD

Contraceptive Methods	Purpose of Using IUD			1967 IUD Follow-up Survey*
	Stopping	Spacing	All	
No previous use of contraception	51	78	55	81
IUD	3	3	3	4
Oral Pill	35	12	31	1
Condom	8	5	8	11
Rhythm & Others	3	2	3	3
(N)	(906)	(150)	(1,056)	(3,025)

\*Kim, T. R., (1970); Intra-Uterine Contraception Report, The National Family Planning Center, December 1970.

<sup>47/</sup> Kim, T. R. (1970); Ibid. (110).

## B. Acceptance and Termination

### 1. Acceptance

It is generally agreed that matters concerning acceptance or discontinuation of Intra-Uterine Devices are largely depending on either intermediate variables<sup>48/</sup> of socio-environmental conditions or the different individual factors<sup>49/</sup>. We can clearly say in this stage that there have not been any difficulties in introducing Intra-Uterine Devices to clients as a part of the Korean Family Planning Program if we have not suffered from these two conditions mentioned in the above. (See Table 7)

The group of women who have had IUDs inserted by physician felt more strongly about the considerable distances to clinics than those who have been inserted by para-medical personnel. A large number of IUD clients inserted by designated physicians felt more sensitively on the waiting time and complicated processes at the clinic than that of IUD clients performed by para-medical personnel. Regarding the degree of kindness extended by both physician and para-medical personnel, no differences was

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<sup>48/</sup> Kingsley Davis and Judith Blake Davis (1956); Social Structure and Fertility; An Analysis Framework, Economic Development and Cultural Change, Vol. 4, (211-235).

<sup>49/</sup> Freedman, Ronald (1967); Applications of the Behavioral Sciences to Family Planning Program, Studies in Family Planning, No. 23, (6) October 1967.

observed. Such matters described do not so much affect the group of women who have already received the IUD insertion, but it can be primary concern of a high risk group. The main reasons given for not practicing family planning were categorized as (1) wants children; 46 per cent, (2) no need; 28 per cent, (3) afraid of side effect including other minor environmental reasons; 26 per cent, according to an analysis in the Boeun area in 1974<sup>50/</sup>.

Table 7. Per Cent Citing Various Complaints in Conjunction with IUD Insertion, by Inserter

Categories	Physician	Nurse/Midwives (F.P. Workers)	All
Distance to Clinic: Too far	26	16	21
Waiting Time at Clinic: Tedious	9	5	7
Procedures Complicated	7	3	5
Inserters' Attitude: Inhospitable	2	1	2
(N)	(536)	(520)	(1,056)

Considering the reasons described above, the most desirable course of action is to extend service facilities to get desired family

<sup>50/</sup> Song, K. Y., and Lee, Y. H., (1975); Maximum Acceptance Level of Family Planning Determined by Field Worker's Home Visits in Boeun Rural Area, Korea, Korean Institute for Family Planning, December, 1975.

planning services closer to dwelling places of potential acceptors. At the decision making stage of accepting a method, determination by the individual was shown by 63 per cent, and 26 per cent was achieved with the help of advice and recommendation by family planning workers. This contrasts with the findings of T. R. Kim (1970)<sup>51/</sup>, of 70 per cent by the advice of family planning workers, 15 per cent by neighbor and only 8 per cent by self-determination. A popularity (42 per cent in urban areas and 46 per cent in rural areas) of respondents who indicated a preference would rather have the IUD insertion performed by a female physician. A similar tendency was recorded in Pakistan in 1969<sup>52/</sup>. Second choice among clients was insertion by nurse or mid-wife, 32 per cent in urban areas and 42 per cent in rural areas. A small minority (5 per cent in urban areas, 4 per cent in rural areas) prefer insertion by a male physician. These preferences were not caused by the age of clients, but caused by some extent by the client's number of living children and education level, especially in rural areas (See Table 8). It was also revealed by the survey that the average length of time from the last pregnancy termination to the IUD insertion was

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<sup>51/</sup> Kim, T. R. (1970); Ibid. (117).

<sup>52/</sup> Satterthwaite, A. P. (1969); Ibid.

11 months. Very little difference was observed in interval or length according to insertion by physician (10.7 months) and para-medical personnel (11.4 months). 23 per cent of insertions

Table 8. Per Cent Distribution of Clients Preference by Area

Socio-Demographic Characteristics	Preferable Inserter for IUD Insertion									
	Urban					Rural				
	( N )	Male Doc-tors	Fe-male Doc-tors	Nurse/ Mid-wives	No Pre-ference	( N )	Male Doc-tors	Fe-male Doc-tors	Nurse/ Mid-wives	No Pre-ference
Age (Years)										
Less than 30	(118)	4	56	24	16	(202)	2	47	45	6
30-34	(144)	8	37	33	22	(191)	5	51	36	8
35+	(158)	4	35	39	22	(243)	4	41	46	9
-----										
Number of Living Children										
0-2	(116)	4	56	26	14	(200)	2	54	39	5
3	(132)	5	38	37	20	(175)	4	53	37	6
4+	(172)	6	35	34	25	(261)	5	35	49	11
-----										
Educational Level										
No School	( 12)	-	17	50	33	( 25)	-	16	72	12
Primary School	(266)	4	36	34	26	(416)	4	43	44	9
Middle School	(108)	5	54	29	12	(148)	3	54	37	6
High School & Over	( 34)	12	59	26	3	( 47)	7	62	27	4
-----										
Total	(420)	5	42	32	21	(636)	4	46	42	8

by physicians and 16 per cent by para-medical personnel were performed within 3 months after the termination of last pregnancy.

Table 9. Per Cent Distribution of Acceptors' Interval from the Last Pregnancy Termination to IUD Insertion

Insertor	( N )	Months							Mean
		All Inter-vals	Less than 4	4-6	7-9	10-12	13-18	19 or more	
All Acceptors	(1,056)	100	20	14	12	13	15	27	11.0
Physician	( 536)	100	23	12	12	13	13	27	10.7
Nurse/Midwives (F.P.Workers)	( 520)	100	16	16	12	12	17	27	11.4

Comparing 23 months, the average period from the last delivery to IUD insertion, recorded in 1969 in Korea<sup>53/</sup>, with 10 months in Taiwan (1969)<sup>54/</sup> and 4 months in Singapore (1968)<sup>55/</sup>, the period lasting from the last delivery to IUD insertion in Korea is considerably longer than that of other countries.

60 per cent of IUD users in the survey responded that they suffered from side effects after IUD insertion; among these were pains, bleeding and leucorrhoea. Side effects caused by IUD insertion varied with the age of clients, as Dr. Peng's (1970)<sup>56/</sup>

<sup>53/</sup> Kim, T. I., Ross, J. A., and Worth, G. O., (1972); The Korean National Family Planning Program, The Population Council, New York, 165 (Table 10-4).

<sup>54/</sup> Taiwan (1970); Taiwan Provincial Institute of Family Planning, 14-15.

<sup>55/</sup> Singapore (1969); Kanagaratnam and Kim, 3 (Table 4).

<sup>56/</sup> Peng, J. Y., Chow, L. P., and Cosa, Jr. L., (1970); Medical Correlates of Termination of use of Intra-Uterine Devices, Studies in Family Planning, No. 60, (24-27).

report also revealed. The existing physical characteristics such as the client's menstrual bleeding, heavy leucorrhoea, amounts of inter-menstrual bleedings also affect the side effects after IUD insertion. Therefore, a preliminary physical examination of the clients by personnel inserting the IUD is considered very worthwhile. The important finding in the survey was that no significant difference was observed between the clients attended by physician and para-medical personnel as far as the proportion of side-effects caused by the IUD insertion is concerned.

Table 10. Per Cent Distribution of Side-Effects, by Inserter

Side-Effects	Physician	Nurse/Midwives	Total
No Side-Effects	41	38	49
Side-Effects	59	62	69
Bleeding	(21)	(19)	(20)
Pain	(41)	(45)	(43)
Infection	( 3)	( 3)	( 3)
Leucorrhoea	(11)	( 9)	(10)
Others	( 7)	(10)	( 9)
N	536	520	1,056

Note: The numbers in the parentheses on each column of side-effects show the per centage of accepters who complain of one or more side-effects.

## 2. Termination

Analysis of the results of IUD insertion was made by establishing a cut-off date of 30 September, 1975. IUD insertion status from January 1974 to September 1975 is as shown on Table



11. Explaining the continuation rate shown on Table 11, IUDs inserted by physicians were used an average of 6.7 months, as compared to 6.0 months among those inserted by para-medical personnel. The overall average was 6.4 months. A 39 per cent drop-out rate was observed among all clients. Two-thirds of this amount, 26 per cent, is due to medical reasons.

Table 11. Results of IUD Insertions by Inserter from January 1974 to September 1975

Inserter	Number of Patients	Average Months of Use	Per Cent					
			Removed Medical Reason	Per-sonal Reason	Total	Ex-pelled	Pre-gnant	In Situ
Physician	536	6.7	24.3	4.9	29.2	6.7	2.8	61.3
Nurse/ Midwives	520	6.0	27.5	3.8	31.3	6.5	1.9	60.3
Total	1,056	6.4	25.9	4.4	30.2	6.6	2.4	60.8

Accumulated net termination rates by month is shown in Table 12. Net drop-outs in three months were 24 per 100 women; the 18-month rate was 56 per 100 women, higher than 45.7-47.3 as recorded in Taiwan in 1967<sup>57/</sup>. The 18-month drop-out rate breaks down as pergnancy rate 4.1, expulsion rate 10.0, removal due to medical

<sup>57/</sup> Hermalin, Albert. I., and Chow, Lien-Pin (1971); Motivational Factors in IUD Termination; Data from the Second Taiwan IUD follow-up Survey, Journal of Biosocial Science, Vol. 3, 1971 (351-375).

reason 35.1, removal caused by individual reason 6.9. A similar tendency was observed in the pregnancy rate and expulsion rate comparing it with that of Korea in 1970<sup>58/</sup> and that of Taiwan in 1971<sup>59/</sup> except showing higher trend in the removal rate caused by medical reasons. The most important of all the factors

Table 12. Cumulative Net Termination Rate per 100 First Insertions by Type of Termination, First Segment

Ordinal Months of Use	Pregnancies	Expulsions	Removals		Total
			Medical Reasons	Personal Reasons	
3	0.8(0.3)	4.0(0.6)	18.3(1.2)	1.9(0.4)	24.9(1.4)
6	1.6(0.4)	6.0(0.8)	24.0(1.4)	3.5(0.6)	35.2(1.6)
9	2.3(0.5)	7.3(0.9)	28.5(1.5)	4.2(0.7)	42.3(1.7)
12	3.2(0.7)	8.2(0.9)	30.3(1.6)	5.6(0.8)	47.3(1.7)
18	4.1(0.8)	10.0(1.0)	35.1(1.7)	6.9(1.0)	56.1(1.8)

Note: Standard errors shown in parentheses.

affecting the drop-out rate following IUD insertion was considered to be the client's attitude formed on the base of the existing number of children. As other survey results indicate, higher acceptance and continuation rates are observed among women aged 30 and over - who are more likely to have already achieved their

<sup>58/</sup> Kim, T. R., (1970); Ibid.

<sup>59/</sup> Freedman, Ronald and Takeshita J. Y., (1969); Family Planning in Taiwan, Princeton University Press, Princeton, New Jersey (250).

desired family size - than among younger women. High effectiveness of IUD contraception in the group aged around 30, in both Korea and Taiwan, is caused by the above reasons<sup>60/</sup>.

This survey has focussed on differences in the effectiveness of IUD insertion as performed by physicians and para-medical personnel. No difference was observed between them, and that no difference was observed in the termination rate which agrees with previous experimental studies by Bang (1968)<sup>61/</sup>, Vaillant (1968)<sup>62/</sup> and Beasley (1967)<sup>63/</sup>. Though there are small differences among the experimental study results in monthly termination rates after IUD insertion, there are not any differences in termination rate (pregnancy, expulsion, removal) caused by the performances between physicians and para-medical personnel (Table 13-1 and 13-2). Comparing the high discontinuation rates in this survey with those recorded by other experimental surveys, it is due to the high percentage attributed to medical reasons.

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<sup>60/</sup> Freedman, R. (1967); Ibid. (6-7).

<sup>61/</sup> Bang, S., et'al. (1968); Ibid. (11).

<sup>62/</sup> Vaillant, H. W. et'al. (1968); Insertion of Lippes loop by Nurse-Midwives and Doctors, Reprinted from British Medical Journal, 14, September 1968, 3. (671-674).

<sup>63/</sup> Beasley, W.B.R., (1967); The Nurse-Midwife as a Mediator of Contraception, American Journal Obstetrics and Gynecology, 98 (201).

At twelve months following insertion, the share of the termination rate caused by medical reasons was 27.3 per cent among women inserted by physician and 33.8 per cent by para-medical personnel. Meanwhile, 13.5-17.3 per cent was revealed by Dr. Bang in his experimental study in 1963<sup>64/</sup> and 10.2 per cent was also shown by study in 1964<sup>65/</sup>. However, a great difference was observed between the experimental studies and the National Sample Survey took in 1967<sup>66/</sup>.

Table 13-1. Cumulative Net Termination Rate per 100 First Insertion by Type of Termination, First Segment by Inserter

Ordinal Months of Use	Pregnancies*		Expulsions		Removals				Total	
	P.	N/M.	P.	N/M.	Medical Reasons		Personal Reasons		P.	N/M.
					P.	N/M.	P.	N/M.		
3	1.0	0.6	4.1	3.9	17.2	19.4	2.3	1.4	24.6	25.3
6	1.5	1.7	6.1	6.0	22.5	25.6	4.1	3.0	34.2	36.3
9	2.2	2.4	7.4	7.1	26.1	31.2	4.7	3.7	40.3	44.5
12	3.3	2.4	8.2	8.1	27.3	23.8	6.0	5.2	45.3	49.5
18	4.7	3.5	9.3	11.4	32.1	38.5	7.2	6.6	53.4	60.1
t-test	t=2.284 p < 0.05		t=.192 p > 0.05		t=1.281 p > 0.05		t=1.012 p > 0.05		t=.545 p > 0.05	

Note: P.= Physician (Sample size: 536)

N/M.= Nurse and Midwives (Sample size: 520)

\*Insufficient Number of Cases

<sup>64/</sup> Bang, S. et'al., (1968); Ibid. (11).

<sup>65/</sup> Shin, H. S. and Kim, S. W., 1968; Use-Effectiveness of the IUD in Korea, Prepared for the 4th Asian Congress in Obstetrics and Gynecology, Singapore, November 1968.

<sup>66/</sup> Korea, Family Planning Evaluation Unit, Ministry Health and Social Affairs (1967); Ibid. (73).

Figure 1. Net monthly termination rate per 100 women by type of termination and time from insertion

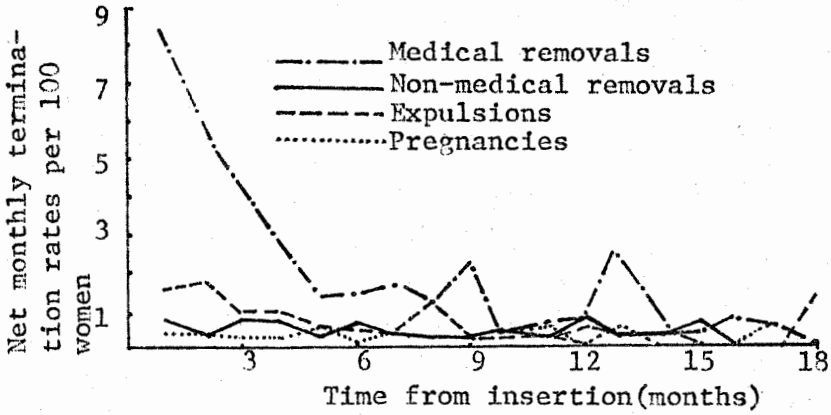


Figure 2-1. Cumulative net pregnancy rate by ordinal month since IUD insertion

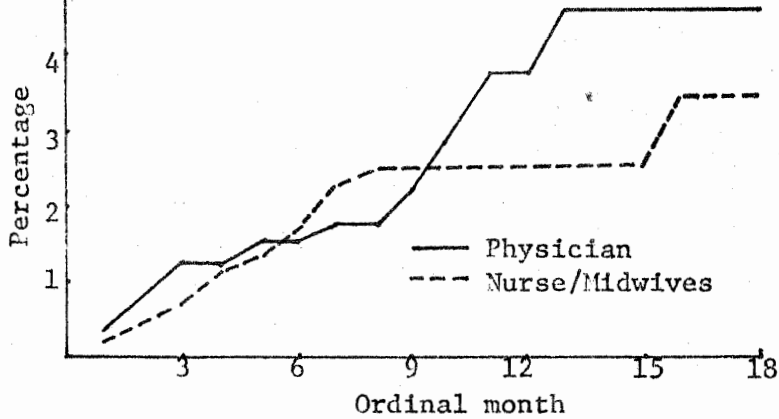


Figure 2-2. Cumulative net expulsion rate by ordinal month since IUD insertion

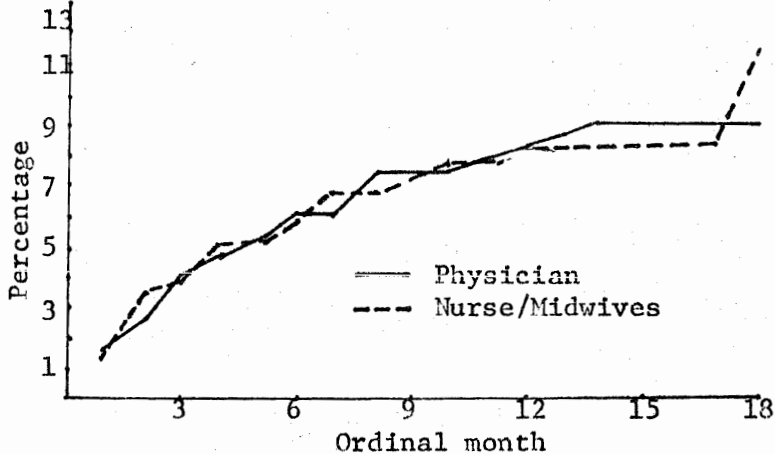


Figure 2-3. Cumulative net medical removal rate by ordinal month since IUD insertion

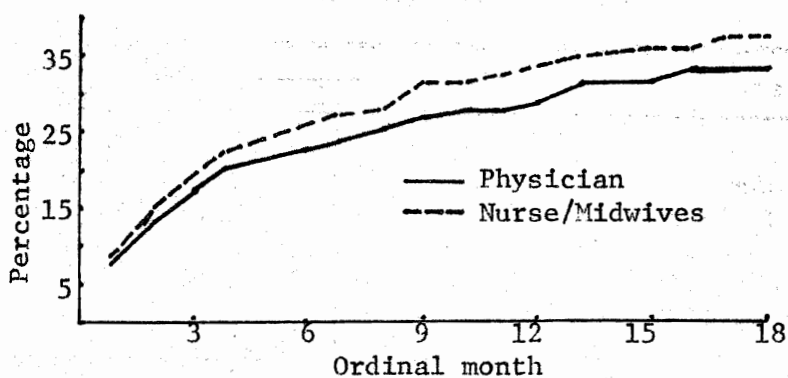


Figure 2-4. Cumulative net non-medical removal rate by ordinal month since IUD insertion

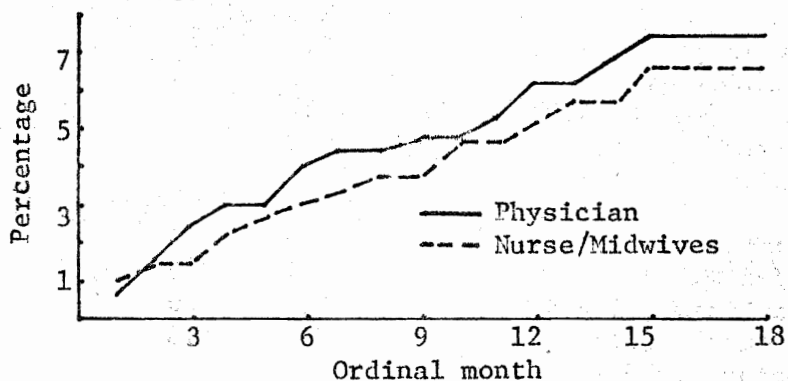
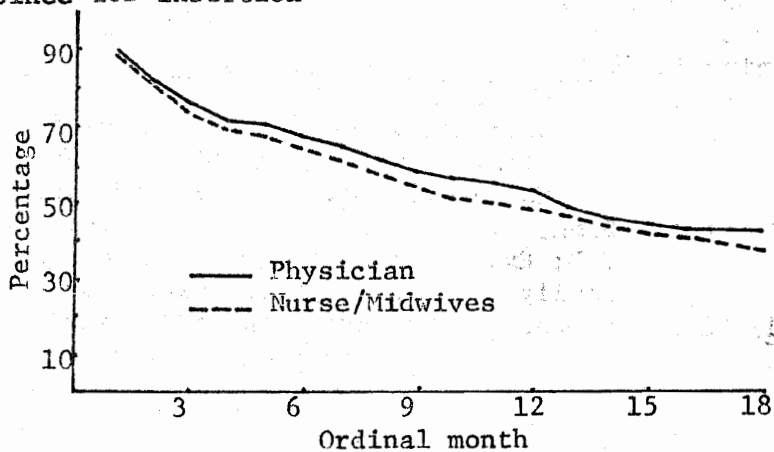


Figure 3. Cumulative net IUD retention rate by ordinal month since IUD insertion



**Table 13-2. Cumulative Net Termination Rate per 100 First Insertion, by Qualification of Inserter**

Inserter	Ordinal Months of Use				
	1	3	6	9	12
	<u>Total Termination</u>				
Physician	10.6	24.6	34.2	40.3	45.3
Nurse/Midwives	11.4	25.3	36.3	44.5	49.5
Clinic Nurse (1966)*	10.1	16.1	26.0	29.0	31.9
Nurse with doctor screening (1966)*	4.9	15.6	26.4	30.8	38.9
	<u>Removal due to medical reasons</u>				
Physician	8.1	17.2	22.5	26.1	27.3
Nurse/Midwives	8.8	19.4	25.6	31.2	33.8
Clinic Nurse (1966)*	4.8	8.1	11.4	12.0	13.5
Nurse with doctor screening (1966)*	2.5	6.0	10.3	10.8	17.3
	<u>Removal due to personal reasons</u>				
Physician	0.6	2.3	4.1	4.7	6.0
Nurse/Midwives	1.0	1.4	3.0	3.7	5.2
Clinic Nurse (1966)*	2.0	4.0	5.5	5.5	7.1
Nurse with doctor screening (1966)*	0.0	0.0	1.8	3.1	3.1
	<u>Pregnancies</u>				
Physician	0.4	1.0	1.5	2.2	3.8
Nurse/Midwives	0.2	0.6	1.7	2.4	2.4
Clinic Nurse <sup>1/</sup> (1966)*	1.0	1.0	1.0	1.0	1.0
Nurse with doctor screening (1966)*	0.0	1.3	1.3	3.7	5.1
	<u>Expulsions</u>				
Physician	1.5	4.1	6.1	7.4	8.2
Nurse/Midwives	1.4	3.9	6.0	7.1	8.1
Clinic Nurse (1966)*	2.4	3.4	8.2	10.6	10.6
Nurse with doctor screening (1966)*	2.1	8.2	11.9	13.5	14.5

Note: Sample Size: Physician (All)=536

Nurse/Midwives (F.P. Workers)=520

Clinic Nurse (1966)=209

Nurse with doctor screening (1966)=237

\*Source: Bang, S., et.al. (1966); Improving access to the IUD; Experiments in Koyang, Korea, Studies in Family Planning, No. 27, March 1968.

<sup>1/</sup> Base too small for figure to be meaningful.

The termination rate shown in the twelfth month of the National Sample Survey in 1967 was 22.4. Comparisons on cumulative twelve-month termination rates are shown in Table 14.

Table 14. Comparison of Net Termination Rate per 100 First Insertions, at the End of 12 months with some Selective Studies

Type of Termination	1) Korea(1975)		2) Korea, Koyang	3) (1966)			4) Barbados		
			Taiwan (1966)	Ob/Gyn	CN	N/D	P.	N/M.	
Pregnancies	3.8	2.4	2.9	7.3	2.3	1.0	5.1	2.0	2.0
Expulsions	8.2	8.1	12.4	11.6	9.1	10.6	14.5	8.9	9.7
Medical Removals	27.3	33.8	28.2	17.6	13.6	13.5	17.3	9.9	6.4
Non-medical Removals	33.3*	38.9*			7.5	7.1	3.1	5.1	3.5
Total Terminations	45.3	49.3	43.4	36.4	31.0	31.9	38.9	-	-
Number of women	536	520	2,427	5,758	850	209	237	500	500

Note: P.= Physician N/M.=Nurse and Midwives  
 Ob/Gyn = Obstetrics and Gynecology Specialists  
 CN = Clinical Nurse  
 N/D = Nurse with doctor screening  
 \*Total Removal Rate

- Source: 1) Kim, T.R.; National Intra-Uterine Contraception Report, The National Family Planning Center, December 1970, p. 171, App. Table 1.  
 2) Hermalin, A.I., Chow, L.P.; Motivational Factor in IUD Termination; Data from the second Taiwan follow-up Survey, Journal of Biosocial science, Vol. 3, 1971 p. 355, Table 1.  
 3) Bang, S., et.al.; Improving Access to the IUD; Experiments in Koyang, Korea, Studies in Family Planning No. 27, March 1968.  
 4) Vaillant, H.W., et.al.; Insertion of Lippes loop by Nurse/Midwives and Doctors, Reprinted material from the British Medical Journal, 14 September 1968, 3, pp. 671-674.



Except the high per cent of termination rate caused by medical reasons, there is not any remarkable difference among the results of studies as far as pregnancy rate, natural expulsion rate and termination rate due to non-medical reasons are concerned. In view of this high percentage due to medical reasons, it is desirable not only to conduct careful preliminary medical consultation of clients prior to IUD insertion, but also to perform follow-up checks of clients on completion of IUD insertion. Regarding loop insertion by para-medical personnel, comparison on termination rates before and after loop insertion training is shown on Table 15. The limited size of the sample did not permit more sound and reliable results of this survey, and no sizeable differences were observed in total termination rates and their component percentage regardless of whether insertion took place before or after training, as IUD insertion training was conducted among those who had had previous experiences in inserting IUD; 65 per cent of the total trainees.

The survey also found that out of a total of 319 removal cases, 26 per cent were due to pregnancy (two-thirds of this 26 per cent resulted in miscarriage). A 35 per cent pregnancy rate occurred to those women who were inserted by physicians; 18 per cent for women inserted IUD by para-medical personnel. It was

Table 15. Cumulative Net Termination Rate per 100 First Insertions by Type of Termination Before and After Training of Para-medical Personnel

Ordinal Months	Pregnancies		Expulsions		Medical Reasons		Removals		Personal Reasons		Total	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
3	-	0.5	2.2	3.5	17.6	18.4	-	1.4	19.8	24.2		
6	4.7	1.0	6.6	5.4	23.2	25.9	2.0	3.6	36.5	35.9		
t-test	t=2.027		t=.354		t=.785		t=1.078		t=.417			
	p > 0.05		p > 0.05		p > 0.05		p > 0.05		p > 0.05			

Note: Before = Events from the insertions during the period of six months from Jan. 1 to June 30, 1974 before the training for IUD insertion (Sample size: 91).

After = Events from the insertions during the period of six months from Jan. 1 to June 30, 1975 after the training for IUD insertion (Sample size: 207).

found that 58 per cent of all women practiced a method of contraception following removal of the IUD. 33 per cent of the natural expulsion cases were related to pregnancy (one-fourth leading to normal births) and 26 per cent of the expulsion cases among women cared by physician were related to pregnancy, as compared to 30 per cent for women cared by para-medical personnel. 56 per cent of the total expulsion cases practiced another method of contraception and a similar tendency was already observed in the removal cases above. This survey found that there is no difference in pregnancy experience and practice rate after removal, expulsion and termination of IUD in comparison with that of

Table 16. Per Cent Distribution of Acceptors by Disposition of Pregnancies, and Contraceptive Method Used after Removal and Expulsion by Inserters

Pregnancies and Contraceptive Used	After Removal			After Expulsion		
	Physician	Nurse/ Midwives	Total	Physician	Nurse/ Midwives	Total
<u>Pregnancies</u>						
Not Pregnant	65	82	74	64	70	67
Live-birth	5	3	4	8	6	7
Abortion	22	11	16	20	12	16
Currently pregnant	8	4	6	8	12	10
<u>Contraceptive Method Used</u>						
Never used	42	42	42	39	50	44
Loop*	1	1	1	-	-	-
Pill	28	23	26	39	23	32
Condom	18	22	20	8	18	13
Sterilization*	3	3	3	3	-	1
Others	7	9	8	11	9	10
(N)	(156)	(153)	(319)	(36)	(34)	(70)

\*Base too small for figure to be meaningful.

National Sample Survey took in 1967<sup>67/</sup>, 1970<sup>68/</sup> and that of Kwon's survey (1966)<sup>69/</sup> in Seoul.

#### IV. Summary and Conclusions

Most recent research and studies on fertility control have been conducted toward the approaches and interactions of sociology, demography, psychology and economics. This tendency is largely due to the fact that matters concerning the desired of parents to have children, family planning acceptance and effectiveness of contraception are all determined and affected by factors from these various fields of study.

This survey has focussed not only on the improvement and maximization of effectiveness of contraceptive services by the best utilization of para-medical personnel in the area where it critically suffers from the shortage of professional medical personnel, but also on finding differences, if any, of performances of IUD insertion by physicians and by trained para-medical personnel such as a licensed nurse and midwife. In Korea, a large proportion of IUD insertions have been performed by trained physicians. Insertions have also been performed on a smaller

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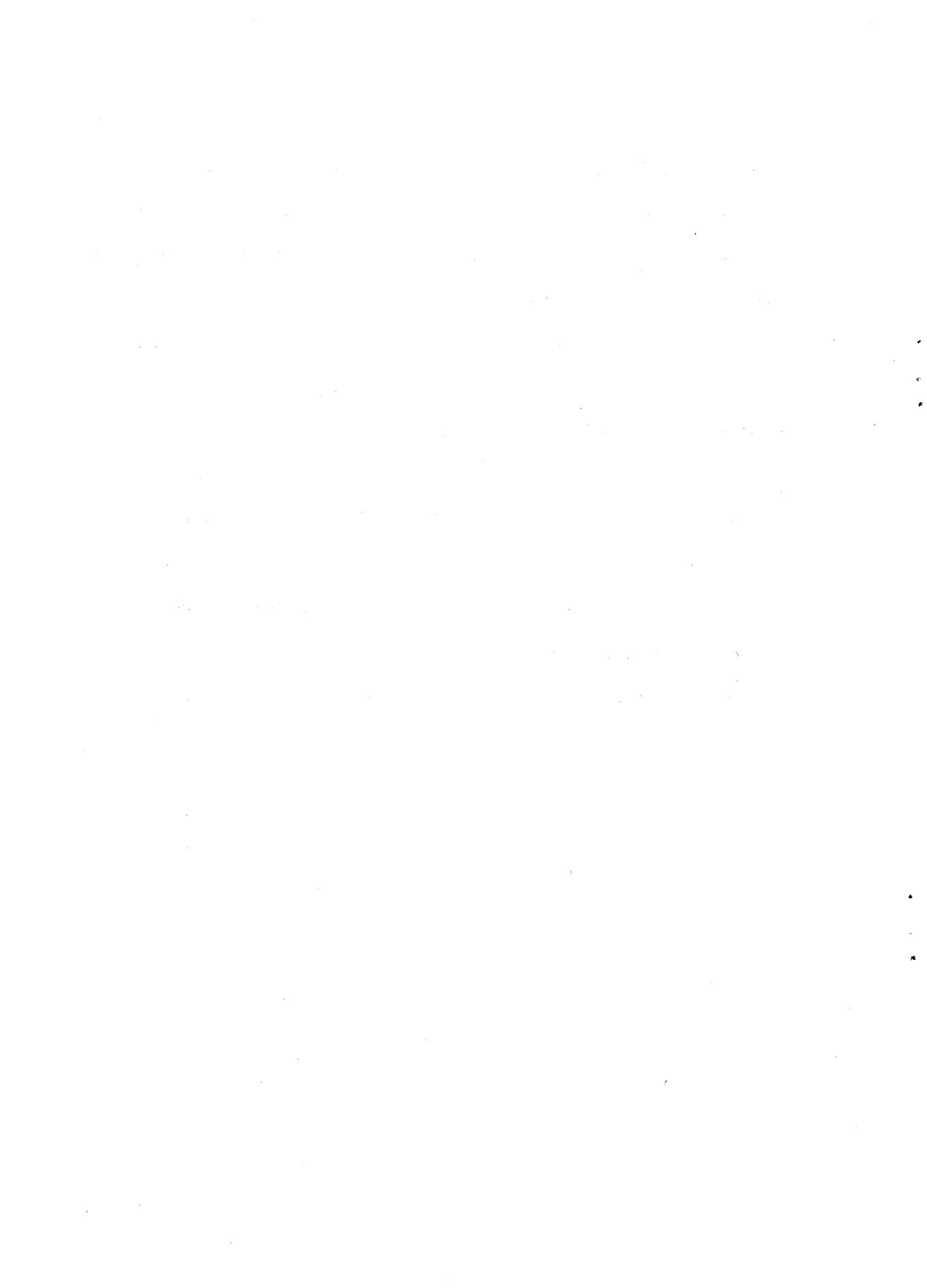
<sup>67/</sup> Korea, Family Planning Evaluation Unit, Ministry Health and Social Affairs (1967); Ibid. (67-68).

<sup>68/</sup> Kim, T.R., (1970); Ibid. (127-128)

<sup>69/</sup> Kwon, E. H., et'al., (1966); Ibid. (49-51)

scale by para-medical personnel, such as family planning workers, since its introduction in Korea. The present survey finds that 16 per cent of the total designated physicians involved permit IUD insertion by their nurses following in-service training at their clinics. A similar tendency was observed in a previous survey taken in 1973. 37 per cent of the total IUD insertions at that time were performed by hospital nurse and family planning workers (24 per cent in Seoul, 35 per cent in other cities, and 41 per cent in rural areas). It is now expected that effective IUD insertion by para-medical personnel can be achieved through systematic and refined training of such individuals. However, an important consideration in any technical training course such as IUD insertion training is that the curriculum must be developed and intensified with the essential knowledge required for practical IUD insertion services in the field. Most of the clients in the present survey responded that they have not had difficulties in the process of accepting IUD insertion services regardless of performance done by physician or para-medical personnel. However, a majority of the clients would prefer the insertion to be performed by the female physician, nurse or midwife more than by the male physician. Comparing the results of physicians' IUD performances with those of para-medical personnel, no

statistical difference was observed, especially regarding side-effects caused by insertion, total termination rate and termination rates due to various factors such as medical removal, non-medical removal, natural expulsion and pregnancy rate. A relatively high discontinuation rate caused by medical reasons was recorded in Korea, a level above those observed in other countries. Therefore, it is desirable that further scientific research be systematically conducted according to concrete approaches in decreasing the high discontinuation rate of Intra-Uterine contraception. We also feel strongly that the high discontinuation rate caused by medical reasons might be decreased through full preliminary medical examination and intensified follow-up care before and after the performance of IUD insertion.



## V. APPENDIX



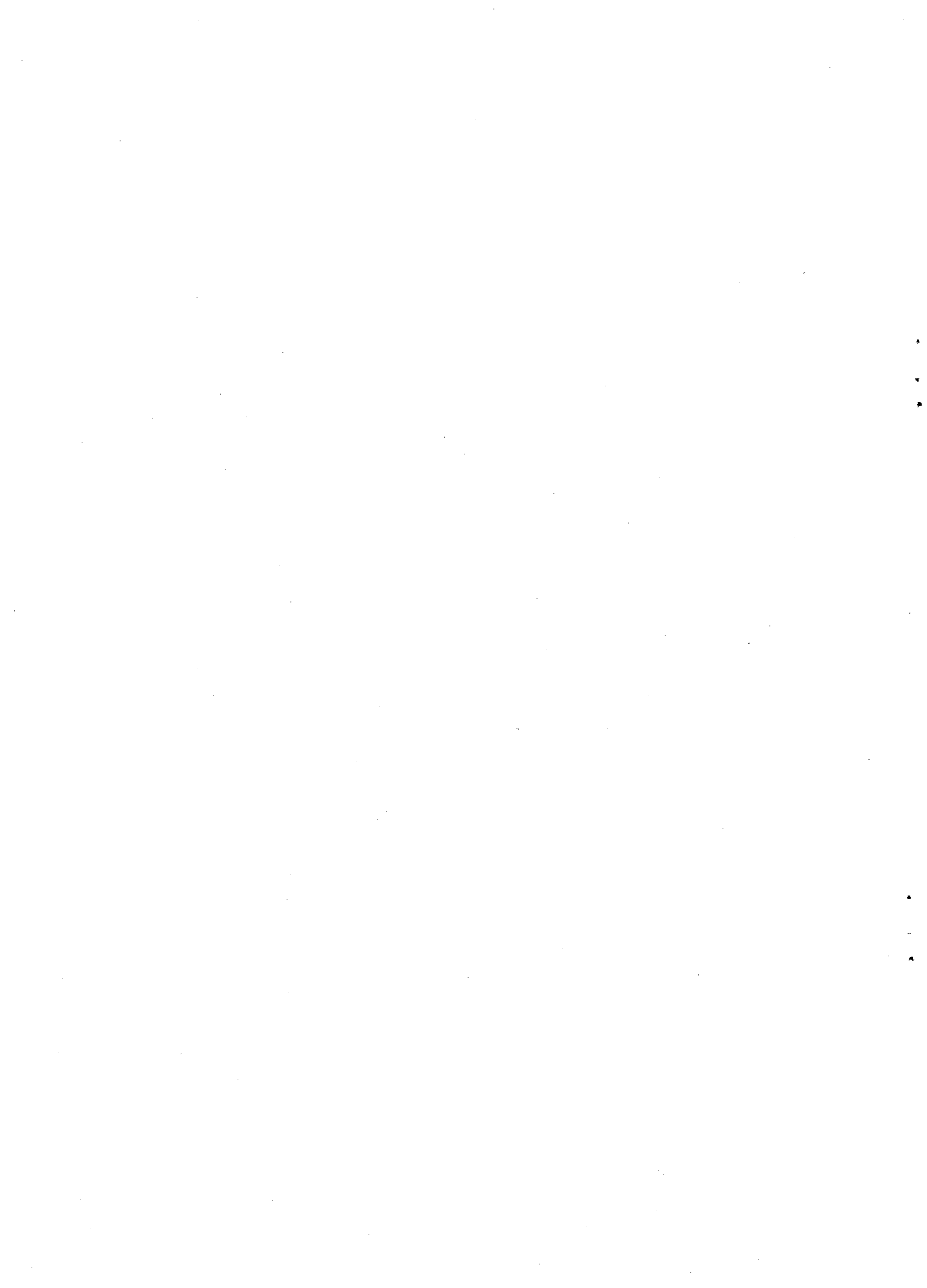


Table I-1. Per Cent Distribution of Physicians' Age by Area

Area ( N )	Physicians' Age					Total	Mean
	Less than 35	35-39	40-44	45-49	50 or more		
Urban (174)	4.6	14.9	21.9	28.7	29.9	100.0	47.0
Rural (222)	2.3	3.6	15.7	21.2	56.8	100.0	52.0
Total (396)	3.3	8.6	18.4	24.7	44.9	100.0	49.8

Table I-2. Per Cent Distribution of Physicians' Sex by Area

Area ( N )	Physicians' Sex			Total
	Male	Female	D.K.	
Urban (174)	85.6	14.4	-	100.0
Rural (222)	93.2	6.3	0.5	100.0
Total (396)	89.9	9.8	0.3	100.0

Table I-3. Per Cent Distribution of Physicians by Field of Specialization and Area

Area ( N )	Physicians' Major Field			Total
	General	Obs./Gyn.	Other	
Urban (174)	43.7	49.4	6.9	100.0
Rural (222)	86.5	6.8	6.7	100.0
Total (396)	67.7	25.5	6.8	100.0

Table I-4. Per Cent Distribution of Physicians by the Years of Clinical Experience and Area

Area	( N )	Years of Clinical Experience					Total
		None	Less than 10	10-19	20 or more	D.K.	
Urban	(174)	8.0	23.6	40.8	26.4	1.2	100.0
Rural	(222)	5.4	29.3	20.8	41.9	2.8	100.0
Total	(396)	6.6	26.8	29.6	35.1	2.0	100.0

Table I-5. Per Cent Distribution of Physicians' Responses on the Effectiveness of IUD Insertion Training by Area

Area	( N )	Physicians' Responses					Total
		None	Very helpful	A little helpful	Not helpful	D.K.	
Urban	(174)	10.3	47.7	35.6	6.3	-	100.0
Rural	(222)	0.9	69.4	26.1	2.8	0.9	100.0
Total	(396)	5.1	59.8	30.3	4.3	0.5	100.0

Table I-6. Per Cent Distribution of Physicians' Opinion on the Necessity of IUD Insertion Training by Area

Area	( N )	Physicians' Opinion			Total
		Necessary	Unnecessary	D.K.	
Urban	(174)	83.9	12.1	4.0	100.0
Rural	(222)	86.5	11.3	2.3	100.0
Total	(396)	85.4	11.6	3.0	100.0

Table I-7. Per Cent Distribution of Physicians' Opinion on the Feasibility of the IUD Insertion by Para-Medical Personnel, by Physicians' Major Field

Major Field	( N )	Physicians' Opinion			Total
		Possible	Impossible	D.K.	
General	(274)	51.3	32.7	16.0	100.0
Obs./Gyn.	(102)	38.3	53.9	7.8	100.0
Others	( 20)	35.0	50.0	15.0	100.0
Total	(396)	47.1	39.0	13.9	100.0

Table I-8. Per Cent Distribution of Performer of IUD Insertion in Designated Clinic by Area

Area	( N )	Percentage of Clinic where Insertion is Available			Total
		Completed by physician	Inserted by nurse with physicians' supervisor	D.K.	
Urban	(174)	84.5	13.2	2.3	100.0
Rural	(222)	80.6	18.5	0.9	100.0
Total	(396)	82.3	61.2	1.5	100.0

Table II-1. Per Cent Distribution of Para-medical Personnel by Age

( N )	Less than 35	35-39	40-44	45-49	50 or more	Total	Mean
( 72)	16.7	23.6	19.4	20.8	19.4	100.0	42.2

Table II-2. Per Cent Distribution of Para-medical Personnel by Years of Experience

Experience ( N )	Duration of Experience (Years)					Total
	None	Less than 4	4-7	8-11	12 or more	
Clinic Nurse ( 72 )	15.3	34.7	32.0	18.1	-	100.0
F.P. Worker ( 72 )	-	27.0	20.8	50.0	22.2	100.0

Table II-3. Per Cent Distribution of Cases of IUD Insertion by Years' Experience, for Clinic Nurse and F.P.Worker

Experience (Year)	( N )	Cases of IUD Insertion				Total
		None	Less than 100	100-199	200 or more	
<b>Clinic</b>						
None	( 11 )	63.6	9.1	-	27.3	100.0
Less than 4	( 25 )	25.0	20.0	24.0	44.0	100.0
4-7	( 23 )	43.5	17.4	17.4	21.0	100.0
8+	( 13 )	38.4	-	30.8	30.8	100.0
<b>Family Planning</b>						
Less than 4	( 5 )	80.0	-	20.0	-	100.0
4-7	( 15 )	60.0	6.7	13.3	20.0	100.0
8-11	( 36 )	22.2	16.7	22.2	38.9	100.0
12+	( 16 )	25.0	18.8	18.8	37.5	100.0
<b>Total</b>	<b>( 72 )</b>	<b>34.7</b>	<b>13.9</b>	<b>19.4</b>	<b>31.9</b>	<b>100.0</b>

Table II-4. Per Cent Distribution of Places where Para-medical Personnel Made most Insertion Large Per Cent was Performed

( N )	Places				
	None	Designated Clinic	Health Center	Health Sub-Center	Clients Home
( 72 )	15.3	11.1	36.1	18.1	19.4

Table II-5. Per Cent Distribution Para-medical Personnel by the Number of Insertions Before and After the IUD Insertion Training

Training ( N )	Number of Insertions				Total	Mean
	None	Less than 100	100-199	200 or more		
Before ( 72 )	34.7	13.9	19.4	31.9	100.0	155.3
After ( 72 )	15.3	23.7	23.6	37.5	100.0	146.7

Table II-6. Per Cent Distribution of Response by Para-medical Personnel on the Effectiveness of IUD Insertion Training

( N )	Very helpful	A little helpful (or partially helpful)	Total
( 72 )	86.1	13.9	100.0

Table II-7. Per Cent Distribution of the most Helpful Subjects for Field Practice Found during IUD Insertion Training Period

( N )	IUD Physiology & Anatomy	Principle of F.P.	Sterilization	MCH	Demo-graphy	Others	Total	
(72)	29.2	44.4	4.2	1.4	9.7	2.8	8.4	100.0

Table II-8. Per Cent Distribution of Para-medical Personnel Response to the Cases where Physicians Help was Needed in Performing IUD Insertion

The Years of their Experience	( N )	Cases which needed Physicians' help to their IUD Insertions				Total
		Pre- scription	Technique of insertion	Post service	Others	
<b>Clinic</b>						
None	(11)	54.5	-	18.2	27.3	100.0
Less than 4	(25)	38.0	12.0	52.0	8.0	100.0
4-7	(23)	30.4	17.4	43.5	8.7	100.0
8+	(13)	15.4	15.4	46.1	23.1	100.0
<b>Family Planning</b>						
Less than 4	( 5 )	20.0	-	40.0	40.0	100.0
4-7	(15)	60.0	-	33.3	6.7	100.0
8-11	(36)	25.0	19.4	38.9	16.7	100.0
12+	(16)	18.8	12.5	62.5	6.3	100.0
<b>Total</b>	<b>(72)</b>	<b>30.6</b>	<b>12.5</b>	<b>43.0</b>	<b>13.9</b>	<b>100.0</b>

Table III-1. Per Cent Distribution of Recommender of Last IUD Insertion, by Inserter

Inserter	( N )	Recommender of last IUD Insertion					Total
		Self	Physician	Para- medical personnel	Rela- tive	Others	
Physicians	(536)	69.8	0.9	19.2	9.9	0.2	100.0
Para-medical Personnel	(520)	55.4	0.2	34.6	6.9	2.9	100.0

## 醫師 및 醫療補助員(助產員/看護員)에 의한 子宮內裝置 施術效果 比較研究

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### I. 背景 및 必要性

일반적으로 家族計劃事業의 效果는 避妊의 受容率이나 繼續率로 測定한다. 이러한 避妊의 受容率과 繼續率은 先行手段인 啓蒙教育和 避妊 서비스의 內容에 따라 歸結되므로 각종 家族計劃事業은 보다 合理的이고 體系의인 事業展開를 要求하게 된다.

최근 大部分의 開發途上國家들은 時急한 人口問題 解決을 위해 腐心한 나머지 추진되어온 家族計劃事業은 그들의 意慾에 비해 國家가 처한 社會·經濟 및 文化的인 制限與件이 事業發展에 制動要因이 되고 있다.<sup>1)</sup> 특히 家族計劃 서비스 면에서 訓練된 醫師나 看護員들에 의한 專門의인 서비스는 醫療人力의 制約으로 많은 困難을 겪고 있다.<sup>2)3)</sup> 대개의 경우 이들 國家들은 人口의 絕對數에 비해 醫療人力은 매우 不足한 狀態에 있으며, 또 都市地域에 集中되어 전체 人口의 약 80 퍼센트가 居住하고 있는 農村에서도 家族計劃 서비스 뿐만 아니라 保健·醫療서비스에도 放置된 境遇가 많다.<sup>4)</sup>

이러한 점은 韓國에서도 例外가 될 수 없듯이 醫師 1人當 平均 管掌人口數는 약 1:2,200 명으로 미국의 醫師 1人當 管掌人口 1:700에 비해 對照의인 樣相이다. 특히 醫療人力의 都市集中 現狀은 뚜렷하며, 農村地域에서도 邑과 같은 特定地域에 集中되어 순수 農村地域에서의 醫療受惠는 政策的

註: 1) Nortman, Dorothy L. (1972); Status of National Family Planning Programs of Developing Countries in Relation to Demographic Targets, Population Studies, Vol. XXVI, No. 1.

2) King, M.; In King, M. (1966); Medical Care in Developing Countries, London, Oxford University Press, p. 11.

3) Rosenfield, Allan G. (1968); An Expanded Role for Paramedical Personal, Reprinted Materials from The Population Council, Bangkok, Thailand, November.

4) Rosenfield A.G. and Limcharoen C. (1972), Auxiliary Midwife Prescription of Oral Contraceptives, American Journal of Obstetrics and Gynecology, Vol. 114, No. 7, December.



으로 깊은 關心을 갖게 되었다.<sup>5)</sup> 이러한 점은 根本的 問題解決을 위한 立場에서 보더라도 部分的으로라도 醫療서비스의 範圍 擴大와 體制를 整備하며, 醫療補助員의 多角的 活用問題를 檢討하기에 이르렀다.<sup>6)</sup> 우선적인 것은 이제까지 醫師에 한하여 制限되어 왔던 醫療서비스나 避妊서비스의 一部를 法的인 面에서 可能的 部門에 대하여는 訓練된 醫療補助員(특히 看護員 및 助産員)에게까지 許容하게 되었다.<sup>7)</sup> 즉 一次的인 應急治療나 子宮內裝置 施術 및 먹는 避妊藥의 普及등이 그 대표적인 例다.

家族計劃事業에서 醫療補助員의 活用性에 관한 實驗研究는 이미 Pakistan(1966)이나 Barbados(1966), United States(1967), 韓國(1968), India(1969) 및 Nigeria(1971) 등지에서 實施된 바 있다.<sup>8)</sup> 이러한 實驗研究는 看護員 또는 補助員에게 루우프 施術 및 이와 關聯된 分野에 대한 特殊訓練을 實施하여 施術에 따른 일반적인 副作用이나 合併症 및 保留率을 醫師의 施術結果에서와 같이 差異를 最少限으로 줄이려는데 滿足할 만한 結果를 提示했다.

어떤 意味에서 子宮內裝置의 避妊效果는 避妊서비스에 따른 事前診察이나 施術 및 事後管理 등의 서비스 뿐만 아니라 對象者 自身の 出產態度나 生理的인 與件 그리고 避妊方法 自體에 대한 認識과 信賴 등의 複合的 要因에 의해 結定되는 境遇가 많다.

특히 韓國 家族計劃事業에서 子宮內避妊은 이를 普及(1964)하기 시작한 이후 括目할 만한 成果를 거두어 왔다. 이는 使用上 簡便성과 높은 避妊效果로 그 事業의 依存도가 높아 1975年末까지 약 3.5百萬件的 루우프가 施術되어 1.5百萬件的 出生이 防止된 것으로 推定되고 있다. 이러한 結果는 子宮內裝置 避妊效果가 전체 避妊普及으로 인한 出生防止效果의 약 50 퍼센트에 이르고 있다.<sup>9)</sup> 그러나 政府가 計劃한 年間 350,000 件的 루우프 施術 目標를 達成하는데 現在 全國에 약 1,500 명의 訓練된 施術 醫師가 配置되어 있으나 전체 對象者의 數를 考慮할 때 현재의 施術醫師 數로는 廣範圍한 施術普及이 未洽한 實情이다.<sup>10) 11)</sup> 따라서 醫師의 손이 미치지 못하는 地域의 對象者는 먼 地域에 있는 施術醫를 찾아가야 하거나 非合法的이기는 하지만 전체 루우프 施術을 받은 婦人中 37 퍼센트(1973年 家族計劃研究院 調査)<sup>12)</sup>는 그 地域의 看護員 또는 助産員 免許를 가진 家族計劃要員에 의해 施術을 받아야 했었다.

따라서 「子宮內裝置 施術에 看護員 또는 助産員과 같은 醫療補助員의 活用 可能性에 관한 研究」는 方·宋 및 崔(1968)<sup>13)</sup> 등에 의해 推進된 후 母子保健法의 制定(1973)으로 醫療補助員(助産員/看護員)에게도 訓練을 實施하여 子宮內裝置 施術을 許可함에 따라 實施된 訓練內容과 醫師와 施術要員간의 施術效果를 比較하는데 研究의 目的을 두었다.

註: 5) 韓國開發研究院(1975); 保健企劃 및 政策심포지움(第 3次 經濟政策協議會), 서울, 12月.

6) 大韓保健協會(1976); 우리나라의 醫療傳達制度和 새로운 保健要員의 活用, 大韓保健協會誌, 第 2 卷, 第 1 號, pp. 5-10.

7) 保健社會部(1974); 母子保健法, 家族計劃研究院, 1975.

8) Korean Institute for Family Planning(1976); Information on Po Population and Family Planning in the Republic of Korea, Mimeo. June.

9) 家族計劃研究院(1975); 1975年度 全國 家族計劃事業 評價세미나 綜合報告書, 6月.

10) 家族計劃研究院(1976); 1976年度 全國 家族計劃事業 評價세미나 綜合報告書, 6月.

11) 家族計劃研究院(1973); 1973年 全國 家族計劃 및 出產力調査, 서울.

12) Ross John A. et'al.(1972); Findings from Family Planning Research Report on Population/Family Planning, The Population Council, No. 12, October.

13) Bang, S., Song, S.W. and C.H.(1968); Improving Access to the IUD Experiments in Koyang, Korea, Studies in Family Planning 1(27); 4-11.

모든 應用研究가 大部分 行政的 또는 技術的인 面의 適用과 方向提示에 基礎를 두고 있듯이 본 比較研究도 子宮內避妊 普及 擴大方案에 따른 人力의 訓練과 活用性을 評價함으로써 事業에 奇與할 수 있는 方向을 摸索하는데 基礎를 두었다.

## II. 方 法

### 1. 調查對象

본 研究의 對象은 子宮內裝置 施術醫師, 施術要員(訓練된 助產員 또는 看護員) 및 이들 施術者에 의해 施術된 被 施術婦人이다. 施術要員은 母子保健法에 依據 最初로 1974年 7月부터 2個月間에 걸쳐 子宮內裝置施術에 關係 訓練된 87명의 看護員 또는 助產員 免許를 가진 家族計劃要員이며, 施術醫師는 위 87명의 施術要員과 같은 地域(동일 保健所 管割地域)에서 無痛施術을 擔當하고 있는 指定 施術醫師 578명 全員이다. 또 子宮內裝置 被施術者는 이들 施術者에게 施術을 받은 전체 對象者中 標本抽出된 者이다.

### 2. 調查方法

調查方法은 制限된 研究資金과 莫大한 努力을 尙해야 하는 全數調查方法을 避하고 즉, 1974年에 標本調查方法을 擇했다.

訓練 配置된 施術要員과 이들과 同一 地域의 施術醫師 578명 全원에 대하여는 각각 調査者에 의한 郵便調査를 實施하였다. 그러나 이들에 의해 無痛施術을 받은 婦人은 두 施術群의 郵便調査 結果를 基礎로 母集團을 몇 개의 異質的 層(Stratum)으로 구분하여 각 層에서 確率標本을 대신하는 有意的 標本抽出 過程을 거쳐 最終調查區(55個 里·洞)를 確定하였다. 이 調查區에서는 1974年 1月 1日부터 1975年 9月 30日까지 21個月間 施術된 전체 婦人을 被施術者 쿠폰에 의거 訓練된 調査員에 의해 追求面接調査를 實施했다.

여기서 87명의 施術要員이 配置되어 있는 80個 市·郡으로 이를 母集團으로 하고 無痛施術 實績에 따라 5個 集團(group)으로 區分하여 각 集團에서 1個 市·郡씩 5個 市·郡(1次 抽出層)을 有意的으로 抽出하였다. 이 1次 標本抽出層인 5個 市·郡에서는 다시 子宮內裝置 施術實績을 上·中·下로 區分하여 각각 3個 邑·面 또는 洞(2次 抽出層)을 抽出하였다. 마지막으로 2次 抽出層에서는 邑·面 또는 洞 單位에서 1次 標本抽出層에서와 같이 3~5個 里·洞 또는 班을 抽出하여 전체적으로 55個의 최종 調查區를 抽出 確定하였다. 標本抽出 方法은 調查值의 偏向性(Bias)을 排除하기 위하여 3段階로 層化抽出하는 方法을 擇하였으며, 母集團構成의 單純性 때문에 確率抽出方法 대신 有意的 抽出方法을 擇한 것이다.

이와 같은 調查方法에 의한 調查結果는 表 1 및 表 2와 같다.

### 3. 分析方法

調查資料의 分析은 調查目的에 따라 子宮內裝置施術者(醫師 및 施術要員)는 郵便調査結果로 이들의 일반적 特性과 訓練內容에 대한 意見, 施術活動 등에 관한 內容을 要約했다. 被施術者의 追求調査

資料는 施術者에 따른 避妊效果를 比較하기 위해 일반적으로 널리 利用되고 있는 Tietze의 生命表方法<sup>14)</sup> <sup>15)</sup> <sup>16)</sup>에 의거 分析하였다.

그러나 被施術者에 대한 追求調査는 대개의 경우 相當數의 面接 不能者가 나타나게 되며, 따라서 資料의 統計處理에 많은 理論이 提起되고 있다.<sup>17)</sup> Tietze(1968)<sup>18)</sup> 등은 追求調査時 面接이 可能했던 婦人과 面接이 不可能했던 婦人중 子宮內裝置 挿入時 밝혀진 年齡, 出產回數 및 教育水準 等 個人的인 特性이나 挿入時期가 類似한 일정 數를 擇하여 子宮內裝置 挿入經過에 따른 內容으로 對峙하는 統計의 處理方法을 提示하고 있으나 이러한 Para-rata 分布法도 많은 難點이 있다. 또 Potter(1967)<sup>19)</sup>의 統計處理方法도 追求面接에서 面接不可能者의 최종 面接日로부터 追求訪問日까지의 期間이 길면 길수록 累積繼續率은 實際와 많은 差異를 나타내게 된다.

따라서 본 調査에서는 兩個 子宮內裝置 施術群(醫師 및 施術要員)에 의한 追求面接 不能件數의 屬性은 큰 差異가 없는 것으로 假定하고, 또 一部 地域에 限하여 被施術者의 쿠우폰에서 面接婦人의 年齡, 教育水準, 現存子女數 및 現存男兒數 등을 面接 不可能했던 婦人과 比較했던 바 有意의 差가 없었으므로 面接 可能했던 內容만을 중심으로 資料가 處理되었다.<sup>20)</sup>

### Ⅲ. 調查結果

#### 1. 調查對象의 特性

子宮內裝置 施術醫師: 家族計劃事業에서 避妊施術醫師 指定制度는 施術을 要하는 男女不妊術이나 子宮內裝置와 같은 避妊方法에 대하여 醫師들의 施術希望에 따라 施術訓練을 實施하여 指定하는 制度를 意味한다. 이와 같은 制度는 施術事業의 始作과 併行 實施되어 1975年까지 所定の 訓練을 畢하고 指定된 醫師數는 全體 醫師의 9 퍼센트(약 1,600명)에 이른다.<sup>21)</sup>

地域別로 指定 施術醫師 分布는 전체 施術醫師중 2/3가 農村地域에 있는 醫師에게 指定되어 있으며, 施術科目別로는 子宮內裝置를 위시한 不妊術이 약 80 퍼센트며, 나머지 20 퍼센트는 不妊術만을 위해

註: 14) Tietze, Christopher and Lewit, Sarah(1973); Recommended Procedures for the Statistical Evaluation of Intra-Uterine Contraception, Studies in Family Planning, Vol. 4, No. 2. pp. 35~42, February 1973.

15) Tietze, C. and Lewit, S.(1968); Use-Effectiveness and Continuation of Contraception; Problems of Evaluation; A Handbook for Service Statistics Family Planning Program, Edited by John A. Ross, F. Stephan and W. Watson, The Population Council, New York.

16) Tietze, Christopher(1967); Intra-Uterine Contraception; Recommended Procedures for Data Analysis, Studies in Family Planning, No. 18(Supplement).

17) 權彝赫 外(1969); 子宮內避妊의 受容性 및 效率에 미치는 社會·醫學的 諸特性에 관한 研究, 人口問題論集, 第8號, 서울.

18) Tietze, C. et'al.; op. cit.

19) Potter, R.G., Chow, L.P., Jain, A.K. and Lee, C.H. (1969); Effectiveness and Correlates, In; Family Planning in Taiwan; An Experiment in Social Change, Edited by R. Freedman and J. Takeshita Princeton University Press.

20) 權彝赫 外; op. cit.

21) 保健社會部(1975); 1974年度 保健社會統計年報, 서울.

指定되었다. <sup>22)</sup> <sup>23)</sup>

본 郵便調査에서 578 명의 對象中 應答한 396 명의 施術醫師는 金(1973)<sup>24)</sup> 등의 調査結果와 差異가 없이 전체 醫師의 平均年齡은 50 歲며, 女子醫師는 9.8 퍼센트(39 명)다. 專門科目別로는 전체 對象의 25 퍼센트(都市: 49 퍼센트, 農村: 7 퍼센트)가 産婦人科專門醫며, 其他科目 專門醫는 8 퍼센트, 그리고 나머지 67 퍼센트(都市: 44 퍼센트, 農村: 86 퍼센트)는 一般醫로 構成되었다.

그러나 이들은 과거 臨床經歷(平均 14 年)이나 個人的 專門性 그리고 能力을 각기 달리하고 있음에도 그들이 받았던 施術訓練은 많은 도움(施術醫中 60 퍼센트)이 되었거나 部分的인 도움(施術醫中 30 퍼센트)이 되었다고 應答하였다. 따라서 앞으로 子宮內裝置 施術을 希望하는 醫師가 있다면 이들에게도 반드시 所定の 訓練을 받도록 하는 意見(施術醫中 85 퍼센트)을 表明하고 있다.

또 調査對象의 過半數 以上の 施術醫들은 避妊施術에 관한 보다 새롭고 專門的인 知識을 必要로 하고 있으며, 子宮內裝置와 같이 간단한 技術을 要하는 避妊서비스는 看護員 또는 助産員과 같은 醫療補助員에게 訓練만 實施한다면 能히 할 수 있다는 意見(61 퍼센트)을 表明하고 있다.

그러나 調査에 應答한 施術醫師中 16 퍼센트가 그들의 病院 看護員이나 助産員에게 個人的 指導下에 施術을 代行하고 있는 반면에, 39 퍼센트의 醫師는 아무리 간단한 避妊施術이라도 醫療補助員에게 施術을 하도록 한다는 것은 危險性이 있다는 意見을 表示하고 있다.

醫療補助員의 施術 危險性에 대하여 專門醫師(50~54 퍼센트)들은 一般醫(33 퍼센트) 보다 더 많은 憂慮를 表明하고 있으나 Rosenfield(1971)<sup>25)</sup>나 Ostergard(1974)<sup>26)</sup>는 子宮內診察을 위한 펠스미어(Pap Smear)나 루우프施術과 같은 서비스는 醫療補助員에게도 段階的인 訓練을 實施함으로써 可能함을 示唆하고 있다. 즉, 醫療分野에서 訓練을 통해 醫療補助員들에게 可能的인 業務는 大幅的으로 委任시킴으로써 醫師들은 보다 專門的인 診斷이나 治療를 要하는 患者에게 專念할 수 있을 뿐만 아니라 醫師의 손이 미치지 못하는 對象에게 醫療補助員의 活用도 바람직 하다는 意見을 提示하고 있다. 이러한 점을 考慮할 때 본 調査에서 나타난 일부 醫師들이 憂慮하고 있는 醫療補助員의 루우프施術 危險성은 子宮腔內에 異物插入過程에서 흔치는 않지만 例外的으로 나타날 수 있는 非正常的인 副作用 發生을 걱정스럽게 생각한데 뜻이 있을 것이다.

그러나 이미 Pakistan <sup>27)</sup> <sup>28)</sup>이나 韓國<sup>29)</sup>에서 經驗한 醫療補助員의 子宮內裝置 施術은 醫師의 指導下에서나 要員 單獨으로 實施했던 結果에서 子宮穿孔이나 自然排出 및 기타 合併症의 發生이 醫師의 施術에서의와 有意의 差가 없었으며, 다만 要員의 施術은 效果的인 訓練으로 成功할 수 있음을 提言하

註: 22) 金應翹 外(1973); 家族計劃 施術醫師에 관한 實態調査, 家族計劃研究院 4月.

23) 家族計劃研究院(1975); 1975年度 全國 家族計劃事業 評價세미나 綜合報告書, 5月.

24) 金應翹 外(1973); op. cit.

25) Rosenfield A.G.(1971); Ibid. 110(7); 1030~1039.

26) Ostergard, Ronald K.(1974); The Potential for Para-medical Personnel in Family Planning, American Journal of Public Health; Vol. 64, No. 1.

27) Kaul, S.J.(1969); Pakistan J. of Family Planning, 3 : 75, 1969.

28) Satterthwaite, A.P.(1969); Training and Performance of Para-medical Personnel in the Pakistan Family Planning Program, in Proceeding of Pakistan International Family Planning Conference at Dacca, 1969.

29) Bang, S. et'al.; Ibid, p.11, 1968.

고 있다.<sup>30)</sup>

子宮內裝置施術要員 : 家族計劃事業에서 看護員이나 助產員 및 看護補助員과 같은 醫療補助員을 活用한 避妊서비스는 普遍化되어 왔으며, 최근에 와서는 보다 効果적인 活用問題가 關心事로 되었다 (Rosenfield(1971)<sup>31)</sup>, Weisbach and Watson(1976)<sup>32)</sup>, Watson(1968)<sup>33)</sup>. 이에 副應하여 앞서도言及된 바와 같이 韓國에서 子宮內避妊을 擴大 普及하기 위한 일련의 措置는 家族計劃要員 中 일부 看護員 또는 助產員 免許를 가진 要員에게 子宮內裝置 施術訓練을 實施 施術을 許容토록 하였다. 동 施術要員의 訓練過程은 총 60 일간으로 이중 14 일은 講義를 통해 子宮內避妊에 관한 일반적인 知識과 施術理論을 갖도록 한 후 46 일간은 病院(28 일)과 保健所(18 일)에서 產婦人科 部門과 施術技術을 實習토록 하였다.

이와 같은 訓練은 1974 년(87 명)부터 實施되어 1975 년(83 명)과 1976 년(50 명)에 총 220 명이 訓練되었다.<sup>34)</sup> 訓練配置된 施術要員에게는 일선 施術活動을 위해 細部 活動指針書가 주어졌으며, 이러한 指針의 주요 내용은 施術이나 事後서비스에서 要員이 감당하기 어려운 問題의 發生을 對備하여 해당 地域內의 子宮內裝置 施術醫師 1 명씩을 指定, 계속적인 施術指導를 實施한 內容이다.

본 調查에서 1974 년에 訓練된 87 명의 要員中 應答한 72 명의 要員은 平均年齡이 42 歲였다. 이는 전국 保健所要員의 平均年齡 32 歲보다 10 歲가 높았으며, 家族計劃事業 從事期間도 保健所要員(5.2 年) 보다 긴 9.4 年이었다.<sup>35)</sup>

이들은 施術訓練을 받기 전에도 이미 약 2/3(65 퍼센트)는 保健所長이나 管割 施術醫師의 指導下에서 또는 要員 獨自의으로 子宮內裝置 施術을 한 經驗을 갖고 있었으며, 최근에는 年平均 1 人當 155 件씩의 施術實績을 나타내고 있다. 要員의 子宮內裝置 施術은 近年에 와서 始作된 것은 아니다. 이들은 子宮內避妊이 普及되면서 部分的으로 施術을 實施해온 바 본 調查에서도 1966 年 以前부터 施術을 해왔던 要員은 調查對象중 35 퍼센트나 되고 있다. 반면에 28 퍼센트에 달하는 要員은 施術訓練을 받고난후 비로소 施術을 시작했으며, 나머지 37 퍼센트는 1969~1973 年 사이에 처음 施術을 實施했다. 따라서 이들 施術要員의 訓練後 1 年間 무우프施術實績은 要員 1 人當 平均 147 件에 이르고 있으며, 施術場所는 保健所나 保健支所 및 被施術者의 家庭에서의 施術이 大部分을 차지하고 있었다.

이와 같은 要員의 施術訓練前 무우프施術은 非合法的인 일이지 하지만 1968 年 全國 標本調查<sup>36)</sup>에서도 전체 子宮內裝置 被施術者의 15 퍼센트(都市 : 6, 農村 : 20)가 助產員 또는 看護員에 의해 施術되었으며, 1973 年 調查<sup>37)</sup>에서는 37 퍼센트(서울 : 24퍼센트, 其他都市 : 35퍼센트, 農村 : 41 퍼센트)가 家族計劃要員 및 病院看護員에 의해 무우프가 施術된 것으로 나타나 있다.

註 : 30) Bang, S. et'al.(1968); op. cit.

31) Rosenfield, A.G.,(1971); Ibid. 110(7) : 1030~1039.

32) Weishach, J. and Watson, C.,(1970) : Evaluating the Training of Nurse to do Family Planning Worker in India, Public-Health Reports 85(8) : 707~715.

33) Watson, E. (1968); The use of Para-medical Personnel, talk given at the Symposium on Family Planning in Salisbury, Rhodesia, December.

34) 家族計劃研究院(1975); 年報, 第 5 集

35) 孔世權(1975); 家族計劃要員에 대한 中央登錄, 家族計劃論集, 家族計劃研究院, 第 2 號, pp. 203-211.

36) 國立家族計劃研究所(1970); 1968年度 韓國婦人의 出生力 및 家族計劃實態, 調查資料, 12月.

37) 家族計劃研究院(1973); 1973年 全國 家族計劃 및 出生力 調查資料, 12月.

醫療補助員들의 子宮內裝置施術은 일반적으로 이들의 과거 經歷(臨床 및 家族計劃事業)이 많은 要員들에 의해 施術되고 있으며, 또 이들은 比較的 施術醫師들과 密接한 關係를 맺고 施術事業에 參與하고 있다.

Rosenfield<sup>38)</sup>는 이러한 要員들의 子宮內裝置 施術에 대하여 醫師들 間に 많은 論爭의 餘地가 있으나 國家나 地域에 따라서 不可避한 경우라면 要員들에게 充分한 訓練을 實施하여 自信感을 갖고 施術事業에 參與할 수 있도록 함이 바람직한 措置라고 提言하고 있다. 이러한 뜻에서 韓國에서의 要員에 대한 子宮內裝置 施術은 과거 訓練을 받지 않고도 部分的으로 要員에 의해 無우프가 施術되어 왔지만 體系的인 訓練을 實施함으로써 要員에 의한 無우프施術은 實效를 얻을 수 있을 것으로 展望된다.

따라서 최초로 實施했던 施術訓練은 그 訓練自體에 不充分한 點도 있을 수 있겠으나 要員들은 그들의 過去 施術經驗 有無를 莫論하고 그 訓練이 現地 施術活動에 많은 도움이 되었다는 要員은 86 퍼센트였으며, 나머지 14 퍼센트는 부분적인 도움이 되었을 뿐이라고 응답하였다. 여기서 한가지 考慮되어야 할 點은 모든 特殊目的을 가진 訓練이 그렇듯이 施術訓練도 對象의 特性和 그들의 過去 經驗 그리고 訓練의 細部目的에 보다 充分한 檢討가 있어야 한다는 點이다. 1次로 施術訓練을 받은 要員들은 訓練內容에 대하여 家族計劃의 일반적知識 보다는 子宮內裝置 施術과 直接 關聯을 가진 分野에 대한 重點訓練과 보다 專門的인 理論과 實習을 必要로 하는 要員이 大部分이었다. 즉 訓練 커리큘럼에서 子宮內裝置避妊과 直接 관련을 갖는 生殖生理, 解剖, 産科 및 助産學과 같은 科目에 대한 이들의 關心度나 有意性은 먹는 避妊藥이나 人口學 및 啓蒙教育原理와 같은 科目에 比較 對照的이었다.

子宮內裝置 被施術者: 子宮內裝置 被施術者에 대한 追求調査는 이를 國家事業에 採擇 普及하면서 계속 실시되어 왔다.<sup>39) 40) 41) 42)</sup> 이들 調査資料를 통한 被施術者の 社會·人口學的 特性的 變遷은 表 3에 示된 바와 같다.

子宮內裝置 被施術者の 平均年齡은 1965年의 34歲에서 1975년에는 33歲로 큰 差異가 없었으나, 전체 被施術者中 29歲以下の 年齡群은 20퍼센트(1965)에서 30퍼센트로 增加되었다. 이와 같은 29歲以下の 年少婦人群의 採擇率은 Taiwan(1969)의 44 퍼센트, Philippines(1970)의 48 퍼센트 및 Turkey (1966~1967)의 50 퍼센트<sup>43)</sup>에 비해 韓國에서는 아직 낮은 分布를 보여주고 있다.

被施術婦人의 平均子女數는 3.4명(1975)으로 1965年의 4.4명에 비해 1명이 낮아졌다. 2명이하의 子女를 갖고 子宮內避妊을 採擇한 婦人은 지난 10년전(1965)에는 10퍼센트에 不過했으나 30퍼센트(1975)로 增加되어, Bombay(1964~1966)의 38 퍼센트나 Thailand(1969~1970)의 28 퍼센트 그리고 Taiwan(1969)과 Philippines(1970)의 21 퍼센트<sup>44)</sup>와 僅少한 水準을 나타내게 되었다.

被施術婦人의 教育水準은 國民學校 以下の 學歷을 가진 婦人이 1965年에 91 퍼센트에서 점차 教育을 받은 婦人들간에 無우프의 採擇率이 높아져 1975년에는 69 퍼센트가 國民學校 以下の 學歷을 가진

註: 38) Rosenfield, A.G.,(1971); op. cit.

39) 保健社會部, 家族計劃評價班(1966); 全國 子宮內避妊報告, 6月.

40) 保健社會部, 家族計劃評價班(1967); 全國 子宮內避妊報告, 6月.

41) 金泰龍(1970); 全國 子宮內避妊報告, 國立家族計劃研究所.

42) 文顯相, 韓聖鉉(1973); 避妊效果分析, 家族計劃研究院, 10月.

43) Ross, John A., et'al.(1972); Ibid.(13-17).

44) Ross, John A., et'al.(1972); Ibid.(13-17)

婦人으로 構成되었다. 子宮內避妊 採擇者의 教育水準은 전체 婦人의 教育水準에 따라 影響을 받게 되나 開發途上國家에서는 대개의 境遇 國民學校 以下の 낮은 教育水準에서 子宮內避妊이 採擇되고 있다(Turkey(1966) : 91 퍼센트, Taiwan(1968) : 88 퍼센트, Malaysia, West(1969) : 76 퍼센트)<sup>45)</sup>.

또 최근 子宮內裝置를 採擇한 婦人들은 86 퍼센트가 避妊目的이 斷産을 위한 것이다. 이러한 樣相은 被施術者의 年齡이 30歲 以下 年齡群에서 93 퍼센트가, 그리고 3명 以上の 女子를 가진 對象에서 95 퍼센트가 斷産을 위해 子宮內避妊을 採擇하고 있다. 더욱調節을 目的으로 子宮內避妊을 採擇한 婦人中에서도 그들이 追加로 希望하고 있는 子女數는 大部分이 1명정도의 少子女를 希望하고 있으며, 또 이들은 男子 아이가 없는 婦人中에서 男兒를 希望하는 婦人이 77 퍼센트나 된다. 늘 避妊 採擇에서 男兒選好의 問題가 擧論되듯 韓國 婦人의 理想子女數는 과거 3.9명(1965~1967)에서 최근 3.1명(1973)으로 減少<sup>46)</sup>되고 있음에도 男兒所有에 대한 觀念은 常存되고 있음이 分明하다.

被施術者의 루우프 插入前 避妊實踐에 대하여는 對象婦人中 45 퍼센트가 이미 避妊經驗을 갖고 있으며, 이들이 주로 使用했던 避妊方法은 먹는 避妊藥이었다. 이러한 점은 金(1970)<sup>47)</sup>의 調查報告에서도 19 퍼센트가 子宮內避妊 採擇前 避妊經驗者며 그들이 주로 使用했던 方法은 콘돔인데 비해, 최근 많은 婦人이 루우프 插入前 다른 避妊方法을 經驗했던 것은 事業變遷에 의한 것이라 하겠다. 이러한 루우프 插入前 避妊經驗은 최근 插入한 루우프의 避妊目的이 더욱調節이었던 婦人에서는 22 퍼센트였고, 斷産이었던 婦人에서는 49 퍼센트였다(表 6 參照).

## 2. 子宮內裝置 採擇 및 着用狀態

子宮內裝置 採擇 : 一般的으로 子宮內裝置의 採擇 및 中斷은 社會·環境要件(Intermediate Variables)<sup>48)</sup>이나 個人的 要件에 따라 決定되는 경우가 많다.<sup>49)</sup> 이러한 두가지 與件을 除外하고는 韓國 家族計劃 프로그램은 子宮內裝置를 採擇한 對象에서 이를 採擇하는 過程에 큰 不便이 없었던 것으로 나타나고 있다(表 17 參照).

子宮內避妊을 採擇함에 있어 指摘할 만한 問題는 될 수 없으나 루우프를 採擇한 對象中 施術을 위하여 크리닉까지 가는 距離가 멀었다는 婦人은 要員에게 施術을 받았던 婦人에서 보다 醫師에게 施術을 받은 婦人에서 많았다. 또 施術을 위해 크리닉에서 기다리는 時間이 지루하게 느껴졌거나 施術上 手續이 複雜하게 생각되었던 婦人은 要員에서 보다 醫師에게 施術을 받은 婦人에서 많았으나 施術者들의 親切도에 있어서는 有意의 差異가 없었다. 이러한 施術與件에 관한 問題는 이미 施術을 받은 婦人에서 보다도 아직 避妊을 接하지 않은 放任對象群에서 더 큰 意味를 갖게 될 것이다.

註 : 45) Ross John A., et'al.(1972); Ibid.(13~17)

46) Park, Chai Bin(1976); The Fourth Korean Child; Gender-Preference and Infant Mortality as Determinants of Family Building, University of Hawaii, School of Public Health and East West Center Population Institute,(mimeo.).

47) 金泰龍(1970); Ibid. (110).

48) Kingsley Davis and Judith Blake Davis(1956); Social Structure and Fertility; An Analysis Framework, Economic Development and Cultural Change, Vol. 4, (211~235).

49) Freedman, Ronald(1967); Applications of the Behavioural Sciences to Family Planning Program, Studies in Family Planning, No. 23, (6) October.

避妊 未實踐者에 대한 宋(1974)<sup>50)</sup>의 報恩調査에 의하면 아직 避妊을 實踐하지 않고 있는 理由는 子女을 願하는 境遇가 46 퍼센트, 避妊이 不必要한 狀態(不妊症, 産後無月經 및 一時別居)가 28 퍼센트며, 나머지 26 퍼센트는 避妊의 副作用이 두려워서나 避妊을 採擇할 수 있는 社會環境이 造成되어 있지 못한 경우였다. 이러한 點을 考慮할 때 보다 많은 避妊對象者가 避妊實踐을 하기 위해서는 對象者가 不便없이 避妊을 擇할 수 있도록 避妊서비스 據點을 擴大함이 바람직한 일이라 하겠다.

한편 子宮內裝置 被施術者들이 그 裝置를 挿入하는데 直接 또는 間接的인 勸誘를 주었던 사람은 對象者 自身이 採擇을 決定한 境遇의 63 퍼센트와 家族計劃要員의 勸誘에 의한 것 26 퍼센트가 大部分이었다. 이러한 點은 要員의 勸誘에 의한 것이 70 퍼센트, 親知 및 이웃의 勸誘가 15 퍼센트, 對象者 自身이 8 퍼센트로 나타난 金(1970)<sup>51)</sup>의 報告와는 對照的인 樣相이었다.

子宮內裝置 被施術者의 施術者에 대한 選好觀念은 Pakistan(1969)<sup>52)</sup>의 경우에서와 같이 可能하다면 女子醫師에게 施術을 받고 싶다는 婦人이 都市에서 42 퍼센트, 農村에서는 46 퍼센트로 首位였으며, 看護員이나 助産員에게 施術을 받기를 원하는 부인은 都市에서 32 퍼센트, 農村에서 42 퍼센트이며, 男子醫師에게 施術을 받고 싶다는 경우는 매우 적은 比率(都市:5, 農村:4)을 차지하고 있었다. 이러한 施術者의 選好도는 對象者의 年齡에는 差異가 없었으나 특히 農村地域 對象者의 子女數나 教育水準에 따라서는 有意의 差가 있었다(表 8 參照).

被施術者의 最終妊娠後 子宮內裝置 挿入까지의 期間은 平均 11 個月이었으며, 醫師에게 挿入한 對象에서는 10.7 個月, 要員에게 挿入한 對象에서는 11.4 個月이었다. 最終妊娠後 3 個月內의 挿入은 醫師에게 挿入한 婦人에서는 23 퍼센트, 要員에게 挿入한 婦人에서는 16 퍼센트로 有意의 差( $p < 0.05$ )를 볼 수 있다. 그러나 과거 最終出産後 挿入까지의 平均期間은 23 個月(1969)<sup>53)</sup>이었다. 그러나 Taiwan(1969)<sup>54)</sup>에서는 10 個月 그리고 Singapore(1968)<sup>55)</sup>에서는 4 個月로, 韓國에서의 最終 妊娠 및 出産後 子宮內裝置 採擇까지의 期間(妊娠露出期間)은 너무 긴 樣相을 보여 주고 있다.

또 被施術者들의 子宮內裝置 挿入後 副作用 呼訴는 전체 對象者의 60 퍼센트에서 나타났으며, 副作用의 內容은 일반적으로 흔히 나타나고 있는 疼痛, 出血 및 帶下 등이 大部分이었다. 子宮內裝置의 副作用은 Peng(1970)<sup>56)</sup> 등의 報告에서와 같이 對象者의 年齡에 따라 루우프 挿入前 月經量이나 帶下의 甚度 그리고 月經間 出血量 등이 挿入後에도 直接的인 影響을 미치고 있다는 點으로 보아 施術者는 被施術者의 事前診察이 매우 重要한 것으로 判斷되나 이러한 副作用의 發生은 醫師나 要員의 施術에 有意의 差異가 없었다.

子宮內裝置 着用狀態: 醫師 및 施術要員에 의해 挿入한 被施術者의 루우프 着用狀態는 1975 年 9 月 30 日을 分析基準時點(Cut-off Data)으로 定했다. 따라서 1974 年 1 월부터 1975 年 9 月末까지 21 個

註: 50) 宋建鏞, 李榮勳(1975); 農村地域 家族計劃普及 極大化方案 研究報告, 家族計劃研究院, 12月.

51) 金泰龍(1970); Ibid. (117).

52) Satterthwaite, A.P.(1969); Ibid.

53) Kim, T.I., Ross, J.A., and Worth, G.C.,(1972); The Korean National Family Planning Program, The Population Council, New York, 165(Table 10-4).

54) Taiwan(1970); Taiwan Provincial Institute of Family Planning, 14~15.

55) Singapore(1969); Kanagaratnam and Kim, 3(Table 4).

56) Peng, J.Y., Chow, L.P., and Cosa, Jr. L.,(1970); Medical Correlates of Termination of use of Intra-uterine Devices, Studies in Family Planning, No.60, (24~27).



月間에 挿入된 총 被施術者의 着用狀態는 表 11에서와 같이 平均 使用個月은 6.4個月이었으며, 施術者別로는 醫師의 挿入에서 6.7個月, 要員의 挿入에서는 6.0個月이었다. 同 期間에 루우프를 挿入한 被施術者中 그 루우프를 中斷한 婦人은 39퍼센트이며, 中斷理由別로는 醫學的 理由로 루우프를 除去한 婦人이 26퍼센트로 전체 中斷者의 2/3을 占有하고 있었다.

子宮內裝置 挿入後 使用個月別 累積 中斷率은 表 12에서 示된 바와 같다. 挿入後 3個月에서의 純中斷率은 100 婦人當  $24.9 \pm 1.4$ 며, 18個月에서는  $56 \pm 1.8$ 로 Taiwan(1967)<sup>57)</sup>의 45.7~47.3에 비해 比較的 높은 水準을 나타내고 있다. 中斷形態別로는 18個月에서 妊娠率이  $4.1 \pm 0.8$ , 排出率은  $10.0 \pm 1.1$ , 醫學的 理由로 인한 除去는  $35.1 \pm 1.7$ , 個人的 理由로 인한 除去率은  $6.9 \pm 1.0$ 이다. 여기서 妊娠率이나 排出率은 과거 韓國(1970)<sup>58)</sup>의 것이 Taiwan(1971)<sup>59)</sup>의 結果와 類似했지만 醫學的 理由로 인한 除去率은 比較的 높은 水準이었다. 루우프의 높은 中斷을 結定하는 要因中 가장 重要한 點은 對象者의 子女數에 따른 避妊態度라 하겠다. 각종 調查結果에서도 共通的으로 提示하고 있듯이 젊은 婦人에게 보다는 期待子女 以上の 數를 가진 30代 婦人에서 避妊의 採擇이나, 繼續使用率은 훨씬 높다. 이러한 點은 韓國과 Taiwan에서 共히 子宮內裝置 避妊效果가 젊은 婦人에서 보다는 30代의 高齡의 婦人에서 높은 것은 이 피임에 대한 採擇率과 繼續率이 높은 點에 있는 것이다.<sup>60)</sup>

그러나 본 研究에서 焦點으로 한 子宮內裝置 施術者에 따른 避妊效果는 方(1968)<sup>61)</sup> 등이나 Vaillant (1968)<sup>62)</sup> 및 Beasley(1967)<sup>63)</sup> 등의 實驗研究에서와 같이 施術者에 따른 中斷率의 差異는 統計的으로 有意性이 없는 것 같다.

表 13-1 및 表 13-2에 示된 바와 같이 子宮內裝置 採擇後 使用個月別 中斷率은 各 實驗研究間에 多少의 差異는 있으나 醫師의 施術과 要員의 施術에서 被施術者의 中斷率(妊娠, 排出 및 除去率)에는 統計的으로 有意의 差를 發見할 수 없었다. 그러나 본 調查에서 總 中斷率은 醫師나 要員의 施術에서 共히 實驗研究보다 多少 높게 나타나고 있으나 이는 醫學的 理由로 인한 中斷率이 높는데 그 原因이 있다. 즉 子宮內裝置 挿入後 12個月에 100 婦人當 醫學的 中斷率은 醫師의 施術에서 27.3, 要員의 施術에서 33.8인데 비해 方(1968)<sup>64)</sup>의 實驗研究에서는 13.5~17.3, 申(1964)<sup>65)</sup>의 病院實驗에서는 10.2였다. 그러나 方과 같은 年度에 實施했던 全國 標本調查(1967)<sup>66)</sup>에서는 挿入後 12個月에 中斷率은 22.4로 實驗研究와 國家事業間의 差는 큰 것으로 볼 수 있다.

註: 57) Hermalin, Albert. I., and Chow, Lien-Pin(1971); Motivational Factors in IUD Termination; Data from the Second Taiwan IUD follow-up Survey, Journal of Biosocial Science, Vol. 3, (351~375).

58) 金泰龍(1970); Ibid.

59) Freedman Ronald and Takeshita J.Y.,(1969); Family Planning in Taiwan, Princeton University Press, Princeton, New Jersey(250).

60) Fredeman, R.(1967); Ibid.(6~7).

61) Bang, S., et'al.(1968); Ibid.(11).

62) Vaillant, H.W. et'al.(1968); Insertion of Lippes Loop by Nurse-Midwives and Doctors, Reprinted from British Medical Journal, 14. September 1968, 3, (671~674).

63) Beasley, W.B.R.,(1967); The Nurse-Midwife as a Mediator of Contraception, American Journal Obstetrics and Gynecology, 98, (201).

64) Bang, S. et'al.,(1968); Ibid.(11).

65) Shin, H.S. and Kim, S.W.,(1968); Use-Effectiveness of the IUD in Korea, Prepared for the 4th Asian Congress in Obstetrics and Gynecology, Singapore, November.

66) 保健社會部(1967); Ibid. (73).

子宮內裝置 挿入後 12個月에서의 총 累積中斷率에 대한 調査結果와의 比較는 表 14와 같다. 본 表에서 妊娠率이나 自然排出率 그리고 非醫學的 理由로 因한 中斷率은 각 研究結果間에 큰 差異가 없으나 醫學的 中斷率은 比較的 높은 點을 考慮할 때 그 根本的은 原因의 규명과 아울러 子宮內裝置 挿入後 診察이나 挿入後 事後觀察에 보다 力點을 둘 必要性이 있다.

要員의 루우프 施術에 있어서 訓練前 子宮內裝置 挿入과 訓練後 挿入에서 中斷率의 比較는 表 15에서 示된 바와 같다. 制限된 標本數로 보다 信憑性있는 結果를 提示할 수 없었으나 對象要員中 65퍼센트가 訓練後 루우프 施術經驗을 갖고 있는 要員에 訓練된 關係로 調査된 內容에서 排出結果는 총 中斷率이나 中斷形態別 中斷率이 要員의 訓練前 또는 後의 挿入結果에서 統計的 有意의 差( $p > 0.05$ )는 없었다.

한편 子宮內裝置 被施術者의 루우프 中斷後 妊娠發生에 대하여는 전체 루우프 除去者(319명)중에서 26퍼센트가 妊娠이 있었으며 이러한 妊娠은 約 2/3가 流産으로 終結되었다. 施術者에 따른 除去後 妊娠經驗은 醫師의 施術에서 35퍼센트가, 그리고 要員의 施術에서는 18퍼센트가 妊娠이 되었다. 이러한 除去者의 避妊實踐은 전체 除去者中 58퍼센트로 대부분 먹는 避妊藥과 콘돔과 같은 方法으로 避妊을 계속하고 있었으나 루우프의 挿入者에 따른 差異樣相은 없었다.

自然排出後 妊娠은 전체 排出者중 33퍼센트에서 있었으며, 이러한 妊娠은 1/4만이 正常出産으로 이루어 졌으며, 나머지 3/4은 流産으로 處理되었거나 妊娠中에 있는 婦人이었다. 施術者에 따른 排出後 妊娠은 醫師의 경우가 26퍼센트였고, 要員의 경우는 30퍼센트가 排出後 妊娠이 되었다. 이러한 루우프의 排出者들은 除去後의 婦人에서와 같이 56퍼센트가 루우프 排出後 다른 避妊을 쓰고 있었으며 이들은 주로 먹는 避妊藥에 의해 避妊을 계속하고 있었다. 이와 같은 루우프의 除去 또는 排出後 妊娠經驗이나 中斷後 避妊實踐率은 1966年<sup>67)</sup> 및 1967年<sup>68)</sup>의 全國 標本調査와 權(1966)<sup>69)</sup>의 研究와 差異가 없었다.

#### IV. 要約 및 結論

최근 出産調節에 관한 研究는 生物學, 社會學, 人口實, 心理學 및 經濟學的인 複合的 觀點에서 推進되는 경우가 많다. 이러한 點을 子女의 所有慾이나 避妊의 採擇, 그리고 避妊效果 등은 보다 많은 分野의 要因에 의해 決定되고 있기 때문이다.

본 研究는 醫療人力의 絶對數가 不足한 地域에서 不可避한 일이긴 하지만 醫療補助員의 效率의 活用으로 避妊擴大와 效果를 同時에 充足시키는데 焦點을 두고 看護員이나 助産員과 같은 醫療補助員을 訓練, 子宮內裝置를 施術토록 하는데 있어서 醫師가 施術한 것과 어떤 差異點이 있는 가를 追求한 것이다.

그러나 韓國에서 子宮內裝置 施術은 주로 訓練된 醫師들에 의해 이루어져 왔지만 子宮內避妊을 普及할 初期부터 部分的이지만 病院 看護員이나 家族計劃要員에 의해 施術되어 왔으며, 현재도 16퍼센

註: 67) 保健社會部(1967); Ibid. (67~68).

68) 金泰龍(1970); Ibid. (127~128).

69) 權壽赫 外(1969); Ibid. (49~51).

트의 指定 施術醫師는 自體訓練을 통해 그들 病院의 看護員에게 루우프 施術을 위임하고 있다. 이러한 現象은 1973 年度の 조사에서도 전체 子宮內裝置 採擇者中 37 퍼센트(서울: 24퍼센트, 其他 都市: 35퍼센트, 農村: 41퍼센트)가 病院 看護員이나 家族計劃要員에 의해 施術된 것으로 나타나고 있었다.

醫療補助員의 子宮內裝置 施術은 體系的인 訓練을 통해 보다 많은 實效를 거둘 수 있을 것으로 豫想된다. 그러나 施術訓練과 같이 特殊目的을 가진 技術訓練은 실제 일선 施術活動에 必要한 內容으로 強化되어야 할 것이다.

한편 家族計劃事業에서 子宮內裝置 被施術者들은 이를 採擇하는 過程에서 施術을 醫師에게 했건 要員에게 했건 간에 큰 不便은 없었으나, 可能하다면 女子醫師나 看護員 또는 助産員과 같은 女子施術者에게 施術을 받고 싶다는 對象者가 大部分이었다.

또 施術要員 및 施術醫師에 의해 子宮內裝置 施術結果는 施術後 副作用의 呼訴率이나 總 中斷率 및 中斷形態別 中斷率(醫學的 除去, 非醫學的 除去, 自然排出 및 妊娠率 등)에서 施術者間에 다른 統計的 有意의 差도 없었다. 다만 子宮內裝置를 누가 插入했던 간에 전체 中斷率中 가장 많은 部門을 차지하고 있는 것은 醫學的 理由로 인한 中斷으로 이는 다른 나라의 境遇에 비해 比較的 높은 水準에 있었다.

이러한 子宮內裝置 施術과 關聯하여 전체적으로 높은 中斷率을 줄이기 위한 方案은 보다 具體的인 研究가 隨伴되어야 하겠으나 보다 철저한 施術前 診察과 施術後 서비스의 강화는 中斷理由중 많은 部分을 차지하고 있는 醫學的 中斷率을 줄이는데 크게 寄與할 수 있는 것으로 본다.