An Approach to Promote the Rural Health Care

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ABSTRACT

A survey for finding out rural health care was done in Ichon-Gun, Kyonggi-Do during October, 1973. Of the 29,132 inhabitants, 974 persons were interviewed for the basic household survey, maternal and child health, family planning and medical care for illness. The survey included 201 households of total of 4,121. In addition to the survey, an evaluation was done of a two-year old rural health nursing service provided by the Korean Rural Medical Service (KRMS). KRMS was organized with Korean nurses who returned from West Germany and sponsored by the Bread for the World. Following results were obtained:

1. Population structure showed that the age group between 20-30 years old represented 9.4% of all males and 8.5% of all females. 84.6% of interviewees were farmers and 43.5% of the householders were primary school graduates.

2. More than 55% of all the houses had straw-roofing and water supply was dependent upon pumpwells (42.4%). 88% of the latrines were traditional and of insanitary construction.

3. Average marriage age for female respondents was 21.2 years, and average number of pregnancies was 4.9. About 12% of the housewives experienced natural abortions, and 8% were pregnant at the time of the survey.

4. More than 90% of total deliveries were cared for at home and only 8.5% of those received prenatal and post-partum care. Of those wives having home deliveries, 85% wanted to have them at home, and 9% would have preferred hospital delivery.

5. In the month preceding the survey, 72.5% of 947 interviewees had been sick 29.9% from respiratory illness, 12.5% with indigestion, 8.5% with headache and dizziness. Mostly, these patients got treatment through drugstores (20.8%), health subcenters (12.5%), clinics or hospitals (9.7%). The average patient spent about 1,760 won ($ 4.40) for each illness. Patients missed medical treatment because of economic reasons (6.2%), and carelessness for health and illness (15.9%).

6. Seventy eight percent of total interviewees acknowledged recognition of the activities of Korean Rural Medical Service and 20.5% of the total householders received their health service through medical care (53.5%), immunization (34.5%), and health education (24%). More than half (51.5%) of clients who received health services commented that KRMS work was satisfactory, and 1.5% complained of it being unkind or insufficient.

Study Area and Population(Ichon-Gun, Kyonggi Do)

Area	Surveyed Population	Number of Household
Hobup-Myun	289	51
Yul-Myun	301	51
Daewol-Myun	276	49
Sindun-Myun	108	50
Total	974	201

About 10% of total households desired a more closely located health subcenter.

INTRODUCTION

Despite the government's effort, health care in the rural areas of Korea is still not satisfactory. Therefore, some types of new approaches for solving rural health problems have been demonstrated by medical schools and other Christian voluntary health organizations. The rural public health nursing service of the Korean Rural Medical Service (KRMS), which is the organization sponsored by the German Mission, have carried out a type of rural health care since 1971. This health care project was planned and implemented in order to serve the community through public health nursing service without full-time doctor. This study intended to find out the present status of health care in the rural areas which were influenced by the KRMS project. This is still an on-going project. This study however, provides an evaluation of the first 2-years of operation.

STUDY AREA AND SURVEY METHOD

A. Study area

The study area includes 4 Myuns (Hobub,
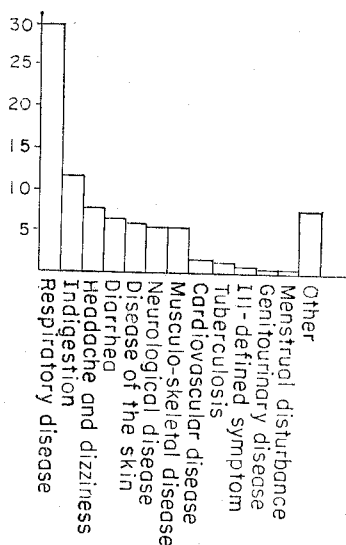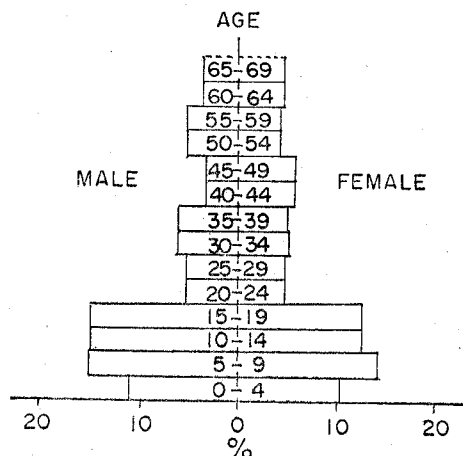
Fig. 1. Population Structure by Age and Sex (Ichon-Gun 1973)

Yul, Daewol and Sindoon) in Ichon-Gun, Kyonggi-Do. Study population was defined as all of households registered in health subcenter which is operated by KRMS. 201 households were selected as sample for the survey by systematic sampling from the defined population.

B. Survey Method

Nurses working in the project area and Ewha Womans University students who were trained for the survey were adopted as

Table 1. Occupation of Household Head by Study Area

Occupation	No.	%
Agriculture	170	84.6
Labor	4	2.0
Commerce	7	3.5
Government officer	6	3.0
Clerk	1	0.5
Industry	2	1.0
None	11	5.4
Total	201	100.0

Table 2. Education Level of Houshold Head

Education	No.	%
Illiterate	35	17.4
Can read	42	20.9
Primary school	87	43.3
Middle school	18	9.0
High school or above	16	8.0
Unknown	3	1.5
Total	201	100.0

Table 3. Average Number of Children

Sex	Total
Male	1.9 ± 0.1
Female	1.5 ± 01
Total	3.3 ± 0.2

interviewers. The survey was done between Oct. 1 and Oct. 10, 1973, with the following 4 kinds of questionnaire:

(1) General characteristics of all household

Table 4. Marriage Age of Women

Age	No.	%
15—19	107	53.2
20—24	72	35.8
25—29	18	9.0
30—34	4	2.0
Total	201	100.0

Average Marriage Age of Women

Mean±standard error
19.8 ± 0.5
20.0 ± 0.5
21.4 ± 0.7
20.0 ± 0.2
21.2 ± 0.2

Table 5. Pregnancy Experience of Women

Experience	No.	%
1	1	0.5
2	16	8.0
3	12	6.0
4	15	7.5
5	31	15.4
6	35	17.4
7	21	10.4
8	25	12.4
9+	17	8.5
None	28	13.9
Total	201	100.0

Table 6. Number of Child Death

Child death	No.	%
0	114	57. 0
1	37	18. 5
2	24	12. 0
3	13	6. 5
4	5	2. 5
5	4	2. 0
6	3	1. 5
7+	2	1. 0
Total	201	100. 0

Table 7. Average Number of Child Death by Mother's Educational Level

Mother's educational level	Mean+standard error
Illiterate	1. 26±0. 25
Can Read	1. 38±0. 26
Primary school	0. 77±0. 13
Middle school	0. 39±0. 18
High school and above	0. 31±0. 17
Unknown	1. 67±1. 22
Total	0. 86±0. 99

Table 8. Experience of Last Delivery

Time before survey	No.	%
One month	1	0. 5
2—3 months	3	1. 5
4—5 months	5	2. 5
6 months–1 year	22	10. 0
1—2 years	50	24. 9
3—4 ″	22	10. 9
5—9 ″	27	13. 4
10 years +	66	32. 8
No delivery	5	2. 5
Total	201	100. 0

Table 9. Place of Delivery

Place	No.	%
Hospital	4	2. 0
Home	180	89. 6
Mother's home	15	7. 5
No delivery	2	1. 0
Total	201	100. 0

members, housing and economic status of the family.

(2) Marriage, pregnancy and experience of birth from female respondents.

(3) Utilization of KRMS by general household members.

(4) A survey for finding out health needs and medical care.

RESULTS

A. General characteristics

201 out of 4,121 households and 974 (490 male, 484 female) out of 29,132 residents were interviewed. Sex and age distributions are shown in Figure 1. The householder's occupation was agriculture in 84.6% of those sampled (Table 1). The education level of householders proved 17.5% illiterate, and 43.5% had completed primary school(Table 2).

Average number of children was 3.3 (1.9 boys and 1.5 girls) in 4 Myuns (Table 3).

Most of the surveyed householders 94% owned their own houses. 55% of the total houses had straw-roofing, and the percentage

Table 10. Delivery Attendant

Attendant	No.	%
Doctor	4	2.0
Midwife	10	5.0
Husband	38	18.9
Mother-in-law	86	42.8
Mother	15	9.5
Other	46	22.9
No delivery	2	1.0
Total	201	100.0

Table 11. Number of Children

No. of children	No.	%
1	5	2.5
2	3	1.5
3	34	16.9
4	76	37.8
5	37	18.4
6	40	19.9
7	3	1.5
8+	3	1.5
%	201	100.0

Table 12. Expected Place of Delivery in the Future

Place	No.	%
Hospital	18	9.0
Home	171	85.1
Mother's home	3	1.5
Other	8	4.0
Unknown	1	0.5
Total	201	100.0

Table 13. Contents of Care Received from KRMS

Contents	House No.	Holds %
Treatment	107	53.5
Vaccination	69	34.5
Pre and postnatal Care	16	8.0
Delivery care	5	2.5
Sanitation guidance	44	22.0
Tuberculosis control	4	2.0
Family planning	34	17.0
Health education	48	24.0
Total(care×cases)	327	

of tile, tin and slate roofing was each 15%.

As for the water supply, 42.0% of the total households were using pump-wells, and 20.0% were using public wells. Traditional latrines accounted for 88% of the total.

B. Marriage, pregnancy and birth experience.

1. Age at marriage
The most frequent age of marriage for female respondents seemed to be from 15 to 19 (53.2%), while 35.8% of the women married between the ages of 20~24 years old (Table 4). Average marriage age was 21.2 years, and 7% of the total women were remarried.

2. Number of pregnancy
56.0% of women experienced 5~8 pregnancies, and 14.0% of women had not experienced pregnancy (Table 5). Average number of pregnancies for all women was 4.9.

3. Number of childhood deaths
Child deaths have been experienced by 43.0

Table 14. Recommendation for KRMS

Recommendation	No.	%
None	106	53.0
Closely located health subcenter	21	10.5
Frequent treatmet	8	4.0
Continuous service	18	9.0
No answer	48	24.0
Total	201	100.0

% of women respondents. Of this number, 18.5% experienced the death of one child, 12.0% of the women experienced 2 childhood deaths, and 6.5% of women had 3 deaths The (Tab.6). average number of childhood deaths experienced by women respondents was 0.9, and the higher the education level, the less child deaths(Tab. 7).

4. Stillbirth

Only 1.5% of total women experienced stillbirth. No woman experienced stillbirth more than twice.

5. Natural abortion

About 12.0% of the women experienced natural abortion. Of these, 7.0% experienced one abortion, 3.0% experienced two abortions, and 2.0% of the women experienced three abortions.

6. Current pregnancy

About 8% of all women were pregnant at the time of the study.

7. Time of last delivery

About 14.5% of all women had a delivery during the past year, and 33.0% of all women had delivery experience more than 10 years ago(Tab. 9).

8. Place of delivery

More than 90% of total deliveries were caedr for at home, and only 2.0% of the deliveries occured in hospitals(Tab. 9).

9. Persons who helped at last delivery

The most common person who helped at last delivery was the mother-in-law(43.0%) and 2.0% of the total were cared by doctors and 5.0% by midwives(Tab.10).

10. Prenatal and postnatal care

Only 8.5% of the previously pregnant women received prenatal and postnatal care.

11. Desired number of children

The most popularly desired number of children was 4 according to 37.8% of female respondents. While 20.0% of the total women wanted 6 children, 18.5% desired 5 children, and only 10.0% expressed they would have 3 children. Average ideal number of children was 4.4.

12. Place of delivery for future delivery

Whereas 85.1% of women preferred their home as the place of delivering their baby, only 9.0% of the women respondents desired hospital delivery(Tab.12).

C. The utilization of KRMS

To determine how much the health subcenters, with the nurses were utilized, a survey was done from the previously selected 201 general households.

1. Recognition on KRMS

For the question "Have you heard about KRMS?", 78.8% of total households acknowledged recognition of KRMS, along with 94.0% of the farmers.

2. Whether they received medical care from KRMS

For the question "Did you receive medical care from KRMS?", 20.5% of the general household respondents answered "yes".

Table 15. Practice of Vaccination

Kinds of vaccine	D. P. T.		Smallpox		Poliomyelitis		Typhoid fever	
	No.	%	No.	%	No.	%	No.	%
Practiced	69	34.0	83	41.0	58	28.5	11	5.0
Not practiced	132	66.0	118	59.0	143	71.5	190	95.0
Total	201	100.0	201	100.0	201	100.0	100	100.0

Table 16. Recent Illness Prevalence

Time before survey	No.	%	Time before survey	No.	%
In one week	147	15.1	1 year and more	274	28.1
2 weeks—1 month	118	12.1	Unknown	19	2.0
2—3 months	43	4.4	Not ill	242	24.8
4—6 ″	38	3.9			
7—12 ″	93	9.5	Total	974	100.0

Table 17. Recent Illness Prevalence by Sex

Sex	1wk.		2 wk.-1 mon.		2-3 mon.		4-6 mon.		7-12 mon.		1 year or more		Unknown		Not ill		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male	71	14.2	55	11.0	19	3.8	20	4.0	48	9.6	139	27.8	11	2.2	127	25.4	490	100.0
Famale	76	16.0	63	13.2	24	5.0	18	3.8	45	9.5	136	28.6	7	1.5	115	24.2	484	100.0
Total	147	15.0	118	12.0	43	4.4	38	3.9	93	9.5	275	28.1	18	1.8	242	24.7	974	100.0

Table 18. Recent Illness Prevalence by Age

Age	1 wk.		2 wks.-1 mon.		2-3 mon.		4-6 mon.		7-12 mon.		1 year or more		Unknown		Not ill		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0—4	36	33.5	16	14.9	6	5.6	6	5.6	14	13.0	10	9.3	4	3.7	16	14.9	108	100.0
5—9	14	9.9	23	16.3	10	7.1	7	5.0	19	13.5	27	19.2	1	0.7	39	27.7	140	100.0
10—19	27	10.3	25	9.5	14	5.3	6	2.3	10	3.8	74	28.1	7	2.7	98	37.2	261	100.0
20—29	6	6.8	6	6.8	2	2.3	6	6.8	11	12.5	28	31.9	1	1.1	27	30.8	87	100.0
30—39	19	16.7	17	15.0	3	2.6	6	5.3	14	12.3	34	29.9	1	0.9	20	17.6	114	100.0
40—49	15	15.0	15	15.0	3	3.0	4	4.0	9	9.0	42	42.0	—	—	12	12.0	100	100.0
50—59	18	21.2	6	7.1	2	2.4	1	1.2	9	10.6	31	36.6	2	2.4	16	18.9	85	100.0
60+	12	15.1	10	12.6	3	3.8	2	2.5	7	8.8	29	36.5	2	2.5	14	17.6	79	100.0
Total	147	15.0	118	12.0	43	4.4	38	3.9	93	9.5	275	28.1	18	1.8	242	24.7	974	100.0

3. Kinds of medical care received from KRMS

While 53.5% of the general household were treated for diseases, 34.5% were vaccinated and 24% were educated on health (Tab. 13).

4. Satisfaction for medical care and health guidance

The rate of satisfaction for medical care

Table 19. Sources of Treatment

Sources of treatment	Hobup		Yul		Daewol		Sindun		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Drug store	71	24.6	63	20.9	50	18.1	19	17.8	203	20.8
Herb doctor	6	2.1	3	1.0	7	2.5	4	3.7	20	2.1
Health subcenter	35	12.1	12	4.0	43	15.6	32	29.6	122	12.5
Acupuncture	4	1.4	—	—	1	0.4	2	1.9	7	0.7
Clinic	25	8.7	11	3.7	38	13.8	20	18.5	94	9.7
Drug store and clinic	8	2.8	7	2.3	9	3.3	3	2.8	27	2.8
Drug store and herb doctor	1	0.3	4	1.3	7	2.5	1	0.9	13	1.3
No treatment	139	48.1	201	66.7	121	43.8	27	25.0	488	50.1
Total	289	100.0	301	100.0	276	100.0	108	100.0	974	100.0

Table 20. Sources of Treatment by Sex

Sources of treatment	Drug store		Herb doctor		Health subcenter		Acupuncture		Clinic		Drug store and clinic		Drug store, herb doctor		No treatment		Total	
Sex	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male	109	21.8	10	2.0	53	10.6	5	1.0	56	11.2	19	3.8	4	0.8	234	46.8	490	100.0
Female	94	19.7	10	2.1	69	14.5	2	0.4	38	8.0	8	1.7	9	1.9	254	53.3	484	100.0
Total	203	20.7	20	2.0	122	12.4	7	7.1	94	9.6	27	2.8	13	1.3	488	49.8	974	100.0

and health guidance from KRMS was 51.5% in the general household group. About 1.5% of the general household group expressed dissatisfaction with the service of KRMS. The rest answered "don't know" or didn't answer.

5. Recommendation for KRMS

An analysis of the recommendations for KRMS revealed that 10.5% of the households thought that the service center should be nearer to their houses (Tab. 14).

6. Practice of vaccination

Whether preschool children were vaccinated or not was questioned. The level of vaccin-

ation among all respondents are as follows: D.P.T. 34%, smallpox 41%, poliomyelitis 28.5%, and typhoid 5% (Tab. 15).

D. Illness and treatment patterns

Regarding illness and health care patterns, 201 households and a total of 974 person were surveyed.

1. Self-reported illness prevalence

During one week prior to the survey, 15.1% of the interviewees were ill, and 12.1% of respondents had been ill from 2 weeks-one month prior to the survey, and 4.4% had been ill 1~3 months previous to the survey (Tab.

Table 21. Sources of Treatment by Age

Sources of treatment / Age	Drug store No.	%	Herb doctor No.	%	Health subcenter No.	%	Acupuncture No.	%	Clinic No.	%	Drug store and clinic No.	%	Drug store and herb doctor No.	%	No treatment No.	%	Total No.	%
0—4	26	24.2	—	—	23	21.4	—	—	19	17.7	2	1.9	1	0.9	37	34.4	108	100.0
5—9	37	26.3	1	0.7	21	14.9	—	—	14	9.9	2	1.4	—	—	65	46.2	140	100.0
10—19	48	18.2	4	1.5	29	11.0	—	—	16	6.1	5	1.9	1	0.4	158	60.0	261	100.0
20—29	17	19.4	1	1.1	6	6.8	1	1.1	8	9.1	2	2.3	1	1.1	51	58.1	87	100.0
30—39	27	23.8	2	1.8	18	15.8	—	—	10	8.8	4	3.5	1	0.9	52	45.8	114	100.0
40—49	12	12.0	2	2.0	8	8.0	1	1.0	10	10.0	6	6.0	1	1.0	60	60.0	100	100.0
50—59	21	24.8	4	4.7	10	11.8	3	3.5	10	11.8	2	2.4	4	4.7	31	36.6	85	100.0
60+	15	18.9	6	7.6	7	8.8	2	2.5	7	8.8	4	5.0	4	5.0	34	42.8	79	100.0
Total	203	20.7	20	2.0	122	12.4	7	0.7	94	9.6	27	2.8	13	1.3	488	49.8	974	100.0

Table 22. Sources of Treatment by Education Level

Sources of treatment / Education level	Drug store No.	%	Herb doctor No.	%	Health sub center No.	%	Acupuncture No.	%	Clinic No.	%	Durg store and clinic No.	%	Drug store and herb doctor No.	%	No treatment No.	%	Total No.	%
Illiterate	17	14.8	7	6.1	13	11.3	4	3.5	6	5.2	4	3.5	7	6.1	57	49.6	115	100.0
Can read	16	21.3	2	2.7	7	9.3	1	1.3	9	12.0	2	2.7	3	4.0	35	46.6	75	100.0
Pimary school	93	20.5	9	2.0	56	12.3	2	0.4	32	7.0	12	2.6	1	0.2	245	53.9	450	100.0
Middle school	20	19.6	—	—	8	7.8	—	—	11	10.8	1	1.0	—	—	62	60.8	102	100.0
High school and above	21	36.1	2	3.4	5	8.6	—	—	8	13.8	4	6.9	—	—	18	31.0	58	100.0
Preschool children	36	30.5	—	—	33	18.8	—	—	28	16.0	4	2.3	2	1.1	71	40.5	175	100.0
Total	203	20.7	20	2.0	122	12.4	7	0.7	94	9.6	27	2.8	13	1.3	488	49.8	974	100.0

16).

There was no significant difference in the times of illness occurrence between male and female (Tab. 17). The highest prevalence of illness is reported in the 0~4 year old group (33.5% in the last week) and there was on significant difference ·in the distribution of disease occurence period at 10 years of older group (Tab. 18).

2. Self-reported diagnosis

Table 23. Treatment Cost

Treatment cost (won)	No.	%
Free	39	4.0
Less 100	93	9.5
100—500	155	15.9
600—900	58	6.0
1,000—2,0000	35	3.6
2,000—3,000	21	2.2
3,000—5,000	18	1.8
5,000—10,000	16	1.6
10,000 or more	37	3.8
No treatment	502	51.5
Total	974	100.0
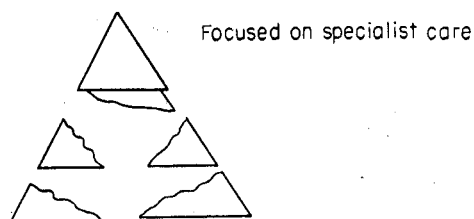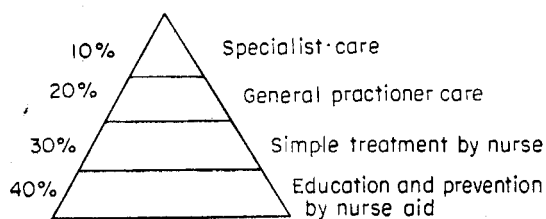
Fig. 2. Self-reported Diagnosis

Table 24. Treatment Cost by Sex

Treatment cost (won) / Sex	Free		Less 100		100—500		500—1,000		1,000—2,000		2,000—3,000		3,000—5,000		5,000—10,000		10,000 or more		No treatment		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male	18	3.6	43	8.6	78	15.6	35	7.0	21	4.2	16	3.2	9	1.8	8	1.6	22	4.4	240	48.0	490	100.0
Female	21	4.4	50	10.5	77	16.2	23	4.8	14	2.9	3	0.6	9	1.9	8	1.7	15	3.2	264	55.4	484	100.0
Total	39	4.0	93	9.5	155	15.8	58	5.9	35	3.6	19	1.9	18	1.8	16	1.6	37	3.8	504	51.4	974	100.0

Table 25. Treatment by Age

Treatment cost (won) / Age	Free		Less 100		100—500		500—1,000		1,000—2,000		2,000—3,000		3,000—5,000		5,000—10,000		10,000 or more		No treatment		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0—4	5	4.7	19	17.7	21	19.5	8	7.4	8	7.4	3	2.8	2	1.9	2	1.9	1	0.9	39	36.3	108	100.0
5—9	3	2.1	20	14.2	32	22.7	9	6.4	6	4.3	1	0.7	2	1.4	1	0.7	—	—	66	46.9	140	100.0
10—19	10	3.8	29	11.0	35	13.3	9	3.4	8	3.0	2	0.8	2	0.8	—	—	6	2.3	160	60.8	261	100.0
20—29	2	2.3	3	3.4	12	13.7	3	3.4	2	2.3	3	3.4	2	2.3	2	2.3	3	3.4	55	62.7	87	100.0
30—39	4	3.5	11	9.7	22	19.4	5	4.4	4	3.5	4	3.5	3	2.6	3	2.6	6	5.3	52	45.8	114	100.0
40—49	5	5.0	2	2.0	10	10.0	6	6.0	2	2.0	1	1.0	2	2.0	2	2.0	8	8.0	62	62.0	100	100.0
50—59	6	7.1	5	5.9	12	14.2	7	8.3	1	1.2	3	3.5	1	1.2	5	5.9	10	11.8	35	41.3	85	100.0
60+	4	5.0	4	5.0	11	13.9	11	13.9	4	5.0	2	2.5	4	5.0	1	1.3	3	3.8	35	44.1	79	100.0
Total	39	4.0	93	9.5	155	15.8	58	5.9	35	3.6	19	1.9	18	1.8	16	1.6	37	3.8	504	51.4	974	100.0

Most frequent diseases which respondents suffered from were respiratory diseases (29.1 %), and then indigestion, headache, vertigo etc. in descending order (Fig. 2).

Table 26. Treatment Cost by Education

Treatment cost(won) Educational level	Free		Less 100		100—500		500— 1,000		1,000— 2,000		2,000— 3,000		3,000— 5,000		5,000— 10,000		10,000 or more		No tre- atment		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Illiterate	8	7.0	5	4.4	13	11.3	7	6.1	5	4.4	2	1.7	3	2.6	5	4.4	6	5.2	61	53.1	115	100.0
Can read	4	5.3	3	4.0	13	17.3	9	12.0	—	—	2	2.7	3	4.0	—	—	5	6.7	36	47.9	75	100.0
Primary school	21	4.6	43	9.5	67	14.7	19	4.2	14	3.1	6	1.3	7	1.5	6	1.3	17	3.7	250	55.0	450	100.0
Middle school	—	—	6	5.9	15	14.7	7	6.9	2	2.0	1	1.0	1	1.0	2	2.0	4	3.9	64	62.7	102	100.0
High school and above	1	1.7	8	13.8	13	22.4	3	5.2	4	6.9	5	8.6	3	5.2	—	—	3	5.2	18	31.0	58	100.0
Preschool children	5	2.9	28	16.0	34	19.4	13	7.4	10	5.7	3	1.7	1	0.6	3	1.7	2	1.1	75	42.8	174	100.0
Total	39	4.0	93	9.5	155	15.8	58	5.9	35	3.6	19	1.9	18	1.8	16	1.6	37	3.8	504	51.4	974	100.0

Table 27. Reason For failare to Obtain Treatment

Reason	No.	%
Not serious enough	155	15.9
Economical reason	60	6.2
Absence of appropriate treatment source	16	1.6
Don't like to be treated at clinic	6	0.6
Other	21	2.2
No treatment	716	73.5
Total	974	100.0

Table 28. Reason for Failure to Obtain Treatment by Sex

Reason Sex	Not serious enough		Economic reason		Absence of appropriate treatment source		Don't like to be treated at clinic		Other		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Male	74	14.8	19	3.8	5	1.0	3	0.6	13	2.6	376	7.6	490	100.0
Female	81	17.0	41	8.6	11	2.3	3	0.6	8	1.7	340	71.4	484	100.0
Total	155	15.8	60	6.1	16	1.6	6	0.6	21	2.1	716	73.0	974	100.0

3. Sources of treatment

Most frequent source of treatment was drug store in 20.8% of total, while 12.5% of patients were treated at a health subcenter, and 9.7% were treated at a clinic (Tab. 19).

There was no significant differences in sources of treatment by sex (Tab. 20) or age either (Tab. 21).

Neither was there a significant difference in sources of treatment by education level

Table 29. Reason for Failure to Obtain Treatment by Age

Age	Not serious enough		Economic reason		Absence of appropriate treatment source		Don't like to be treated at clinic		Other		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0—4	13	12.1	4	3.7	2	1.9	—	—	3	2.8	86	80.0	108	100.0
5—9	19	13.5	5	3.6	1	0.7	—	—	3	2.1	112	79.5	140	100.0
10—19	49	18.6	5	1.9	—	—	3	1.1	4	1.5	200	76.0	261	100.0
20—29	16	18.2	3	3.4	4	4.6	1	1.1	2	2.3	61	69.5	87	100.0
30—39	17	15.0	10	8.8	2	1.8	—	—	3	2.6	82	72.2	114	100.0
40—49	21	21.0	20	20.0	2	2.0	1	1.0	4	4.0	52	52.0	100	100.0
50—59	10	11.8	6	7.1	2	2.4	—	—	2	2.4	65	79.7	85	100.0
60+	10	12.6	7	7.4	3	3.8	1	2.2	—	—	58	73.1	79	100.0
Total	155	15.8	60	6.1	16	1.6	6	0.6	21	2.1	716	73.0	974	100.0

Table 30. Reason for Failure to Obtain Treatment by Education Level

| Educational level	Not serious enough		Economic reason		Absence of appropriate treatment source		Don't like to be treated at clinic		Other		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Illiterate	18	15.7	19	16.5	4	3.5	—	—	3	2.6	71	61.8	115	100.0
Can read	13	17.3	7	9.3	4	5.3	1	1.3	1	1.3	49	65.2	75	100.0
Primary school	81	17.8	27	5.9	4	0.9	5	1.1	8	1.8	325	71.5	450	100.0
Middle school	18	17.6	1	1.0	3	2.9	—	—	2	2.0	78	76.4	102	100.0
High school or above	7	12.0	—	—	—	—	—	—	3	5.2	48	82.6	58	100.0
Preschool children	18	10.3	6	3.4	1	0.6	—	—	4	2.3	145	82.7	174	100.0
Total	165	15.8	60	6.1	16	1.6	6	0.6	21	2.1	716	73.0	974	100.0

(Tab. 22).

4. Cost of treatment

Of those receiving treatment, 15.9% of respondents were treated for 100~500 won, 9.5% were treated for 100 won or less, and 4.0% free of charge slightly and the more than 51.5% of the total were not treated. The average cost of treatment was 1,761 won (Tab. 23).

There was no significant difference in cost of treatment by sex (Tab. 24), by age (Tab. 25) or by education level (Tab. 26).

5. Reasons for failure to obtain treatment for illness
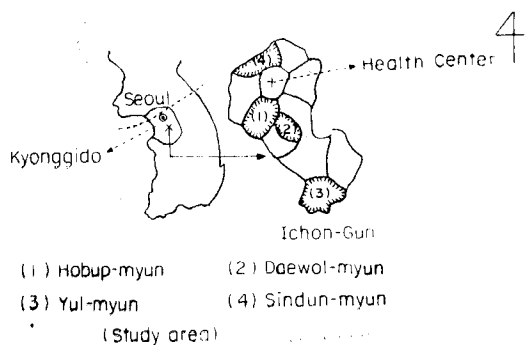
Fig. 3. Graduated System of Medical Care and Present Defective Status.

(1) Hobup-myun   (2) Daewol-myun
(3) Yul-myun   (4) Sindun-myun
        (Study area)

As for the reasons for failing to obtain treatment despite illness, 15.9% said the illness was not serious enough, 6.2% due to economic reason, and 1.6% due to lack of feasible sources of treatment (Table 27).

The rate of failure to obtain treatment due to economic reason was higher in the female group (8.6%) than in male group (3.8%) (Table 28).

The highest rate of failure to obtain treatment due to economic reason by age was in 40—49 years old group (where 20.0% cited this reason) (Table 29). Of the illiterate group 16.5% of the respondents failed to obtain treatment due to economic reasons, and this rate was relatively higher than groups at other education levels.

DISCUSSION

Considering the demand and the resources of medical care and health services, various problems in nations or countries are found. While a certain country is suffering from deficiency of medical personnel, another

country has the problem of expensive medical care cost in spite of adequate health personnel (Chung and Kim, 1973). In the developing country, especially in the rural areas, many patients are suffering from disease preventable enough by adequate health knowledge and practice of simple preventive health measures.

For the above reasons, the demand for medical care in the rural areas is too large in size while there is only a small amount of available resources to supply. The dilemma therefore is providing rural residents with medical personnel who are concerned with rural health problems.

Usually medical care with highly specified skill has been focused and many expect the treatment of all patients by specialists as an ideal way. Of course, this way of thought seems to be true with adequate medical resources. But when medical resources are seriously deficient, this kind of concept must be reconsidered. In such conditions, a new pattern of medical care must be found so that satisfactory results can be produced with the simplest and cheapest medical care.

Figure 3 shows ideal graduated system of medical care proposed by the Koje Community Health & Development Project (with suggested revision by the present author), along with the current system of medical care. This reveals that the present medical care system is incomplete, therefore most patients want to be treated by specialists. But from the viewpoint of medical care health economics and health manpower, 60~70% of the total patient problems in the community can be solved with health education, health consultation and simple treatment by nurses and nurse-aids (Johnson and Sibley,

Table 31. Activity Statistics of KRMS (August 1971-July 1973)

Fields of Services	Hobup-Myun	Sindun-Myue	Daewol-Myun	Yul-Myun	Total
(1) In the clinic					
Maternal health	322	275	306	272	1,175
Child health	2,263	920	242	591	4,016
Family planning	466	523	152	251	1,392
Tuberculosis control	871	578	207	225	1,881
Communicable disease control	—	3	12	3	18
Treatment for patients	12,380	6,288	9,011	7,571	35,250
Health education	27	2,709	517	2,969	6,222
Other	1,630	1,271	497	82	3,480
Sub-total	17,959	12,567	10,944	11,964	53,434
(2) By home visiting					
Survey	1,127	1,268	1,172	1,047	4,614
Maternal and child health	1,259	198	750	243	2,450
Family planning	179	279	259	79	796
Tuberculosis control	157	273	230	66	726
School health	3,758	5,836	2,918	1,234	13,746
Health education	351	1,374	1,521	1,917	15,163
Vaccination	3,148	9,309	2,308	4,700	19,465
Environmental sanitation	829	250	566	16	1,691
Other	439	1,254	723	51	2,467
Sub-total	11,247	20,041	10,477	6,353	51,118
Total	29,206	32,608	21,421	21,317	104,552

1971)[2].

KRMS, organized with Korean nurses who returned from West Germany, is developing a rural health nursing service in Ichon-Gun, Kyonggi-Do, to determine how many public health and medical care problems can be solved by nurses.

This survey was done to evaluate a demonstration project done for two years (Aug. 1971-July 1973), and to find out health administrative approaches and the supply of medical care and health services available under the title of community medicine in various areas such as Choonsung-Gun and Yonhee-Dong (Seoul).

General characteristics of the population, structure of houses, water supply and sanitary condition of toilets in the study area were similar in pattern to other rural areas in Korea.

Average marriage age of women respondents was 21.2 years, similar to that of Gyungsan-Gun, Kyungsangpuk-Do[9].

Average number of pregnancies experienced was 4.9, slightly higher than of Kyungpuk area (4.3). Experience rate of natural abortion was similar to that of Kyung-puk area, which was 12%. This seems to be a result of the deficiency of maternal health services (Kim, et al. 1973, Kim et. al.. 1972, Kim, et al., 1973)[3,4,5].

In other rural areas about 95% of pregnant

Table 32. Activity Statistics by Service Felds (1971. 8~1973. 7)

Fields of services	No.	%
Maternal and child health	7, 641	7. 6
Family planning	2, 188	2. 2
Communicable disease control	19, 749	19. 7
(Vaccination)	(19, 465)	(19. 5)
Tuberculosis control	2, 607	2. 6
School health	13, 746	13. 7
Health education	11, 385	11. 4
Environmental sanitation	1, 691	1. 8
Other	5, 681	5. 7
Treatment for patients	35, 250	35. 3
Total	99, 931	100. 0

Activity fields	From nurse's activity aspect	From respondents' utilization aspect
Communicable disease control (vaccination)	19. 5%	34. 5%
Health education	11. 4%	24. 0%
Treatment of patients	35. 5%	53. 5%

women delivered their babies at their home, whereas 90% of deliveries in the study area occurred at their home. This fact suggest some improvement in maternal health as a result of the 2-year health nursing service. The reason most deliveries take place at home is thought to be a result not only from economic conditions, but from traditional custom.

This was proved by the fact that 85% of respondents want continuous home delivery and 9% hoped hospital delivery.

In the study area KRMS fulfilled many activities with 9 nurses for 2 years with the program on maternal and child health, tuberculosis control, communicabe disease control, school health, health education and treatment of patient. These activities were performed through health subcenter clinic activities and home visiting (Table 31). Besides basic community survey for community diagnosis, nurses activities were much more concentrated on treatment for patients (about 35%) than various fields of preventive medical services (see Table 32).

After 2 years of health services for which 180,000 Mark (₩ 27 million) were invested, the community response is described below. Although all houses in the study area had been visited by nurses for the basic health survey at the beginning of the project (August 1971), only 78. 8% of respondents responded that they had heard about KRMS. This seems to be due to various reasons; immigration and emigration of population in the study area, inadequate function of KRMS, and inadequate utilization of service by residents. Anyway above seems to be a problem to be solved in the future. The fact that only 20. 5% of general household respondents reported the experience of care from KRMS corresponds to the inadequate utilization.

Some difference was found in the care rate by fields of services between nurses' activities and reports of respondents.

The report that only 51. 5% of general household respondents were satisfied with the services of the project suggests the presence of attitude problems toward service, the limitation of project function and acceptance of service by the community. Moreover, 53% of the general household respondents gave no recommendation for KRMS. This seems to be a suggestion for the correction of the direction,

content and method of the future project.

There was a desire from respondents for a more closely located health subcenter. Construction of a health center in every Myun is not an easy matter. For the choice of a health subcenter location, which is more important, administrative factors or other factors regarding the usefulness to residents must be considered. From the survey on illness and treatment patterns, monthly prevalence rate was 27.2% and this rate was higher than that of Hwasan-Dong, Chunju city (Kim et al., 1972) and Yonheedong, Seoul (Yang and Kim, 1968). Treatment rate at a drugstore when sick was 20.8% of the total, which was similar to 21% at Kojedo and 25% at Hwasan-Dong, Chunju city, but was lower than the 54.2% at Yonheedong, Seoul. Treatment rate at a health subcenter was 12.5%, which was higher than 5% at Hwasandong, Chunju city and 3.7% at Yonheedong, Seoul. Treatment rate by a doctor was 9.7% of total. This was noticeably lower than 27% at Kojedo (1972), 35.5% at Yonheedong and 70% at Chunju city.

Treatment failure rate due to respondents indifference for disease was 15.9%, which was higher than 8.7% at Yonheedong.

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